



# ABHAR WIRE + CABLE CO.



ISO 9002  
Certificate No.  
QS-1147HH



Accredited by the  
Dutch Council for  
Accreditation






## Extra High Voltage& High Voltage cables

Extra high Voltage and High Voltage cables are manufactured with copper or Aluminum conductors, XLPE insulation at rated voltages of more than 36 KV.

The XLPE Insulation is applied to the conductor in computer-controlled CVC extrusion lines. It must have a highly homogeneous crystallite structure and be free of any impurity or voids, and strict quality control procedures are enforced at all strategic points in the CVC line.

XLPE insulation is prone to the physical-chemical phenomenon of water treeing. If water or water vapor exists in the insulation layer, water trees can start to form and lower the dielectric resistance of the insulation.

In line with leading cable manufacturers worldwide,  applies aluminum laminated sheath, lead sheath or swellable material to radially and longitudinally water proof the screen.



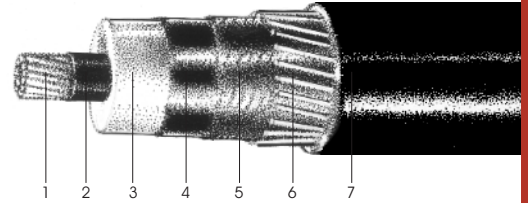
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**Cu/SC/XLPE/SC/SCT/CWS/PVC****IEC 60840**

Wire screened, single core high voltage power cable with copper conductor and XLPE insulation.

**38/66 (72) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 95 RM/50	13.0	2.6	49.4	2864
1x 120 RM/50	13.0	2.6	50.9	3167
1x 150 RM/50	12.0	2.5	53.8	3620
1x 185 RM/50	12.0	2.5	55.6	4043
1x 240 RM/50	11.0	2.5	56.0	4520
1x 300 RM/50	11.0	2.6	58.4	5181
1x 400 RM/50	11.0	2.7	61.9	6114
1x 500 RM/50	10.0	2.7	63.3	7081
1x 630 RM/50	10.0	2.9	66.7	8561
1x 800 RM/50	10.0	3.0	70.4	10272
1x 1000 RM/50	9.5	3.3	71.3	12208
1x 1200* RMS/50	9.0	3.4	73.8	14163
1x 1400* RMS/50	9.0	3.5	77.6	16166
1x 1600* RMS/50	9.0	3.8	80.1	18099

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Tape

6-Copper Wire Screen 7-PVC Overall Sheath

\* Segmental conductor

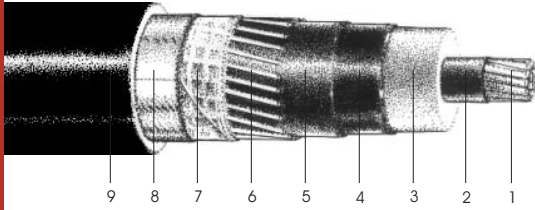
Maximum conductor temperature: 90°C

Also available with aluminium conductor (maximum cross-section 2000 mm) and PE sheath.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 95 RM / 50	0.247	0.246	0.151	0.222	0.14
1 x 120 RM / 50	0.196	0.196	0.144	0.215	0.15
1 x 150 RM / 50	0.159	0.159	0.140	0.209	0.15
1 x 185 RM / 50	0.1273	0.1270	0.135	0.203	0.16
1 x 240 RM / 50	0.0974	0.0970	0.128	0.194	0.18
1 x 300 RM / 50	0.0783	0.0778	0.125	0.189	0.19
1 x 400 RM / 50	0.0621	0.0614	0.119	0.182	0.22
1 x 500 RM / 50	0.0496	0.0485	0.114	0.175	0.24
1 x 630 RM / 50	0.0398	0.0385	0.111	0.170	0.26
1 x 800 RM / 50	0.0328	0.0312	0.107	0.165	0.28
1 x 1000 RM / 50	0.0281	0.0261	0.103	0.159	0.31
1 x 1200 RMS / 50	0.0255	0.0234	0.100	0.152	0.36
1 x 1600 RMS / 50	0.0216	0.0193	0.101	0.152	0.39





IEC 60840

Cu/SC/XLPE/SC/SCT/CWS/WBT/AIC/PE

Wire screened, water blocked, single core high voltage power cable with copper conductor and XLPE insulation.

## 38/66 (72) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 95 RM/50	13.0	2.7	52.4	2709
1x 120 RM/50	13.0	2.7	53.9	3006
1x 150 RM/50	12.0	2.5	55.9	3418
1x 185 RM/50	12.0	2.6	58.2	3833
1x 240 RM/50	11.0	2.6	58.6	4308
1x 300 RM/50	11.0	2.6	60.5	4952
1x 400 RM/50	11.0	2.7	64.0	5851
1x 500 RM/50	10.0	2.8	65.6	6835
1x 630 RM/50	10.0	2.9	68.8	8271
1x 800 RM/50	10.0	3.0	72.5	10045
1x 1000 RM/50	9.5	3.4	74.3	11898
1x 1200* RMS/50	9.0	3.5	76.8	13830
1x 1400* RMS/50	9.0	3.6	80.6	15802
1x 1600* RMS/50	9.0	3.7	83.1	17709

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Tape 6-Copper Wire Screen 7-Water Blocking Tape 8-Aluminium Copolymer Layer 9-PE Overall Sheath  
\* Segmental conductor

Maximum conductor temperature: 90°C

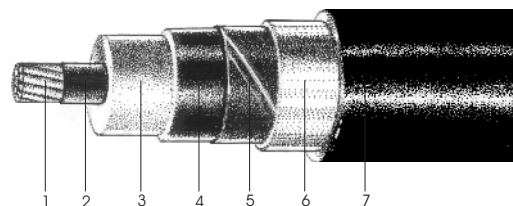
Also available with aluminium conductor (maximum cross-section 2000 mm).

## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 95 RM / 50	0.247	0.246	0.153	0.223	0.14
1 x 120 RM / 50	0.196	0.196	0.147	0.216	0.15
1 x 150 RM / 50	0.159	0.159	0.142	0.21	0.15
1 x 185 RM / 50	0.1273	0.1270	0.137	0.204	0.16
1 x 240 RM / 50	0.0974	0.0970	0.131	0.196	0.18
1 x 300 RM / 50	0.0782	0.0778	0.127	0.190	0.19
1 x 400 RM / 50	0.0621	0.0614	0.121	0.183	0.22
1 x 500 RM / 50	0.0495	0.485	0.116	0.176	0.24
1 x 630 RM / 50	0.0397	0.0385	0.112	0.171	0.26
1 x 800 RM / 50	0.0327	0.0312	0.109	0.166	0.28
1 x 1000 RM / 50	0.0279	0.0261	0.105	0.160	0.31
1 x 1200 RMS / 50	0.0254	0.0234	0.101	0.153	0.36
1 x 1600 RMS / 50	0.0215	0.0193	0.103	0.152	0.39



Lead sheathed, single core high voltage power cable with copper conductor and XLPE insulation.



## 38/66 (72) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 95 RM	13.0	2.1	2.5	51.6	5950
1x 120 RM	13.0	2.2	2.6	53.5	6565
1x 150 RM	12.0	2.1	2.6	55.5	6743
1x 185 RM	12.0	2.1	2.7	57.9	7329
1x 240 RM	11.0	2.1	2.7	58.3	7836
1x 300 RM	11.0	2.2	2.8	60.6	8837
1x 400 RM	11.0	2.3	2.9	64.3	10232
1x 500 RM	10.0	2.3	2.9	65.7	11315
1x 630 RM	10.0	2.4	3.0	69.0	13229
1x 800 RM	10.0	2.5	3.1	73.0	15479
1x 1000 RM	9.5	2.7	3.2	74.4	18012
1x 1200* RMS	9.0	2.8	3.3	77.2	20452
1x 1400* RMS	9.0	2.9	3.5	81.4	23123
1x 1600* RMS	9.0	3.0	3.5	84.0	25546

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive

Water-blocking Tape 6-Lead sheath 7-PVC Overall Sheath

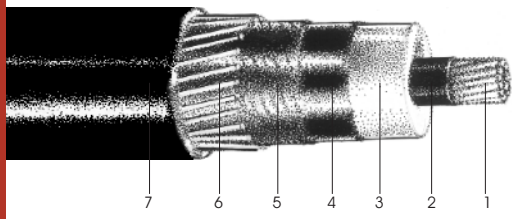
\*Segmental conductor

Maximum conductor temperature: 90°C

Also available with aluminium conductor & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 95 RM	0.247	0.246	0.153	0.223	0.14
1 x 120 RM	0.196	0.196	0.147	0.215	0.15
1 x 150 RM	0.159	0.159	0.142	0.21	0.15
1 x 185 RM	0.1273	0.1270.	0.137	0.204	0.16
1 x 240 RM	0.0974	0.0970.	0.131	0.196	0.18
1 x 300 RM	0.0782	0.0778	0.128	0.191	0.19
1 x 400 RM	0.0621	0.0614	0.121	0.183	0.22
1 x 500 RM	0.0495	0.0485	0.116	0.176	0.24
1 x 630 RM	0.0397	0.0385	0.113	0.172	0.26
1 x 800 RM	0.0324	0.0312	0.110.	0.166	0.28
1 x 1000 RM	0.0278	0.0261	0.106	0.160.	0.31
1 x 1200 RMS	0.0253	0.0234	0.103	0.154	0.36
1 x 1600 RMS	0.0213	0.0193	0.104	0.153	0.39



IEC 60840

Cu/SC/XLPE/SC/SCT/CWS/PVC

Wire screened, single core high voltage power cable with copper conductor and XLPE insulation.

76/132 (145) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 185 RM/95	18.0	3.0	70.5	5781
1x 240 RM/95	18.0	3.1	73.2	6506
1x 300 RM/95	18.0	3.1	75.1	7188
1x 400 RM/95	18.0	3.2	78.5	8207
1x 500 RM/95	18.0	3.3	82.2	9479
1x 630 RM/95	18.0	3.4	85.3	11018
1x 800 RM/95	17.5	3.5	88.1	12706
1x1000 RM/95	17.5	3.7	90.9	14568
1x1200* RMS/95	17.5	3.6	97.7	17222
1x1600* RMS/95	17.5	4.0	105.2	21732

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Tape

6-Copper Wire Screen 7-PVC Overall Sheath

\*Segmental conductor

Maximum conductor temperature: 90°C  
Also available with aluminium conductor and PE sheath.

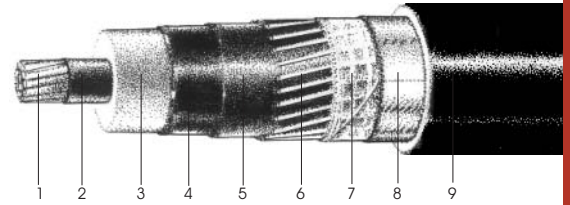
Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 185 RM / 95	0.1271	0.1270	0.156	0.212	0.11
1 x 240 RM / 95	0.0972	0.0970	0.148	0.204	0.12
1 x 300 RM / 95	0.078	0.0777	0.144	0.199	0.13
1 x 400 RM / 95	0.0618	0.0614	0.135	0.190	0.15
1 x 500 RM / 95	0.0491	0.0485	0.129	0.183	0.16
1 x 630 RM / 95	0.0392	0.0384	0.125	0.177	0.17
1 x 800 RM / 95	0.0321	0.0311	0.121	0.172	0.19
1 x 1000 RM / 95	0.0272	0.0260	0.116	0.166	0.20
1 x 1200 RMS / 95	0.0247	0.0233	0.112	0.159	0.23
1 x 1600 RMS / 95	0.0207	0.0192	0.113	0.158	0.25





Wire screened, water blocked, single core high voltage power cable with copper conductor and XLPE insulation.



## 76/132 (145) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 185 RM/95	18.0	3.0	702.6	5602
1x 240 RM/95	18.0	3.1	75.3	6308
1x 300 RM/95	18.0	3.2	77.4	7007
1x 400 RM/95	18.0	3.3	80.9	8004
1x 500 RM/95	18.0	3.4	84.5	9252
1x 630 RM/95	18.0	3.5	87.7	10768
1x 800 RM/95	17.5	3.6	90.4	12432
1x 1000 RM/95	17.5	3.7	92.1	14046
1x 1200* RMS/95	17.5	3.6	98.9	16672
1x 1600* RMS/95	17.5	4.0	106.4	21071

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Tape

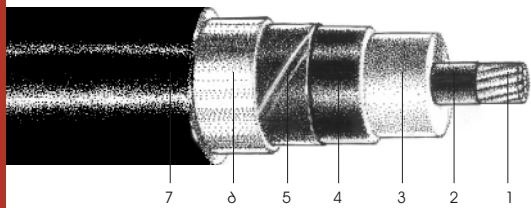
6-Copper Wire Screen 7-Water-blocking Tape 8-Aluminium Copolymer Layer 9-PE Overall sheath  
\*Segmental conductor

Maximum conductor temperature: 90°C  
Also available with aluminium conductor.

## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 185 RM / 95	0.1271	0.1270	0.157	0.213	0.11
1 x 240 RM / 95	0.0972	0.0970	0.150	0.205	0.12
1 x 300 RM / 95	0.078	0.0777	0.145	0.200	0.13
1 x 400 RM / 95	0.0618	0.0614	0.136	0.190	0.15
1 x 500 RM / 95	0.0491	0.0485	0.131	0.183	0.16
1 x 630 RM / 95	0.0392	0.0384	0.127	0.178	0.17
1 x 800 RM / 95	0.0321	0.0311	0.0122	0.173	0.19
1 x 1000 RM / 95	0.0272	0.260	0.117	0.167	0.20
1 x 1200 RMS / 95	0.0246	0.0233	0.113	0.160	0.23
1 x 1600 RMS / 95	0.0206	0.0192	0.114	0.159	0.25





**IEC 60840** **Cu/SC/XLPE/SC/SCWBT/Lsh/PVC**

Lead sheathed, single core high voltage power cable with copper conductor and XLPE insulation.

**76/132 (145) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 185 RM	18.0	2.5	3.2	79.8	12673
1x 240 RM	18.0	2.6	3.3	82.7	13908
1x 300 RM	18.0	2.7	3.4	85.5	15222
1x 400 RM	18.0	2.8	3.5	89.2	16878
1x 500 RM	18.0	2.8	3.6	92.8	18530
1x 630 RM	18.0	3.1	4.0	92.9	18099
1x 800 RM	17.5	3.1	4.1	96.6	20283
1x 1000 RM	17.5	3.3	4.3	103.4	23239
1x 1200* RMS	17.5	3.4	4.4	105.2	26111
1x 1400* RMS	17.5	3.5	4.5	109.2	28982
1x 1600* RMS	17.5	3.6	4.6	112.0	31627

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Water-blocking Tape  
 6-Lead Sheath 7-PVC Overall Sheath  
 \*Segmental conductor

Maximum conductor temperature: 90°C  
 Also available with aluminium conductor and PE sheath.

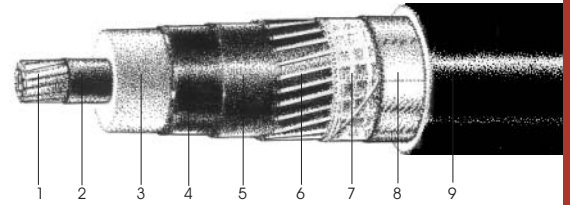
**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 185 RM	0.1271	0.1270	0.158	0.213	0.11
1 x 240 RM	0.0972	0.0970	0.151	0.205	0.12
1 x 300 RM	0.0780	0.0777	0.146	0.200	0.13
1 x 400 RM	0.0617	0.0614	0.137	0.191	0.15
1 x 500 RM	0.0491	0.0485	0.131	0.184	0.16
1 x 630 RM	0.0392	0.0384	0.128	0.179	0.17
1 x 800 RM	0.0320	0.0311	0.123	0.174	0.19
1 x 1000 RM	0.0271	0.026	0.119	0.167	0.20
1 x 1200 RMS	0.0245	0.0233	0.115	0.161	0.23
1 x 1600 RMS	0.0205	0.0192	0.115	0.160	0.25



**Cu/SC/XLPE/SC/SCWBT/CWS/WBT/AIPE/HDPE IEC 62067**

Wire screened, water blocked, single core extra high voltage power cable with copper conductor and XLPE insulation.



**133/230(245) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 630 RM/95	25	4.0	107.7	12,733
1x 800 RM/95	25	4.1	111.5	14,603
1x 1000 RM/95	23	4.2	112.4	16,452
1x 1200* RMS/95	23	4.4	122.3	19,884
1x 1600* RMS/95	23	4.6	127.8	24,117

1-Stranded circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive water blocking tape 6-Copper wire Screen 7-Water-blocking tape 8-Aluminium Copolymer Layer 9-HDPE overall sheath  
\*Segmental conductor

Maximum conductor temperature: 90°C  
Also available with aluminium conductor.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 630 RM / 95	0.0389	0.0384	0.140	0.186	0.14
1 x 800 RM / 95	0.0317	0.0311	0.136	0.181	0.15
1 x 1000 RM / 95	0.0268	0.0259	0.128	0.173	0.17
1 x 1200 RMS / 95	0.0242	0.0232	0.123	0.166	0.19
1 x 1600 RMS / 95	0.0201	0.0191	0.123	0.165	0.21



# TECHNICAL DATA



## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Herlix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminum Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated



<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)



## VDE Abbreviations

<b>N</b>	DIN VDE standard type
<b>(N)</b>	With reference to DIN VDE standard
<b>A</b>	Aluminium conductor
<b>-</b>	Copper
<b>Y</b>	PVC
<b>2X</b>	Cross-linked PE(VPE)
<b>C</b>	Concentric Cu conductor,in longitudinal twist
<b>CW</b>	Concentric Cu conductor,corrugated
<b>CE</b>	Concentric Cu conductor for individual core
<b>S</b>	Cu shielding
<b>SE</b>	Cu screening per individual core in multi-core cables
<b>H</b>	Conductive layer
<b>(F)</b>	Longitudinally watertight shielding
<b>B</b>	Steel strip reinforcement
<b>F</b>	Flat wire,zinc-plated
<b>G</b>	Counterhelix consisting of zinc-plated steel strip
<b>R</b>	Round-section wire,zinc-plated
<b>A</b>	Protective cover consisting of fiber materials
<b>K</b>	Lead sheath
<b>KL</b>	Aluminium sheath
<b>Y</b>	PVC
<b>2Y</b>	PE
<b>I</b>	With protective conductor
<b>O</b>	Without protective conductor
<b>r...</b>	Round-section conductor
<b>s...</b>	Sector-section conductor
<b>o...</b>	Oval conductor
<b>e...</b>	Single wire conductor
<b>m...</b>	Multi-wire conductor
<b>h...</b>	Hollow conductor
<b>N</b>	Compacted conductor



## FORMULAS

### 1- DC Resistance

$$R_{dc_{\theta}} = R_{dc_{20}} [1 + \alpha(\theta - 20)] \quad (\Omega / km)$$

$R_{dc_{20}}$  : Resistance at 20°C according to IEC 60228 ( $\Omega / km$ )

$\alpha$  : Temperature coefficient of resistance per degree at 20°C  
(Copper =  $3.93 \cdot 10^{-3}$ , Aluminium =  $4.04 \cdot 10^{-3}$ )

$\theta$  : Temperature (°C)

### 2- AC Resistance

$$R_{AC_{\theta}} = R_{dc_{\theta}} (1 + Y_p + Y_s)(1 + \lambda_1 + \lambda_2) \quad (\Omega / km)$$

$Y_p$  : Proximity effect

$Y_s$  : Skin effect

$\lambda_1$  : Sheath loss

$\lambda_2$  : Armour loss

### 3- Inductance

$$L = K + 0.2Ln(2S/d) \quad (mH/km)$$

$K$  : Constant relating to conductor structure

$S$  : Axial cable spacing ( $S = 1.26 \cdot \text{phase spacing}$  for flat and single core cables) (mm)

$d$  : Conductor diameter (mm)

$K$	Strands
0	1
0.078	3
0.0642	7
0.0554	19
0.0528	37
0.0514	61 & over

### 4- Capacitance

$$C = \frac{\epsilon_r}{18Ln(D/d)} \quad (\mu F / km)$$

$\epsilon_r$  : Dielectric constant (XLPE=2.3)

$D$  : Insulated diameter (mm)

$d$  : Conductor diameter (mm)





## FORMULAS

### 5- Reactance

$$X = \omega L 10^{-3} \quad (\Omega / km)$$

$$\omega = 2\pi f$$

$L$  : Inductance (mH/km)

### 6- Impedance

$$Z = \sqrt{R_{ac}^2 + X^2} \quad (\Omega / km)$$

$R_{ac}$  : AC resistance ( $\Omega / km$ )

$X$  : Reactance ( $\Omega / km$ )

### 7- Short-circuit current

$$I_{sc} = \frac{\varepsilon K S}{\sqrt{t}} \sqrt{\ln\left(\frac{\beta + \theta_F}{\beta + \theta_I}\right)} \quad (A)$$

$\varepsilon$  : Will be calculated acc. to IEC 60949

$S$  : Cross sectional area (mm<sup>2</sup>)

$t$  : Duration of short-circuit (Max. 5 sec.)

$\theta_F$  : Max. temperature at the short circuit condition (°C) (250 FOR XLPE)

$\theta_I$  : Max. temperature at the normal operating (°C) (90 FOR XLPE)

	Copper	Aluminium	Lead	Steel
$K$	226	148	41	78
$\beta$	234.5	228	230	202



## FORMULAS

### 8- Electrical field strength

$$E_{\max} = \frac{U_0}{d \ln(D/d)} \quad (kV/mm) \quad \text{On Conductor}$$

$$E_{\min} = \frac{U_0}{D \ln(D/d)} \quad (kV/mm) \quad \text{On Insulation}$$

$U_0$  : Voltage (kV)

$D$  : Insulated diameter (mm)

$d$  : Conductor diameter (mm)

### 9- Charging Current

$$I = C\omega U_0 10^{-3} \quad (A/km)$$

$$\omega = 2\pi f$$

$C$  : Capacitance ( $\mu F/km$ )

$U_0$  : Voltage (kV)

### 10- Dielectric loss

$$P = C\omega U_0^2 \tan \delta \quad (\text{watt}/km)$$

$$\omega = 2\pi f$$

$C$  : Capacitance ( $\mu F/km$ )

$U_0$  : Voltage (KV)

$\tan \delta = 0.001$



## FORMULAS

### 11- Sheath Loss

$$P_e = \frac{3I^2\omega^2(dm/2S)^2 10^{-8}}{R_s} \quad (\text{watt/km}) \quad \text{Eddy current losses}$$

$$P_c = \frac{I^2 X_m^2 R_s}{R_s^2 + X_m^2} \quad (\text{watt/km}) \quad \text{Circulating current losses}$$

$$X_m = \omega 0.2Ln(2S/d_m) 10^{-3}$$

$$\omega = 2\pi f$$

$$R_s : \text{Sheath resistance} \quad (\Omega/\text{km})$$

$$S : \text{Axial spacing} \quad (\text{mm})$$

$$I : \text{Current} \quad (A)$$

$$d_m : \text{Mean sheath diameter} \quad (\text{mm})$$

### 12- Insulation Resistance

$$R = \frac{\rho Ln(D/d) 10^{-9}}{2\pi} \quad (M\Omega.km)$$

$$\rho : \text{Volume resistivity at } 20^\circ\text{C (XLPE=10}^{14}\text{)} \quad (\Omega.m)$$

$$D : \text{Insulated diameter (mm)}$$

$$d : \text{Conductor diameter (mm)}$$

### 13- Maximum Pulling Tension

**Unarmoured :**

$$T = K S \quad (\text{N}) \quad \begin{array}{l} K = 50 \text{ for copper} \\ K = 30 \text{ for aluminium} \end{array}$$

**Armoured :**

$$T = K' D^2 \quad (\text{N}) \quad \begin{array}{l} K' = 9 \text{ for wire armour} \\ K' = 3 \text{ for tape armour, lead sheath} \end{array}$$

$$S : \text{Conductor cross section} \quad (\text{mm}^2)$$

$$D : \text{Cable diameter} \quad (\text{mm})$$



## Conductors DC Resistance:

1	2	3	4	5	6	7	8	9	10
Nominal cross-sectional area mm <sup>2</sup>	Minimum number of wires in the conductor						Maximum resistance of conductor at 20°C		
	Circular		Circular compacted		Shaped		Annealed copper conductor		Aluminium or aluminium alloy conductor <sup>c</sup> ohm/km
	Cu	Al	Cu	Al	Cu	Al	Plain wires ohm/km	Metal-coated wires ohm/km	
0.5	7	-	-	-	-	-	36.5	36.7	-
0.75	7	-	-	-	-	-	24.5	24.8	-
1	7	-	-	-	-	-	18.1	18.2	-
1.5	7	-	6	-	-	-	12.1	12.2	-
2.5	7	-	6	-	-	-	7.41	7.56	-
4	7	-	6	-	-	-	4.61	4.70	-
6	7	-	6	-	-	-	3.08	3.11	-
10	7	7	6	6	-	-	1.83	1.84	3.08
16	7	7	6	6	-	-	1.15	1.16	1.91
25	7	7	6	6	6	6	0.727	0.734	1.20
35	7	7	6	6	6	6	0.524	0.529	0.868
50	19	19	6	6	6	6	0.387	0.391	0.641
70	19	19	12	12	12	12	0.268	0.27	0.443
95	19	19	15	15	15	15	0.193	0.195	0.32
120	37	37	18	15	18	15	0.153	0.154	0.253
150	37	37	18	15	18	15	0.124	0.126	0.206
185	37	37	30	30	30	30	0.0991	0.1	0.164
240	37	37	34	30	34	30	0.0754	0.0762	0.125
300	61	61	34	30	34	30	0.0601	0.0607	0.100
400	61	61	53	53	53	53	0.047	0.0475	0.0778
500	61	61	53	53	53	53	0.0366	0.0369	0.0605
630	91	91	53	53	53	53	0.0283	0.0286	0.0469
800	91	91	53	53	-	-	0.0221	0.0224	0.0367
1 000	91	91	53	53	-	-	0.0176	0.0177	0.0291
1 200				b			0.0151	0.0151	0.0247
1 400 <sup>a</sup>				b			0.0129	0.0129	0.0212
1 600				b			0.0113	0.0113	0.0186
1 800 <sup>a</sup>				b			0.0101	0.0101	0.0165
2 000				b			0.0090	0.0090	0.0149
2 500				b			0.0072	0.0072	0.0127

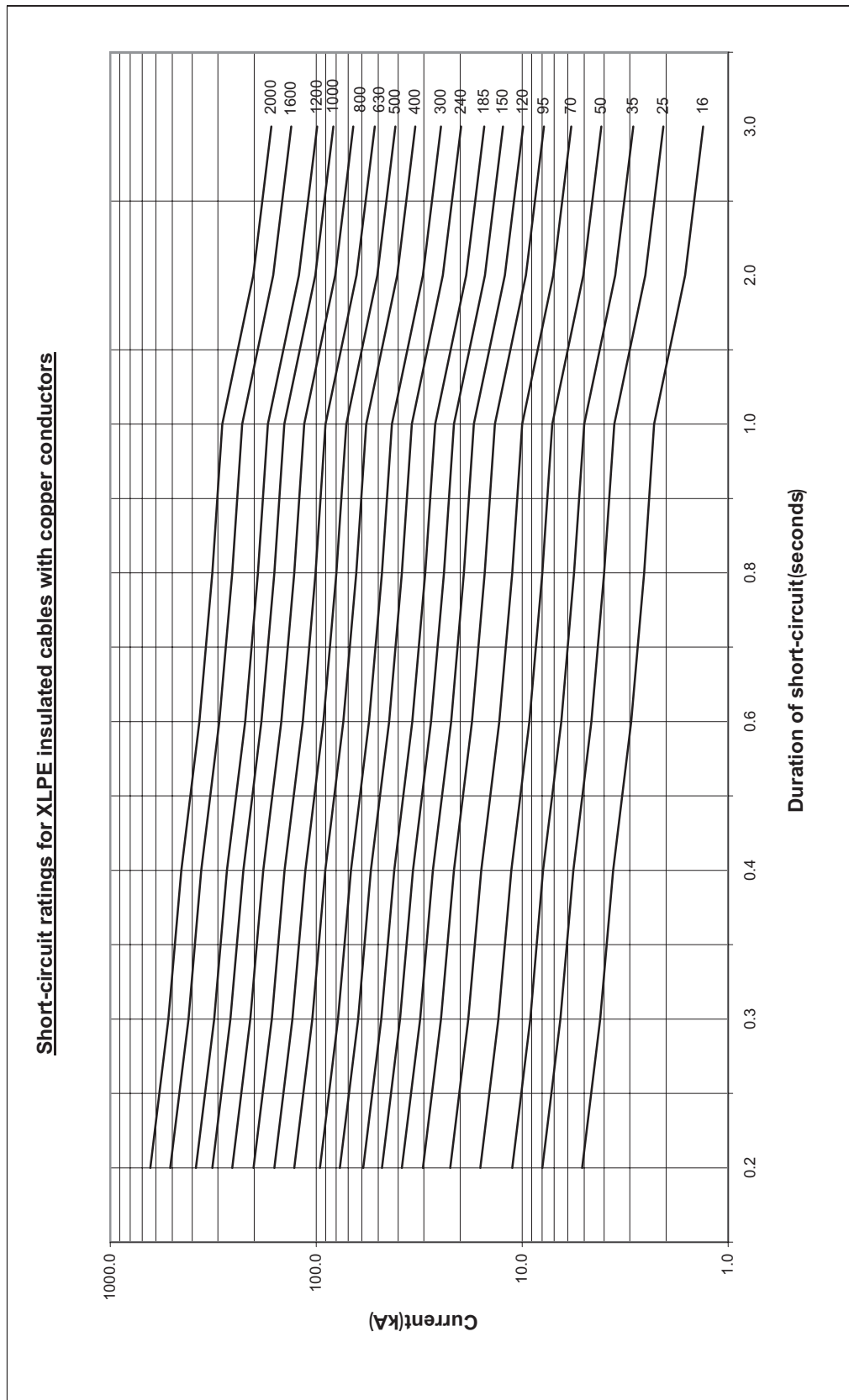
<sup>a</sup> These sizes are non-preferred. Other non-preferred sizes are recognized for some specialized applications but are not within the scope of this standard .

<sup>b</sup> The minimum number of wires for these sizes is not specified. These sizes may be constructed from 4.5 or 6 equal segments (Milliken).

<sup>c</sup> For stranded aluminium alloy conductors having the same nominal cross-sectional area as an aluminium conductor the resistance value should be agreed between the manufacture and the purchaser.



# Short-circuit ratings for XLPE insulated cables with copper conductors



# Short-circuit ratings for XLPE insulated cables with aluminium conductors

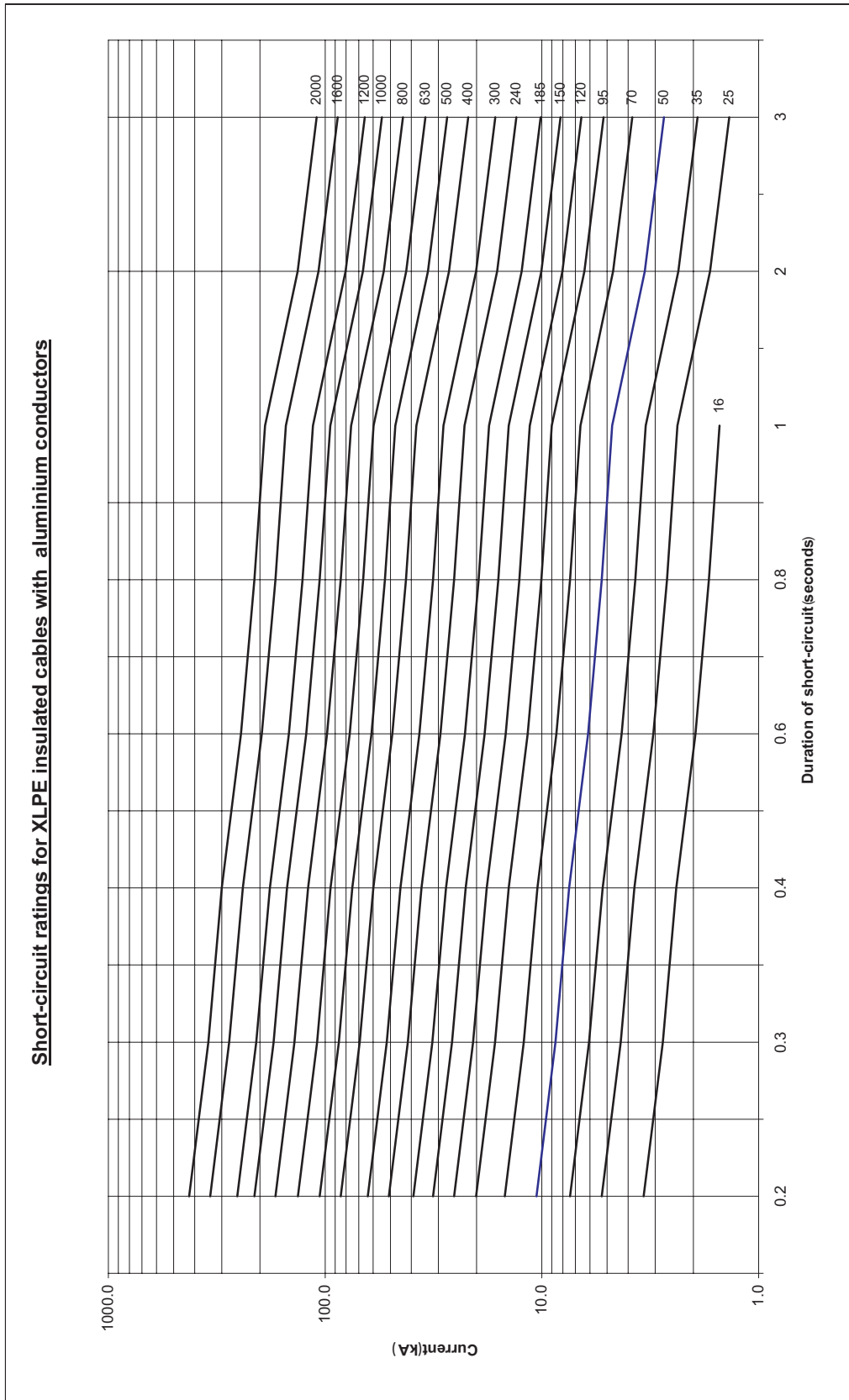


Table 1 - Current ratings for copper conductor cables (A)

Cross section conductor mm <sup>2</sup>	Cables in Ground				Cables in Air			
	Flat formation		Trefoil formation		Flat formation		Trefoil formation	
	Cross bonded	Both ends	Cross bonded	Both ends	Cross bonded	Both ends	Cross bonded	Both ends
95	340	330	320	325	400	390	350	350
120	390	375	365	365	465	445	400	400
150	435	410	410	410	530	495	455	455
185	495	455	465	460	610	560	520	520
240	570	515	535	535	720	645	615	610
300	625	540	600	580	785	690	700	685
400	715	590	680	650	915	775	810	785
500	815	645	770	725	1060	860	930	890
630	925	700	865	805	1230	950	1070	1010
800	1035	745	960	880	1410	1040	1210	1130
1000	1140	790	1050	945	1590	1115	1345	1240
1200*	1295	840	1215	1015	1850	1235	1590	1390
1400	1390	870	1300	1065	2010	1295	1720	1480
1600	1475	900	1375	1110	2185	1350	1850	1570
2000	1610	930	1490	1165	2435	1425	2040	1685

\* Segmental conductor for 1200 mm<sup>2</sup> or more

Table 2 - Current Ratings for aluminium conductor cables (A)

Cross section conductor mm <sup>2</sup>	Cables in Ground				Cables in Air			
	Flat formation		Trefoil formation		Flat formation		Trefoil formation	
	Cross bonded	Both ends	Cross bonded	Both ends	Cross bonded	Both ends	Cross bonded	Both ends
95	265	260	250	250	310	305	270	270
120	300	295	285	285	360	350	310	310
150	340	325	320	320	410	395	335	355
185	385	365	360	360	470	450	405	405
240	445	420	420	420	560	520	480	480
300	490	445	465	460	610	565	550	540
400	560	495	535	525	715	640	635	625
500	640	550	610	590	835	725	740	720
630	735	605	595	665	975	820	855	830
800	830	660	785	740	1130	910	985	940
1000	935	710	875	815	1295	990	1115	1055
1200*	1005	750	940	865	1415	1070	1215	1140
1400	1075	780	1000	910	1520	1125	1305	1220
1600	1130	805	1050	950	1635	1175	1385	1285
2000	1230	845	1135	1010	1820	1250	1525	1395

\* Segmental conductor for 1200 mm<sup>2</sup> or more



Table 3 - Correction factor for ground temperature

Conductor	Ground Temperature, °C							
	10	15	20	25	30	35	40	45
90	1.07	1.04	1	0.96	0.93	0.89	0.84	0.8

Table 4 - Correction factor for ambient air temperature

Air temperature, °C	10	15	20	25	30	35	40	45	50
Rating factor	1.24	1.19	1.15	1.1	1.05	1.0	0.95	0.89	0.83

Table 5 - Correction factor for ground thermal resistivity

Thermal resistivity, Km/W	0.7	1.0	1.2	1.5	2.0	2.5	3.0
Correction factor	1.14	1.00	0.93	0.84	0.74	0.67	0.61

Table 6 - Correction factor for phase spacing

one group in flat formation with cross-bonded or single-bonded screen

Spacing s, mm	$D_e$	$D_e+70$	200	250	300	350	400
Correction factor	0.93	1	1.03	1.05	1.07	1.08	1.10

$D_e$  = Cable dia.

S = Space between center to center of conductor

Table 7 - Correction factor for Laying depth

Laying depth, m	
0.50	1.1
0.70	1.05
0.90	1.01
1.00	1.00
1.20	0.98
1.50	0.95



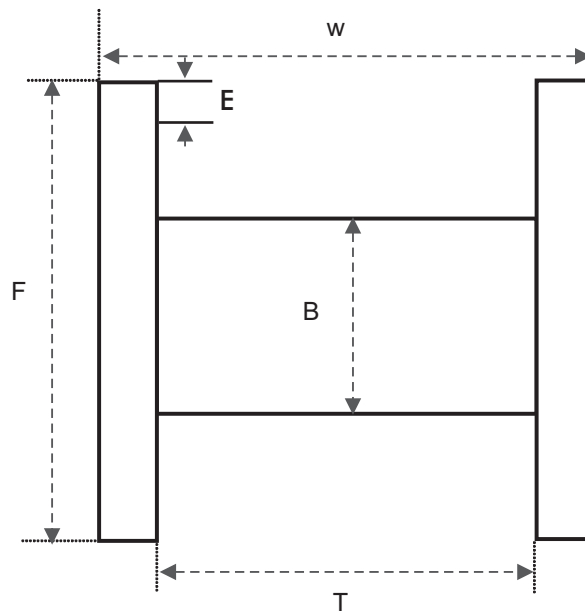


Max Cable length in meters on standard drums

Drum Sizes													
Cable Dia.mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia.mm
6	1326	3961											6
7	975	2910											7
8	746	2228	4391										8
9	590	1760	3470										9
10	478	1426	2810	4566									10
11	395	1178	2323	3774									11
12	332	990	1952	3171	4912								12
13	283	844	1663	2702	4185								13
14		727	1434	2330	3609	4934							14
15		634	1249	2029	3144	4298							15
16		557	1098	1784	2763	3777							16
17		493	972	1580	2448	3346	4858						17
18		440	867	1409	2183	2985	4333	4643					18
19		395	778	1265	1959	2679	3889	4167	4722				19
20		356	703	1142	1768	2417	3510	3760	4262				20
21		323	637	1035	1604	2193	3183	3411	3866				21
22		295	581	943	1461	1998	2901	3108	3522	4815			22
23		270	531	863	1337	1828	2654	2843	3223	4406			23
24			488	793	1228	1679	2437	2611	2960	4046			24
25			450	731	1132	1547	2246	2407	2728	3729			25
26			416	675	1046	1430	2077	2225	2522	3448			26
27			386	626	970	1326	1926	2063	2338	3197			27
28			358	582	902	1233	1791	1919	2174	2973			28
29			334	543	841	1150	1669	1789	2027	2771	4826		29
30			312	507	786	1074	1560	1671	1894	2590	4510		30
31			292	475	736	1006	1461	1565	1774	2425	4224		31
32			274	446	691	944	1371	1469	1665	2276	3964		32
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33
34				395	612	836	1214	1301	1475	2016	3511	4709	34
35				373	577	789	1146	1228	1392	1903	3313	4444	35
36				352	546	746	1083	1161	1315	1798	3132	4200	36
37				334	517	706	1026	1099	1245	1702	2965	3976	37
38				316	490	670	972	1042	1181	1614	2811	3770	38
39				300	465	636	923	989	1121	1532	2669	3579	39
40				285	442	604	877	940	1065	1457	2537	3402	40
41				272	421	575	835	895	1014	1386	2415	3238	41
42				259	401	548	796	853	966	1321	2301	3086	42
43					383	523	759	814	922	1260	2195	2944	43
44					365	499	725	777	881	1204	2097	2812	44
45					349	478	693	743	842	1151	2004	2688	45
46					334	457	663	711	806	1101	1918	2573	46
47					320	438	636	681	772	1055	1837	2464	47
48					307	420	609	653	740	1012	1762	2363	48
49					295	403	585	626	710	971	1691	2267	49
50					283	387	562	602	682	932	1624	2178	50
51					272	372	540	578	655	896	1561	2093	51
52					262	358	519	556	630	862	1501	2013	52
53					252	344	500	535	607	830	1445	1938	53
54						332	481	516	585	799	1392	1867	54
55						320	464	497	564	770	1342	1800	55
56						308	448	480	544	743	1294	1736	56
57						298	432	463	525	717	1249	1676	57
58						287	417	447	507	693	1207	1618	58
59						278	403	432	490	670	1166	1564	59
60						269	390	418	474	647	1127	1512	60
61						260	377	404	458	626	1091	1463	61
62						252	365	391	443	606	1056	1416	62
63							354	379	430	587	1023	1372	63
64							343	367	416	569	991	1329	64
65							332	356	403	552	961	1288	65
66							322	345	391	535	932	1250	66
67							313	335	380	519	904	1213	67
68							304	325	369	504	878	1177	68
69							295	316	358	490	853	1143	69
70							287	307	348	476	828	1111	70
71							278	298	338	462	805	1080	71
72							271	290	329	450	783	1050	72
73							263	282	320	437	762	1022	73
74							256	275	311	426	741	994	74
75							250	267	303	414	722	968	75
76								260	295	403	703	942	76
77								254	288	393	685	918	77
78									280	383	667	895	78
79									273	373	650	872	79
80									266	364	634	851	80
81									260	355	619	830	81
82									254	347	604	810	82
83										338	589	790	83
84										330	575	772	84
85										323	562	753	85
86										315	549	736	86
87										308	536	719	87
88										301	524	703	88
89										294	512	687	89
90										288	501	672	90
91										281	490	657	91
92										275	480	643	92
93										269	469	629	93
94										264	459	616	94
95										258	450	603	95
96										253	440	591	96
97											431	579	97
98											423	567	98
99											414	555	99
100											406	544	100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





# ABHAR WIRE + CABLE CO.



ISO 9002  
Certificate No.  
QS-1147HH




Accredited by the  
Dutch Council for  
Accreditation




## Medium Voltage Cables

Medium voltage cables are XLPE insulated copper or aluminium cables with a rated operating voltage of between 1 and 36 KV, used widely in power distribution networks in residential and industrial areas; our medium voltage cables are produced in accordance with IEC or alternatively BS, VDE standards

 is Iran's leading producer of XLPE insulated medium voltage cables with dedicated production facilities utilising the latest production technology, such as dry curing Method. Our production facilities are designed to ensure the production of a high quality, reliable product that will give many years of trouble-free service. Pressurised material handling rooms using fine HEPA filters ensure complete clean room conditions that preclude the inclusion of even the smallest foreign particles in the insulation material; while continuous X-Ray monitoring of the cables ensures the total centricity of the cable for a uniform, highly dependable product.

We will gladly customise the cables in accordance with the requirements of our clients and are able to offer MV cables with lead sheathing with or without wire/tape armour. Additionally the cables can be made totally water proof with the addition of an aluminium polymer laminated sheath.

 is a reliable source of Low Smoke, Zero Halogen, Oil - Hydrocarbon resistant and fire flame retardant cables to major projects in the region.



# CONTENTS

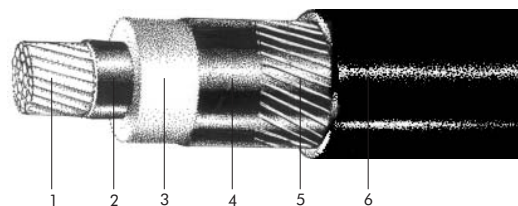
	CABLE TYPES	NO. OF CORES	DESIGNATION	PAGE
<b>6/10 (12) kV</b>	UNARMoured	SINGLE CORE	Cu/SC/XLPE/SC/SCT/CWS/PVC	1
		SINGLE CORE	Cu/SC/XLPE/SC/SCT/CWS/WBT/ALC/PE	2
		SINGLE CORE	Cu/SC/XLPE/SC/SCT/Lsh/PVC	3
	ARMoured	SINGLE CORE	Cu/SC/XLPE/SC/SCT/CWS/Bd/AWA/PVC	4
		SINGLE CORE	Cu/SC/XLPE/SC/SCT/Lsh/Bd/AWA/PVC	5
	UNARMoured	THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/PVC	6
		THREE CORE	Cu/SC/XLPE/SC/SCYF/SCT/OCWS/PVC	7
		THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/LSH/PVC	8
	ARMoured	THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/SWA/PVC	9
		THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/DTA/PVC	10
		THREE CORE	Cu/SC/XLPE/SC/SCYF/SCT/LSH/Bd/SWA/PVC	11
	<b>12/20 (24) kV</b>	UNARMoured	SINGLE CORE	Cu/SC/XLPE/SC/SCT/CWS/PVC
SINGLE CORE			Cu/SC/XLPE/SC/SCT/CWS/WBT/ALC/PE	13
SINGLE CORE			Cu/SC/XLPE/SC/SCT/Lsh/PVC	14
ARMoured		SINGLE CORE	Cu/SC/XLPE /SC/SCT/CWS/Bd/AWA/PVC	15
		SINGLE CORE	Cu/SC/XLPE/SC/SCT/LSH/Bd/AWA/PVC	16
UNARMoured		THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/PVC	17
		THREE CORE	Cu/SC/XLPE/SC/ICWS/Bd/Lsh/PVC	18
		THREE CORE	Cu/SC/XLPE/SC/SCYF/SCT/OCWS/PVC	19
ARMoured		THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/SWA/PVC	20
		THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/DTA/PVC	21
		THREE CORE	Cu/SC/XLPE/SC/SCT/Lsh/Bd/SWA/PVC	22
<b>18/30 (36) kV</b>		UNARMoured	SINGLE CORE	Cu/SC/XLPE/SC/SCT/CWS/PVC
	SINGLE CORE		Cu/SC/XLPE/SC/SCWBT/CWS/WBT/ALC/PE	24
	SINGLE CORE		Cu/SC/XLPE/SC/SCT/LSH/PVC	25
	ARMoured	SINGLE CORE	Cu/SC/XLPE/SC/SCT/CWS/Bd/AWA/PVC	26
		SINGLE CORE	Cu/SC/XLPE/SC/SCT/LSH/Bd/AWA/PVC	27
	UNARMoured	THREE CORE	Cu/SC/XLPE/SC/SCT/CWS/PVC	28
		THREE CORE	Cu/SC/XLPE/SC/SCYF/SCT/OCWS/PVC	29
		THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/Lsh/PVC	30
	ARMoured	THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/SWA/PVC	31
		THREE CORE	Cu/SC/XLPE/SC/SCT/ICWS/Bd/DTA/PVC	32
		THREE CORE	Cu/SC/XLPE/SC/SCYF/SCT/LSH/Bd/SWA/PVC	33



Cu/SC/XLPE/SC/SCT/CWS/PVC

IEC 60502-2

Wire screened, single core medium voltage power cable with copper conductor and XLPE insulation.



## 6/10(12) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM/16	3.4	1.8	23.6	725
1x 35 RM/16	3.4	1.8	24.6	835
1x 50 RM/16	3.4	1.8	25.8	973
1x 70 RM/16	3.4	1.8	27.4	1196
1x 95 RM/16	3.4	1.8	29.1	1467
1x 120 RM/16	3.4	1.8	30.8	1719
1x 150 RM/25	3.4	1.9	32.5	2095
1x 185 RM/25	3.4	1.9	34.2	2461
1x 240 RM/25	3.4	2.0	36.8	3044
1x 300 RM/25	3.4	2.1	38.9	3644
1x 400 RM/35	3.4	2.2	42.4	4573
1x 500 RM/35	3.4	2.3	46.0	5652
1x 630 RM/35	3.4	2.4	49.2	7024
1x 800 RM/35	3.4	2.5	53.5	8788

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen 6-PVC Overall Sheath

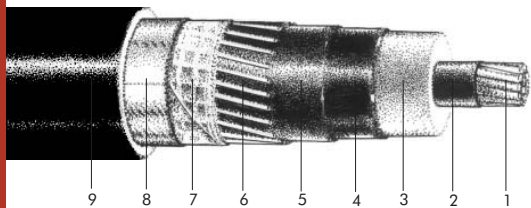
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper tape screen & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 25 RM / 16	0.927	0.927	0.151	0.252	0.20
1 x 35 RM / 16	0.668	0.668	0.144	0.243	0.22
1 x 50 RM / 16	0.494	0.494	0.134	0.231	0.24
1 x 70 RM / 16	0.342	0.342	0.127	0.221	0.28
1 x 95 RM / 16	0.247	0.246	0.121	0.212	0.31
1 x 120 RM / 16	0.196	0.196	0.115	0.204	0.34
1 x 150 RM / 25	0.159	0.159	0.112	0.199	0.36
1 x 185 RM / 25	0.1276	0.1271	0.108	0.193	0.40
1 x 240 RM / 25	0.0979	0.0971	0.104	0.185	0.44
1 x 300 RM / 25	0.0789	0.0778	0.101	0.18	0.48
1 x 400 RM / 35	0.0629	0.0614	0.098	0.173	0.54
1 x 500 RM / 35	0.0506	0.0486	0.094	0.167	0.61
1 x 630 RM / 35	0.0411	0.0386	0.092	0.162	0.66
1 x 800 RM / 35	0.0343	0.0313	0.09	0.157	0.73





IEC 60502-2

Cu/SC/XLPE/SC/SCT/CWS/WBT/AIC/PE

Wire screened, water blocked, single core medium voltage power cables with copper conductor and XLPE insulation.

6/10(12)kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM/16	3.4	1.8	25.9	794
1x 35 RM/16	3.4	1.8	26.9	828
1x 50 RM/16	3.4	1.8	28.1	965
1x 70 RM/16	3.4	1.8	29.9	1186
1x 95 RM/16	3.4	1.8	31.6	1455
1x 120 RM/16	3.4	1.8	33.1	1706
1x 150 RM/25	3.4	1.9	34.8	2075
1x 185 RM/25	3.4	1.9	36.5	2438
1x 240 RM/25	3.4	2.0	39.1	3012
1x 300 RM/25	3.4	2.1	41.2	3604
1x 400 RM/35	3.4	2.2	44.7	4521
1x 500 RM/35	3.4	2.3	48.3	5586
1x 630 RM/35	3.4	2.4	51.5	6944
1x 800 RM/35	3.4	2.5	55.8	8691

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Tape 6-Copper

Wire Screen 7-Water - blocking Tape 8- Aluminium Copolymer Layer 9-PE Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/tape screen.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 25 RM / 16	0.927	0.927	0.156	0.253	0.20
1 x 35 RM / 16	0.668	0.668	0.149	0.244	0.22
1 x 50 RM / 16	0.494	0.494	0.138	0.232	0.24
1 x 70 RM / 16	0.342	0.342	0.131	0.222	0.28
1 x 95 RM / 16	0.247	0.246	0.124	0.213	0.31
1 x 120 RM / 16	0.196	0.196	0.119	0.205	0.34
1 x 150 RM / 25	0.159	0.159	0.116	0.200	0.36
1 x 185 RM / 25	0.1276	0.1271	0.111	0.194	0.40
1 x 240 RM / 25	0.0978	0.0971	0.107	0.186	0.440
1 x 300 RM / 25	0.0788	0.0778	0.104	0.181	0.48
1 x 400 RM / 35	0.0628	0.0614	0.100	0.174	0.54
1 x 500 RM / 35	0.0505	0.0486	0.097	0.167	0.61
1 x 630 RM / 35	0.0409	0.0385	0.094	0.162	0.66
1 x 800 RM / 35	0.0341	0.0313	0.092	0.158	0.73

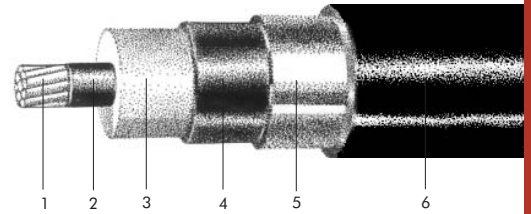




Cu/SC/XLPE/SC/SCT/Lsh/PVC

IEC 60502-2

Lead sheathed, single core medium voltage power cable with copper conductor and XLPE insulation.



## 6/10(12) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM	3.4	1.3	1.8	24.1	1449
1x 35 RM	3.4	1.3	1.8	25.1	1605
1x 50 RM	3.4	1.4	1.8	26.5	1880
1x 70 RM	3.4	1.4	1.8	28.1	2184
1x 95 RM	3.4	1.5	1.9	30.5	2647
1x 120 RM	3.4	1.5	1.9	32.0	2981
1x 150 RM	3.4	1.5	2.0	33.6	3350
1x 185 RM	3.4	1.6	2.0	35.5	3919
1x 240 RM	3.4	1.7	2.1	38.3	4762
1x 300 RM	3.4	1.7	2.2	40.5	5479
1x 400 RM	3.4	1.8	2.3	44.1	6652
1x 500 RM	3.4	1.9	2.4	48.0	8105
1x 630 RM	3.4	2.0	2.5	51.3	9840
1x 800 RM	3.4	2.1	2.6	55.2	11888

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-Conductive Insulation Screen 5-S.C Tape + Lead Sheath  
6-PVC Overall Sheath

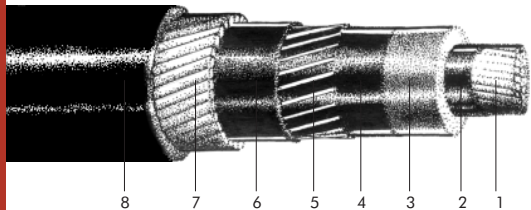
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/ tape screen & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 25 RM	0.927	0.927	0.153	0.253	0.202
1 x 35 RM	0.668	0.668	0.146	0.243	0.22
1 x 50 RM	0.494	0.494	0.136	0.232	0.24
1 x 70 RM	0.342	0.342	0.129	0.221	0.31
1 x 95 RM	0.247	0.246	0.124	0.212	0.31
1 x 120 RM	0.196	0.196	0.118	0.205	0.34
1 x 150 RM	0.159	0.159	0.115	0.199	0.36
1 x 185 RM	0.1274	0.127	0.111	0.194	0.40
1 x 240 RM	0.0976	0.0971	0.107	0.186	0.440
1 x 300 RM	0.0786	0.0778	0.104	0.181	0.48
1 x 400 RM	0.0625	0.0614	0.101	0.174	0.54
1 x 500 RM	0.050	0.0486	0.097	0.167	0.61
1 x 630 RM	0.0404	0.0385	0.095	0.163	0.66
1 x 800 RM	0.0334	0.0312	0.093	0.158	0.73





## IEC 60502-2 Cu/SC/XLPE/SC/SCT/CWS/Bd/AWA/PVC

Wire armoured, wire screened, single core medium voltage power cable with copper conductor and XLPE insulation.

## 6/10(12) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM/16	3.4	1.6	1.8	29.7	1150
1x 35 RM/16	3.4	1.6	1.8	30.7	1277
1x 50 RM/16	3.4	1.6	1.9	32.2	1448
1x 70 RM/16	3.4	1.6	1.9	33.8	1698
1x 95 RM/16	3.4	1.6	2.0	35.7	2013
1x 120 RM/16	3.4	2.0	2.0	38.2	2389
1x 150 RM/25	3.4	2.0	2.1	39.8	2796
1x 185 RM/25	3.4	2.0	2.1	41.5	3199
1x 240 RM/25	3.4	2.0	2.2	44.2	3837
1x 300 RM/25	3.4	2.0	2.3	46.3	4471
1x 400 RM/35	3.4	2.5	2.4	51.0	5648
1x 500 RM/35	3.4	2.5	2.5	54.6	6824
1x 630 RM/35	3.4	2.5	2.7	58.5	8314
1x 800 RM/35	3.4	2.5	2.8	63.1	10226

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen

6-Extruded PVC Bedding 7-Aluminium Wire Armour 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

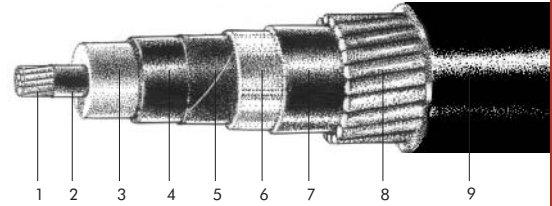
Also available with aluminium conductor, tape screen, tape armour & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 25 RM / 16	0.927	0.927	0.168	0.257	0.20
1 x 35 RM / 16	0.668	0.668	0.160	0.248	0.22
1 x 50 RM / 16	0.494	0.494	0.150	0.236	0.24
1 x 70 RM / 16	0.342	0.342	0.142	0.225	0.28
1 x 95 RM / 16	0.247	0.246	0.135	0.216	0.31
1 x 120 RM / 16	0.196	0.196	0.129	0.209	0.34
1 x 150 RM / 25	0.159	0.159	0.125	0.203	0.36
1 x 185 RM / 25	0.1274	0.127	0.121	0.197	0.40
1 x 240 RM / 25	0.0976	0.0971	0.115	0.189	0.44
1 x 300 RM / 25	0.0785	0.0778	0.112	0.184	0.48
1 x 400 RM / 35	0.0624	0.0614	0.110	0.178	0.54
1 x 500 RM / 35	0.0499	0.0486	0.105	0.171	0.61
1 x 630 RM / 35	0.0402	0.0385	0.103	0.167	0.66
1 x 800 RM / 35	0.0333	0.0312	0.101	0.162	0.73



Wire armoured, lead sheathed, single core medium voltage power cable with copper conductor and XLPE insulation.



## 6/10(12) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM	3.4	1.3	1.6	1.9	30.1	1867
1x 35 RM	3.4	1.3	1.6	1.9	31.1	2039
1x 50 RM	3.4	1.4	1.6	1.9	32.5	2333
1x 70 RM	3.4	1.4	2.0	2.0	35.3	2785
1x 95 RM	3.4	1.5	2.0	2.1	37.5	3291
1x 120 RM	3.4	1.5	2.0	2.1	39.0	3652
1x 150 RM	3.4	1.5	2.0	2.2	41.0	4078
1x 185 RM	3.4	1.6	2.0	2.3	43.1	4706
1x 240 RM	3.4	1.7	2.0	2.3	45.7	5576
1x 300 RM	3.4	1.7	2.5	2.5	49.3	6536
1x 400 RM	3.4	1.8	2.5	2.6	52.9	7795
1x 500 RM	3.4	1.9	2.5	2.7	57.3	9372
1x 630 RM	3.4	2.0	2.5	2.8	60.9	11218
1x 800 RM	3.4	2.1	2.5	2.9	64.9	13357

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Bedding Tape

6-Lead Sheath 7-Extruded PVC Bedding 8-Aluminium Wire Armour 9-PVC Overall Sheath

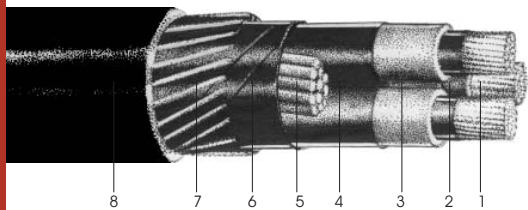
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/tape screen & PE sheath.

### Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 25 RM	0.927	0.927	0.169	0.257	0.20
1 x 35 RM	0.668	0.668	0.161	0.248	0.22
1 x 50 RM	0.494	0.494	0.151	0.236	0.24
1 x 70 RM	0.342	0.342	0.143	0.226	0.28
1 x 95 RM	0.247	0.246	0.137	0.217	0.31
1 x 120 RM	0.196	0.196	0.131	0.209	0.34
1 x 150 RM	0.159	0.159	0.406	0.649	0.36
1 x 185 RM	0.1273	0.127	0.123	0.198	0.40
1 x 240 RM	0.0974	0.097	0.118	0.190	0.44
1 x 300 RM	0.0783	0.0778	0.117	0.186	0.48
1 x 400 RM	0.0621	0.0614	0.112	0.179	0.54
1 x 500 RM	0.0496	0.0485	0.109	0.172	0.61
1 x 630 RM	0.0398	0.0385	0.106	0.168	0.66
1 x 800 RM	0.0327	0.0312	0.103	0.163	0.73





IEC 60502-2

Cu/SC/XLPE/SC/SCYF/SCT/OCWS/PVC

Three core medium voltage cable with copper conductor, XLPE insulation and common wire screen.

## 6/10(12) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM/16	3.4	2.2	47.3	2651
3x 35 RM/16	3.4	2.3	49.7	3101
3x 50 RM/16	3.4	2.4	52.6	3662
3x 70 RM/16	3.4	2.5	56.5	4525
3x 95 RM/16	3.4	2.6	60.4	5560
3x 120 RM/16	3.4	2.7	63.9	6531
3x 150 RM/25	3.4	2.8	67.1	7581
3x 185 RM/25	3.4	2.9	71.1	8943
3x 240 RM/25	3.4	3.1	76.8	11072
3x 300 RM/25	3.4	3.3	81.4	13194

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Yarn Filler  
6-Semi-conductive Tape 7-Copper Wire Screen 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper tape screen & PE sheath.

## Electrical Data

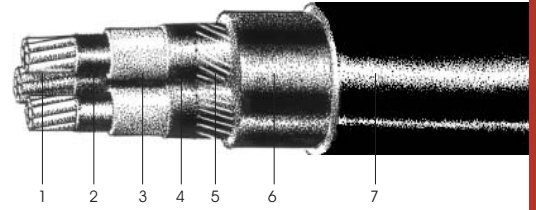
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 25 RM / 16	0.927	0.132	0.20
3 x 35 RM / 16	0.668	0.126	0.22
3 x 50 RM / 16	0.494	0.117	0.24
3 x 70 RM / 16	0.342	0.111	0.28
3 x 95 RM / 16	0.247	0.105	0.31
3 x 120 RM / 16	0.196	0.101	0.34
3 x 150 RM / 25	0.159	0.098	0.36
3 x 185 RM / 25	0.128	0.095	0.40
3 x 240 RM / 25	0.0984	0.091	0.44
3 x 300 RM / 25	0.0795	0.088	0.48



Cu/SC/XLPE/SC/SCT/ICWS/PVC

IEC 60502-2

Individual wire screened, three core medium voltage power cables with copper conductor and XLPE insulation.



## 6/10(12)kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM/16	3.4	2.2	49.1	2899
3x 35 RM/16	3.4	2.3	52.0	3414
3x 50 RM/16	3.4	2.4	54.8	3980
3x 70 RM/16	3.4	2.5	58.8	4859
3x 95 RM/16	3.4	2.6	63.3	6019
3x 120 RM/16	3.4	2.8	67.0	7047
3x 150 RM/25	3.4	2.9	70.3	8176
3x 185 RM/25	3.4	3.0	74.2	9562
3x 240 RM/25	3.4	3.1	80.2	11783
3x 300 RM/25	3.4	3.3	84.8	13938

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Individual S.C Tape + Copper Wire Screen 6-Extruded PVC Inner Sheath 7-PVC Overall Sheath

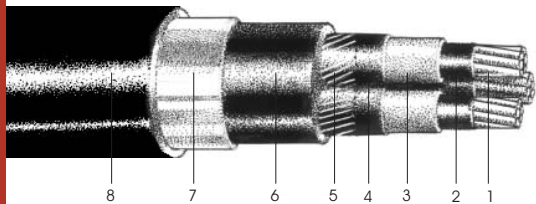
Maximum conductor temperature: 90°C

Also available with aluminium conductor & PE sheath.

### Electrical Data

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 25 RM / 16	0.927	0.138	0.20
3 x 35 RM / 16	0.668	0.131	0.22
3 x 50 RM / 16	0.494	0.122	0.24
3 x 70 RM / 16	0.342	0.115	0.28
3 x 95 RM / 16	0.247	0.110	0.31
3 x 120 RM / 16	0.196	0.105	0.34
3 x 150 RM / 25	0.159	0.102	0.36
3 x 185 RM / 25	0.1279	0.098	0.40
3 x 240 RM / 25	0.0982	0.094	0.440
3 x 300 RM / 25	0.0794	0.091	0.48





**IEC 60502-2 Cu/SC/XLPE/SC/SCT/ICWS/Bd/LSH/PVC**

Lead sheathed, individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.

**6/10(12) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM/16	3.4	1.8	2.4	53.2	5811
3x 35 RM/16	3.4	1.8	2.4	56.1	6461
3x 50 RM/16	3.4	1.9	2.5	59.1	7369
3x 70 RM/16	3.4	2.0	2.7	63.3	8705
3x 95 RM/16	3.4	2.1	2.8	68.0	10368
3x 120 RM/16	3.4	2.2	2.9	71.7	11823
3x 150 RM/25	3.4	2.3	3.0	75.1	13416
3x 185 RM/25	3.4	2.4	3.1	79.3	15344
3x 240 RM/25	3.4	2.5	3.3	85.7	18331
3x 300 RM/25	3.4	2.7	3.5	90.7	21421

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen  
6-Extruded PVC Bedding 7-Lead Sheath 8-PVC Overall Sheath

Maximum conductor temperature: 90°C  
Also available with aluminium conductor & PE sheath.

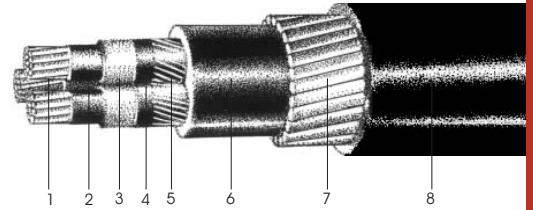
**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 25 RM / 16	0.927	0.138	0.20
3 x 35 RM / 16	0.668	0.131	0.22
3 x 50 RM / 16	0.494	0.122	0.24
3 x 70 RM / 16	0.342	0.115	0.28
3 x 95 RM / 16	0.247	0.110	0.31
3 x 120 RM / 16	0.196	0.105	0.34
3 x 150 RM / 25	0.159	0.102	0.36
3 x 185 RM / 25	0.1279	0.098	0.40
3 x 240 RM / 25	0.0982	0.094	0.440
3 x 300 RM / 25	0.0794	0.091	0.48



**Cu/SC/XLPE/SC/SCT/ICWS/Bd/SWA/PVC IEC 60502-2**

Wire armoured, individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation



**6/10 (12) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM/16	3.4	2.5	2.5	55.1	5158
3x 35 RM/16	3.4	2.5	2.5	57.5	5696
3x 50 RM/16	3.4	2.5	2.7	60.8	6431
3x 70 RM/16	3.4	2.5	2.8	64.5	7497
3x 95 RM/16	3.4	2.5	2.9	68.8	8754
3x 120 RM/16	3.4	2.5	3.0	72.5	9973
3x 150 RM/25	3.4	2.5	3.1	75.8	11206
3x 185 RM/25	3.4	2.5	3.2	80.0	12814
3x 240 RM/25	3.4	3.15	3.4	87.2	16274
3x 300 RM/25	3.4	3.15	3.6	92.0	18709

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5- S.C Tape + Copper Wire Screen

6-Extruded PVC Bedding 7-Galvanized Steel Wire Armour 8-PVC Overall Sheath

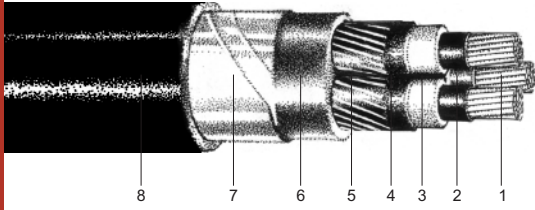
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/ tape common screen galvanized steel tape armour & PE sheath.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 25 RM / 16	0.927	0.138	0.20
3 x 35 RM / 16	0.668	0.131	0.22
3 x 50 RM / 16	0.494	0.122	0.24
3 x 70 RM / 16	0.342	0.115	0.28
3 x 95 RM / 16	0.247	0.11	0.31
3 x 120 RM / 16	0.196	0.105	0.34
3 x 150 RM / 25	0.159	0.102	0.36
3 x 185 RM / 25	0.1279	0.098	0.40
3 x 240 RM / 25	0.0982	0.094	0.44
3 x 300 RM / 25	0.0794	0.091	0.48



**IEC 60502-2 Cu/SC/XLPE/SC/SCT/ICWS/Bd//DTA/PVC**

Tape armoured, individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.

**6/10(12) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM/16	3.4	0.5	2.4	52.4	3605
3x 35 RM/16	3.4	0.5	2.4	54.5	4058
3x 50 RM/16	3.4	0.5	2.5	57.8	4689
3x 70 RM/16	3.4	0.5	2.7	61.8	5637
3x 95 RM/16	3.4	0.5	2.8	66.0	6798
3x 120 RM/16	3.4	0.5	2.9	69.8	7874
3x 150 RM/25	3.4	0.5	3.0	73.0	9034
3x 185 RM/25	3.4	0.5	3.1	77.3	10506
3x 240 RM/25	3.4	0.5	3.3	83.2	12765
3x 300 RM/25	3.4	0.5	3.5	88.0	15013

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen  
6-Extruded PVC Bedding 7-Galvanized Steel Tape Armour 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, common wire screen & PE sheath.

**Electrical Data**

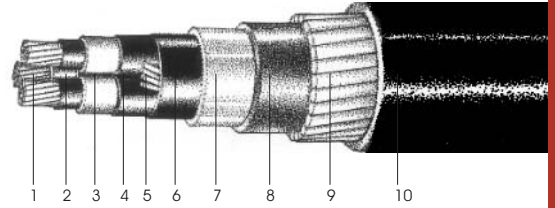
Number of cores		AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3	x 25 RM / 16	0.927	0.138	0.20
3	x 35 RM / 16	0.668	0.131	0.22
3	x 50 RM / 16	0.494	0.122	0.24
3	x 70 RM / 16	0.342	0.115	0.28
3	x 95 RM / 16	0.247	0.110	0.31
3	x 120 RM / 16	0.196	0.105	0.34
3	x 150 RM / 25	0.159	0.102	0.36
3	x 185 RM / 25	0.1279	0.098	0.40
3	x 240 RM / 25	0.0982	0.094	0.44
3	x 300 RM / 25	0.0794	0.091	0.48





**Cu/SC/XLPE/SC/SCYF/SCT/Lsh/Bd/SWA/PVC IEC 60502-2**

Wire armoured, lead sheathed, three core medium voltage power cable with copper conductor and XLPE insulation.



**6/10 (12) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM	3.4	1.8	2.5	2.6	59.8	8458
3x 35 RM	3.4	1.8	2.5	2.8	62.7	9312
3x 50 RM	3.4	1.9	2.5	3.0	66.1	10403
3x 70 RM	3.4	2.0	2.5	3.0	70.4	11998
3x 95 RM	3.4	2.1	2.5	3.1	75.2	13934
3x 120 RM	3.4	2.2	2.5	3.2	79.2	15622
3x 150 RM	3.4	2.3	3.15	3.4	84.4	18397
3x 185 RM	3.4	2.4	3.15	3.5	88.5	20614
3x 240 RM	3.4	2.5	3.15	3.7	95.2	24096
3x 300 RM	3.4	2.7	3.15	3.8	100.1	27488

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Yarn Filler

6-Semi-conductive Tape 7-Lead Sheath 8-Extruded PVC Bedding 9-Galvanized Steel Wire Armour 10-PVC Overall Sheath

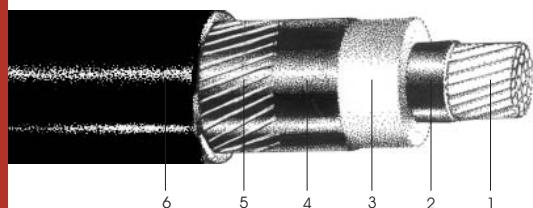
Maximum conductor temperature: 90°C

Also available with aluminium conductor, galvanized steel tape armour & PE sheath.

**Electrical Data**

Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3	x	25	RM	0.927	0.132	0.20
3	x	35	RM	0.668	0.126	0.22
3	x	50	RM	0.494	0.117	0.24
3	x	70	RM	0.342	0.111	0.28
3	x	95	RM	0.247	0.105	0.31
3	x	120	RM	0.196	0.101	0.34
3	x	150	RM	0.159	0.098	0.36
3	x	185	RM	0.128	0.095	0.40
3	x	240	RM	0.0984	0.091	0.44
3	x	300	RM	0.0795	0.088	0.48





IEC 60502-2

Cu/SC/XLPE/SC/SCT/CWS/PVC

Wire screened, single core medium voltage power cable with copper conductor and XLPE insulation.

## 12/20 (24) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 35 RM/16	5.5	1.8	28.8	992
1x 50 RM/16	5.5	1.8	30.2	1137
1x 70 RM/16	5.5	1.9	32.1	1385
1x 95 RM/16	5.5	1.9	33.8	1667
1x 120 RM/16	5.5	2.0	35.5	1946
1x 150 RM/25	5.5	2.0	36.9	2317
1x 185 RM/25	5.5	2.1	38.8	2712
1x 240 RM/25	5.5	2.1	41.2	3295
1x 300 RM/25	5.5	2.2	43.4	3911
1x 400 RM/35	5.5	2.3	46.8	4863
1x 500 RM/35	5.5	2.4	50.5	5966
1x 630 RM/35	5.5	2.5	53.6	7360
1x 800 RM/35	5.5	2.7	58.5	9177

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen

6-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor copper tape screen & PE sheath.

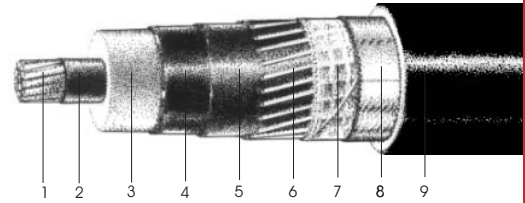
## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 35 RM / 16	0.668	0.668	0.155	0.246	0.16
1 x 50 RM / 16	0.494	0.494	0.145	0.234	0.17
1 x 70 RM / 16	0.342	0.342	0.137	0.224	0.19
1 x 95 RM / 16	0.247	0.246	0.130	0.215	0.21
1 x 120 RM / 16	0.196	0.196	0.125	0.207	0.23
1 x 150 RM / 25	0.159	0.159	0.121	0.202	0.25
1 x 185 RM / 25	0.1275	0.127	0.117	0.195	0.27
1 x 240 RM / 25	0.0977	0.0971	0.111	0.188	0.30
1 x 300 RM / 25	0.0787	0.0778	0.108	0.183	0.32
1 x 400 RM / 35	0.0626	0.0614	0.104	0.175	0.36
1 x 500 RM / 35	0.0502	0.0486	0.101	0.169	0.40
1 x 630 RM / 35	0.0406	0.0385	0.098	0.164	0.44
1 x 800 RM / 35	0.0337	0.0312	0.096	0.16	0.48



**Cu/SC/XLPE/SC/SCT/CWS/WBT/AIC/PE IEC 60502-2**

Wire screened, water blocked, single core medium voltage power cable with copper conductor and XLPE insulation.



**12/20(24)kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 35 RM/16	5.5	1.8	31.3	980
1x 50 RM/16	5.5	1.8	32.5	1124
1x 70 RM/16	5.5	1.9	34.4	1366
1x 95 RM/16	5.5	1.9	36.1	1645
1x 120 RM/16	5.5	2.0	37.8	1917
1x 150 RM/25	5.5	2.0	39.2	2286
1x 185 RM/25	5.5	2.1	41.1	2672
1x 240 RM/25	5.5	2.2	43.8	3264
1x 300 RM/25	5.5	2.2	45.7	3857
1x 400 RM/35	5.5	2.4	49.4	4810
1x 500 RM/35	5.5	2.4	52.8	5884
1x 630 RM/35	5.5	2.6	56.1	7279
1x 800 RM/35	5.5	2.7	60.8	9051

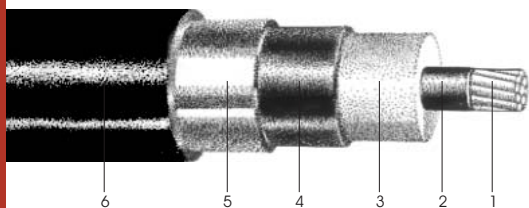
1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Tape  
6-Copper Wire Screen 7-Water-Blocking Tape 8-Aluminium Copolymer Layer 9-PE Overall Sheath

Maximum conductor temperature: 90°C  
Also available with aluminium conductor, copper wire/ tape screen.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 35 RM / 16	0.668	0.668	0.159	0.247	0.16
1 x 50 RM / 16	0.494	0.494	0.148	0.235	0.17
1 x 70 RM / 16	0.342	0.342	0.141	0.225	0.19
1 x 95 RM / 16	0.247	0.246	0.134	0.216	0.21
1 x 120 RM / 16	0.196	0.196	0.128	0.208	0.23
1 x 150 RM / 25	0.159	0.159	0.124	0.203	0.25
1 x 185 RM / 25	0.1274	1270	0.120.	0.196	0.27
1 x 240 RM / 25	0.0976	0.0971	0.114	0.189	0.30
1 x 300 RM / 25	0.0786	0.0778	0.111	0.183	0.32
1 x 400 RM / 35	0.0625	0.0614	0.107	0.177	0.36
1 x 500 RM / 35	0.0501	0.0486	0.103	0.170.	0.40
1 x 630 RM / 35	0.0404	0.0385	0.101	0.165	0.44
1 x 800 RM / 35	0.0335	0.0312	0.098	0.161	0.48





IEC 60502-2

Cu/SC/XLPE/SC/SCT/Lsh/PVC

Lead sheathed, single core medium voltage power cable with copper conductor and XLPE insulation.

## 12/20 (24) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 35 RM	5.5	1.5	1.9	30.2	2156
1x 50 RM	5.5	1.5	1.9	31.4	2367
1x 70 RM	5.5	1.5	2.0	33.2	2701
1x 95 RM	5.5	1.6	2.0	35.1	3185
1x 120 RM	5.5	1.6	2.1	36.8	3551
1x 150 RM	5.5	1.7	2.1	38.4	4041
x 185 RM	5.5	1.7	2.2	40.4	4541
1x 240 RM	5.5	1.8	2.3	43.2	5428
1x 300 RM	5.5	1.8	2.3	45.1	6147
1x 400 RM	5.5	1.9	2.5	49.0	7394
1x 500 RM	5.5	2.0	2.6	52.8	8901
1x 630 RM	5.5	2.1	2.7	56.2	10686
1x 800 RM	5.5	2.2	2.8	60.4	12789

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Lead Sheath

6-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/ tape screen & PE sheath.

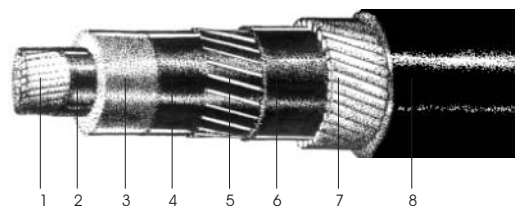
## Electrical Data

Number of cores				AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
				Trefoil	Flat	Trefoil	Flat	
1	x	35	RM	0.668	0.668	0.158	0.247	0.16
1	x	50	RM	0.494	0.494	0.148	0.235	0.17
1	x	70	RM	0.342	0.342	0.140	0.225	0.19
1	x	95	RM	0.247	0.246	0.133	0.216	0.21
1	x	120	RM	0.196	0.196	0.128	0.208	0.23
1	x	150	RM	0.159	0.159	0.124	0.203	0.25
1	x	185	RM	0.1274	0.1270	0.120	0.197	0.27
1	x	240	RM	0.0976	0.0971	0.115	0.189	0.30
1	x	300	RM	0.0786	0.0778	0.111	0.184	0.32
1	x	400	RM	0.0625	0.0614	0.107	0.177	0.36
1	x	500	RM	0.0500	0.0486	0.104	0.170	0.40
1	x	630	RM	0.0403	0.0385	0.102	0.166	0.44
1	x	800	RM	0.0335	0.0312	0.099	0.161	0.48



**Cu/SC/XLPE /SC/SCT/CWS/Bd/AWA/PVC IEC 60502-2**

Wire armoured, wire screened, single core medium voltage power cable with copper conductor and XLPE insulation.



**12/20 (24) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 35 RM/16	5.5	1.6	2.0	35.4	1536
1x 50 RM/16	5.5	2.0	2.0	37.6	1795
1x 70 RM/16	5.5	2.0	2.1	39.4	2083
1x 95 RM/16	5.5	2.0	2.1	41.1	2394
1x 120 RM/16	5.5	2.0	2.2	42.9	2713
1x 150 RM/25	5.5	2.0	2.2	44.3	3111
1x 185 RM/25	5.5	2.0	2.3	46.2	3539
1x 240 RM/25	5.5	2.5	2.4	50.1	4370
1x 300 RM/25	5.5	2.5	2.5	52.2	5045
1x 400 RM/35	5.5	2.5	2.6	55.8	6104
1x 500 RM/35	5.5	2.5	2.7	59.8	7295
1x 630 RM/35	5.5	2.5	2.8	63.2	8799
1x 800 RM/35	5.5	2.5	3.0	68.1	10759

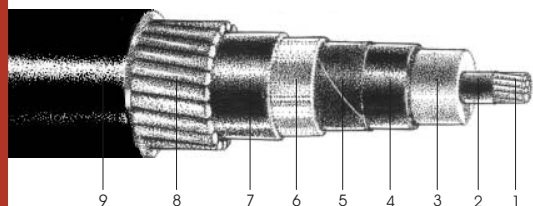
1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen  
6-Extruded PVC Bedding 7-Aluminium Wire Armour 8-PVC Overall Sheath

Maximum conductor temperature: 90°C  
Also available with aluminium conductor, tape screen, tape armour & PE sheath.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 35 RM / 16	0.668	0.668	0.170	0.251	0.16
1 x 50 RM / 16	0.494	0.494	0.159	0.238	0.17
1 x 70 RM / 16	0.342	0.342	0.150	0.228	0.19
1 x 95 RM / 16	0.247	0.246	0.143	0.219	0.21
1 x 120 RM / 16	0.196	0.196	0.137	0.211	0.23
1 x 150 RM / 25	0.159	0.159	0.133	0.206	0.25
1 x 185 RM / 25	0.1273	0.1270	0.128	0.200	0.27
1 x 240 RM / 25	0.0975	0.0970	0.124	0.193	0.30
1 x 300 RM / 25	0.0783	0.0778	0.120	0.188	0.32
1 x 400 RM / 35	0.0622	0.0614	0.115	0.18	0.32
1 x 500 RM / 35	0.0497	0.0486	0.112	0.174	0.40
1 x 630 RM / 35	0.0399	0.385	0.108	0.169	0.44
1 x 800 RM / 35	0.0329	0.0312	0.106	0.164	0.48





IEC 60502-2

Cu/SC/XLPE/SC/SCT/Lsh/Bd/AWA/PVC

Wire armoured, lead sheathed, single core medium voltage power cable with copper conductor and XLPE insulation.

## 12/20 (24) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 35 RM	5.5	1.5	2.0	2.1	37.2	2790
1x 50 RM	5.5	1.5	2.0	2.1	38.4	3025
1x 70 RM	5.5	1.5	2.0	2.2	40.6	3418
1x 95 RM	5.5	1.6	2.0	2.3	42.7	3961
1x 120 RM	5.5	1.6	2.0	2.3	44.2	4338
1x 150 RM	5.5	1.7	2.0	2.4	46.1	4887
1x 185 RM	5.5	1.7	2.5	2.5	49.2	5597
1x 240 RM	5.5	1.8	2.5	2.5	51.8	6525
1x 300 RM	5.5	1.8	2.5	2.6	54.1	7347
1x 400 RM	5.5	1.9	2.5	2.7	58.1	8658
1x 500 RM	5.5	2.0	2.5	2.8	62.2	10293
1x 630 RM	5.5	2.1	2.5	3.0	66.0	12221
1x 800 RM	5.5	2.2	2.5	3.1	70.1	14419

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Bedding Tape

6-Lead Sheath 7-Extruded PVC Bedding 8-Aluminium Wire Armour 9-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/ tape screen & PE sheath.

## Electrical Data

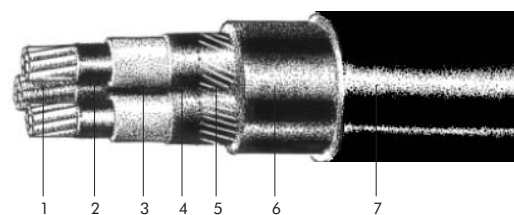
Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 35 RM	0.668	0.668	0.171	0.251	0.16
1 x 50 RM	0.494	0.494	0.161	0.239	0.17
1 x 70 RM	0.342	0.342	0.152	0.229	0.19
1 x 95 RM	0.247	0.246	0.145	0.220	0.21
1 x 120 RM	0.196	0.196	0.139	0.212	0.23
1 x 150 RM	0.159	0.159	0.135	0.207	0.25
1 x 185 RM	0.1272	0.1270	0.132	0.201	0.27
1 x 240 RM	0.0974	0.0970	0.126	0.194	0.30
1 x 300 RM	0.0782	0.0778	0.123	0.188	0.36
1 x 400 RM	0.0620	0.0614	0.118	0.181	0.36
1 x 500 RM	0.0494	0.0485	0.114	0.175	0.40
1 x 630 RM	0.0396	0.0385	0.112	0.171	0.44
1 x 800 RM	0.0324	0.0311	0.108	0.165	0.48



Cu/SC/XLPE/SC/SCT/ICWS/PVC

IEC 60502-2

Individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.



## 12/20(24)kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 35 RM/16	5.5	2.6	62.7	4535
3x 50 RM/16	5.5	2.7	65.5	5166
3x 70 RM/16	5.5	2.8	69.2	6127
3x 95 RM/16	5.5	3.0	73.3	7295
3x 120 RM/16	5.5	3.1	76.9	8359
3x 150 RM/25	5.5	3.2	80.6	9635
3x 185 RM/25	5.5	3.3	84.6	11098
3x 240 RM/25	5.5	3.5	90.2	13363
3x 300 RM/25	5.5	3.6	94.5	15560

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire screen  
6-Extruded PVC Inner Sheath 7-PVC Overall Sheath

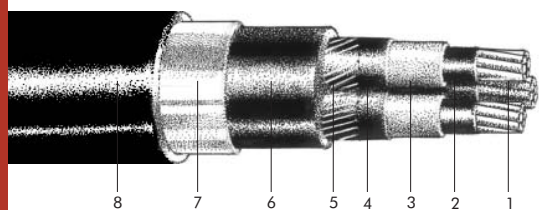
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper tape screen & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 35 RM / 16	0.668	0.144	0.16
3 x 50 RM / 16	0.494	0.134	0.17
3 x 70 RM / 16	0.342	0.127	0.19
3 x 95 RM / 16	0.247	0.12	0.21
3 x 120 RM / 16	0.196	0.115	0.23
3 x 150 RM / 25	0.159	0.111	0.25
3 x 185 RM / 25	0.1276	0.107	0.27
3 x 240 RM / 25	0.0979	0.102	0.30
3 x 300 RM / 25	0.079	0.099	0.32





IEC 60502-2

Cu/SC/XLPE/SC/ICWS/Bd/Lsh/PVC

Lead sheathed, individual wire screened, three core medium voltage power cables with copper conductor and XLPE insulation.

## 12/20 (24) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 35 RM/16	5.5	2.1	2.8	66.9	8776
3x 50 RM/16	5.5	2.2	2.9	70.0	9818
3x 70 RM/16	5.5	2.3	3.0	73.9	11276
3x 95 RM/16	5.5	2.4	3.1	78.0	12939
3x 120 RM/16	5.5	2.5	3.2	81.7	14533
3x 150 RM/25	5.5	2.6	3.4	85.9	16412
3x 185 RM/25	5.5	2.7	3.5	90.0	18477
3x 240 RM/25	5.5	3.0	3.8	95.3	19269
3x 300 RM/25	5.5	3.2	3.9	102.2	22335

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5- S.C Tape + Copper Wire Screen

6-Extruded PVC Bedding 7-Lead Sheath 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 35 RM / 16	0.668	0.144	0.16
3 x 50 RM / 16	0.494	0.134	0.17
3 x 70 RM / 16	0.342	0.124	0.19
3 x 95 RM / 16	0.196	0.115	0.23
3 x 120 RM / 16	0.196	0.231	0.47
3 x 150 RM / 25	0.159	0.111	0.25
3 x 185 RM / 25	0.1276	0.107	0.27
3 x 240 RM / 25	0.0979	0.102	0.30
3 x 300 RM / 25	0.079	0.099	0.32

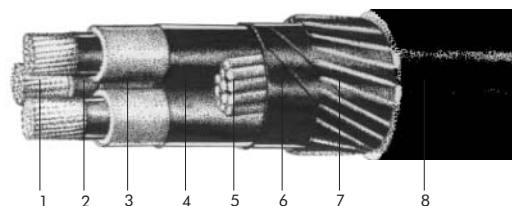




Cu/SC/XLPE/SC/SCYF/SCT/OCWS/PVC

IEC 60502-2

Three core medium voltage cable with copper conductor, XLPE insulation, and common wire screen.



## 12/20 (24) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 35 RM/16	5.5	2.6	59.7	4088
3x 50 RM/16	5.5	2.7	62.6	4701
3x 70 RM/16	5.5	2.8	66.3	5634
3x 95 RM/16	5.5	2.9	70.2	6738
3x 120 RM/16	5.5	3.0	73.7	7775
3x 150 RM/25	5.5	3.1	77.0	8885
3x 185 RM/25	5.5	3.3	81.1	10355
3x 240 RM/25	5.5	3.4	86.5	12537
3x 300 RM/25	5.5	3.6	91.1	14757

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Yarn Filler

6-Semi-conductive Tape 7-Copper Wire Screen 8-PVC Overall Sheath

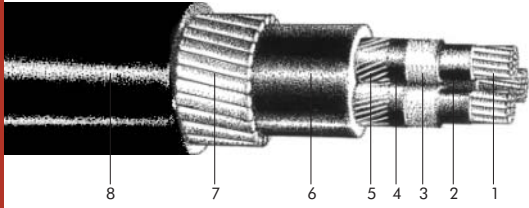
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper tape screen & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 35 RM / 16	0.668	0.14	0.16
3 x 50 RM / 16	0.494	0.13	0.17
3 x 70 RM / 16	0.342	0.123	0.19
3 x 95 RM / 16	0.247	0.117	0.21
3 x 120 RM / 16	0.196	0.111	0.23
3 x 150 RM / 25	0.159	0.108	0.25
3 x 185 RM / 25	0.1277	0.104	0.27
3 x 240 RM / 25	0.098	0.100.	0.30
3 x 300 RM / 25	0.0791	0.097	0.32





IEC 60502-2

Cu/SC/XLPE/SC/SCT/ICWS/Bd/SWA/PVC

Wire armoured, individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.

## 12/20 (24) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 35 RM/16	5.5	2.5	2.9	68.2	7274
3x 50 RM/16	5.5	2.5	3.0	71.2	8051
3x 70 RM/16	5.5	2.5	3.1	75.0	9155
3x 95 RM/16	5.5	2.5	3.2	79.1	10512
3x 120 RM/16	5.5	3.15	3.4	84.4	12778
3x 150 RM/25	5.5	3.15	3.5	87.7	14129
3x 185 RM/25	5.5	3.15	3.6	91.8	15870
3x 240 RM/25	5.5	3.15	3.8	97.7	18477
3x 300 RM/25	5.5	3.15	3.9	102.4	20959

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5- S.C Tape + Copper Wire Screen

6-Extruded PVC Bedding 7-Galvanized Steel Wire Armour 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/tape common screen, galvanized steel tape armour & PE sheath.

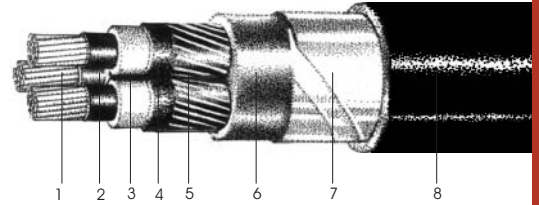
## Electrical Data

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 35 RM / 16	0.665	0.144	0.16
3 x 50 RM / 16	0.494	0.134	0.17
3 x 70 RM / 16	0.342	0.127	0.19
3 x 95 RM / 16	0.247	0.120	0.22
3 x 120 RM / 16	0.196	0.115	0.23
3 x 150 RM / 25	0.159	0.111	0.25
3 x 185 RM / 25	0.1276	0.107	0.27
3 x 240 RM / 25	0.0979	0.102	0.30
3 x 300 RM / 25	0.0970	0.099	0.32



**Cu/SC/XLPE/SC/SCT/ICWS/Bd/DTA/PVC IEC 60502-2**

Tape armoured, individual wire screened, three core medium voltage power cables with copper conductor and XLPE insulation.



**12/20 (24) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 RM/16	5.5	0.5	2.9	68.5	6010
3x 70 RM/16	5.5	0.5	3.0	72.2	7010
3x 95 RM/16	5.5	0.5	3.1	76.4	8229
3x 120 RM/16	5.5	0.5	3.2	80.1	9376
3x 150 RM/25	5.5	0.5	3.3	83.4	10582
3x 185 RM/25	5.5	0.5	3.5	87.8	12171
3x 240 RM/25	5.5	0.8	3.7	95.2	15372
3x 300 RM/25	5.5	0.8	3.8	99.8	17714

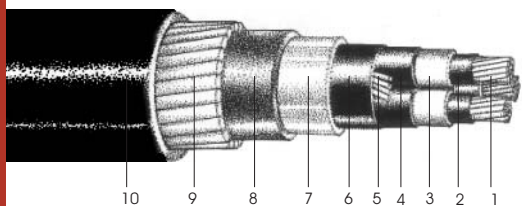
1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C. Tape + Copper Wire Screen  
6-Extruded PVC Bedding 7-Galvanized Steel Tape Armour 8-PVC Overall Sheath

Maximum conductor temperature: 90°C  
Also available with aluminium conductor, Common wire screen & PE sheath.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 50 RM / 16	0.494	0.134	0.17
3 x 70 RM / 16	0.342	0.127	0.19
3 x 95 RM / 16	0.247	0.12	0.21
3 x 120 RM / 16	0.196	0.115	0.23
3 x 150 RM / 25	0.159	0.111	0.25
3 x 185 RM / 25	0.1276	0.107	0.27
3 x 240 RM / 25	0.0979	0.102	0.30
3 x 300 RM / 25	0.0790.	0.099	0.32





IEC 60502-2

Cu/SC/XLPE/SC/SCT/Lsh/Bd/SWA/PVC

Wire armoured, lead sheathed, three core medium voltage power cable with copper conductor and XLPE insulation.

## 12/20 (24) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 35 RM	5.5	2.1	2.5	3.1	74.4	12329
3x 50 RM	5.5	2.2	2.5	3.2	77.9	13628
3x 70 RM	5.5	2.3	3.15	3.3	83.1	16223
3x 95 RM	5.5	2.4	3.15	3.5	87.7	18265
3x 120 RM	5.5	2.5	3.15	3.6	91.6	20115
3x 150 RM	5.5	2.6	3.15	3.7	95.8	22246
3x 185 RM	5.5	2.7	3.15	3.8	99.9	24627
3x 240 RM	5.5	2.8	3.15	4.0	106	28114
3x 300 RM	5.5	3.0	3.15	4.4	105.9	28454

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Yarn Filler

6-Semi-conductive Tape 7-Lead Sheath 8-Extruded PVC Bedding 9-Galvanized Steel Wire Armour 10-PVC Overall Sheath

Maximum conductor temperature: 90°C

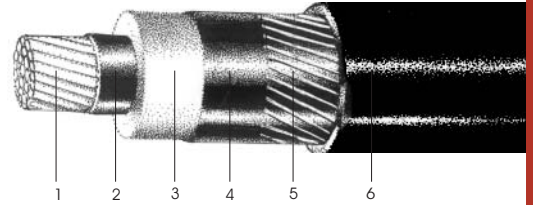
Also available with aluminium conductor , galvanized steel tape armour & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 35 RM	0.668	0.14	0.16
3 x 50 RM	0.494	0.13	0.17
3 x 70 RM	0.342	0.123	0.19
3 x 95 RM	0.247	0.117	0.21
3 x 120 RM	0.196	0.111	0.23
3 x 150 RM	0.159	0.108	0.25
3 x 185 RM	0.1277	0.104	0.27
3 x 240 RM	0.098	0.100	0.30
3 x 300 RM	0.0791	0.097	0.32



Wire screened, single core medium voltage power cable with copper conductor and XLPE insulation.



## 18/30 (36) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 50 RM/16	8.0	2.0	35.7	1396
1x 70 RM/16	8.0	2.0	37.3	1642
1x 95 RM/16	8.0	2.1	39.2	1955
1x 120 RM/16	8.0	2.1	40.7	2230
1x 150 RM/16	8.0	2.2	42.4	2631
1x 185 RM/25	8.0	2.2	44.1	3022
1x 240 RM/25	8.0	2.3	46.7	3645
1x 300 RM/25	8.0	2.4	48.9	4278
1x 400 RM/35	8.0	2.5	52.3	5258
1x 500 RM/35	8.0	2.6	55.9	6392
1x 630 RM/35	8.0	2.7	59.4	7812
1x 800 RM/35	8.0	2.8	63.7	9633

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C. Tape + Copper Wire Screen

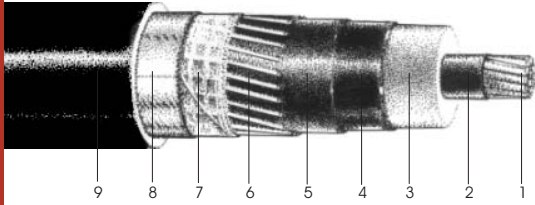
6-PVC Overall Sheath.

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper tape screen & PE sheath.

## Electrical Data

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 50 RM / 16	0.494	0.494	0.155	0.237	0.14
1 x 70 RM / 16	0.342	0.342	0.147	0.227	0.15
1 x 95 RM / 16	0.247	0.246	0.140.	0.218	0.16
1 x 120 RM / 16	0.196	0.196	0.133	0.210.	0.18
1 x 150 RM / 16	0.159	0.159	0.130.	0.205	0.19
1 x 185 RM / 16	0.1274	0.1270.	0.125	0.199	0.20
1 x 240 RM / 25	0.0975	0.097	0.119	0.191	0.22
1 x 300 RM / 25	0.0784	0.0778	0.116	0.186	0.24
1 x 400 RM / 35	0.0624	0.0614	0.111	0.178	0.26
1 x 500 RM / 35	0.0498	0.0486	0.108	0.172	0.30
1 x 630 RM / 35	0.0401	0.0385	0.105	0.167	0.320.
1 x 800 RM / 35	0.0332	0.0312	0.102	0.162	0.35

**IEC 60502-2 Cu/SC/XLPE/SC/SCWBT/CWS/WBT/AIC/PE**

Wire screened, water blocked, single core medium voltage power cable with copper conductor and XLPE insulation.

**18/30 (36) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 50 RM/16	8.0	2.0	38.0	1366
1x 70 RM/16	8.0	2.1	39.8	1622
1x 95 RM/16	8.0	2.1	41.5	1914
1x 120 RM/16	8.0	2.2	43.3	2199
1x 150 RM/16	8.0	2.2	44.7	2579
1x 185 RM/25	8.0	2.3	46.6	2980
1x 240 RM/25	8.0	2.3	49.0	3578
1x 300 RM/25	8.0	2.4	51.2	4199
1x 400 RM/35	8.0	2.5	54.6	5164
1x 500 RM/35	8.0	2.6	58.5	6281
1x 630 RM/35	8.0	2.7	61.7	7683
1x 800 RM/35	8.0	2.9	66.3	9503

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Tape

6-Copper Wire Screen 7- Water-blocking Tape 8-Aluminium Copolymer Layer 9-PE Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/tape screen, & PVC sheath.

**Electrical Data**

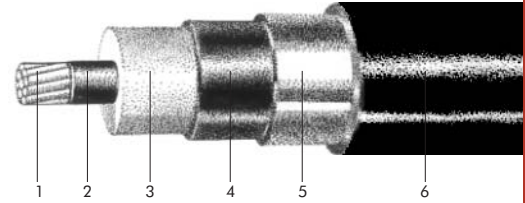
Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 50 RM / 16	0.494	0.494	0.158	0.238	0.14
1 x 70 RM / 16	0.342	0.342	0.150	0.228	0.15
1 x 95 RM / 16	0.247	0.246	0.142	0.219	0.16
1 x 120 RM / 16	0.196	0.196	0.136	0.211	0.18
1 x 150 RM / 16	0.159	0.159	0.132	0.206	0.19
1 x 185 RM / 25	0.1273	0.1270	0.127	0.199	0.20
1 x 240 RM / 25	0.0975	0.0970	0.121	0.192	0.22
1 x 300 RM / 25	0.0784	0.0778	0.118	0.187	0.24
1 x 400 RM / 35	0.0623	0.0614	0.113	0.179	0.26
1 x 500 RM / 35	0.0497	0.0486	0.110	0.173	0.30
1 x 630 RM / 35	0.0400	0.0385	0.107	0.168	0.320
1 x 800 RM / 35	0.0330	0.0312	0.104	0.163	0.35



Cu/SC/XLPE/SC/SCT/Lsh/PVC

IEC 60502-2

Lead sheathed, single core medium voltage power cable with copper conductor and XLPE insulation



## 18/30 (36) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 50 RM	8.0	1.6	2.1	37.0	3013
1x 70 RM	8.0	1.7	2.2	39.1	3492
1x 95 RM	8.0	1.7	2.2	40.8	3891
1x 120 RM	8.0	1.8	2.3	42.7	4413
1x 150 RM	8.0	1.8	2.3	44.1	4803
1x 185 RM	8.0	1.9	2.4	46.3	5472
1x 240 RM	8.0	1.9	2.5	48.9	6261
1x 300 RM	8.0	2.0	2.5	51.0	7165
1x 400 RM	8.0	2.1	2.6	54.6	8460
1x 500 RM	8.0	2.2	2.7	58.8	10040
1x 630 RM	8.0	2.3	2.9	62.4	11919
1x 800 RM	8.0	2.4	3.0	66.3	14098

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Lead Sheath

6-PVC Overall Sheath

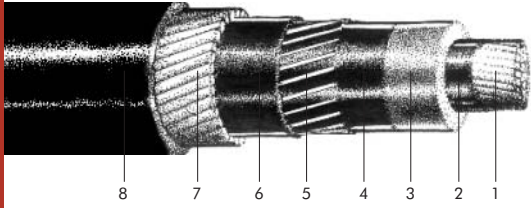
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/ tape screen & PE sheath.

## Electrical Data

Number of cores			AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
			Trefoil	Flat	Trefoil	Flat	
1	x	50 RM	0.494	0.494	0.158	0.238	0.14
1	x	70 RM	0.342	0.342	0.150.	0.228	0.15
1	x	95 RM	0.247	0.246	0.142	0.219	0.16
1	x	120 RM	0.196	0.196	0.137	0.211	0.18
1	x	150 RM	0.159	0.159	0.132	0.206	0.19
1	x	185 RM	0.1273	0.1270	0.128	0.200.	0.20
1	x	240 RM	0.0974	0.0970	0.122	0.192	0.22
1	x	300 RM	0.0782	0.0778	0.119	0.187	0.24
1	x	400 RM	0.0621	0.0614	0.114	0.180.	0.26
1	x	500 RM	0.0495	0.0485	0.111	0.174	0.30
1	x	630 RM	0.0397	0.0385	0.108	0.169	0.32
1	x	800 RM	0.0326	0.0312	0.105	0.164	0.348





**IEC 60502-2**

**Cu/SC/XLPE/SC/SCT/CWS/Bd/AWA/PVC**

Wire armoured, wire screened, single core medium voltage power cable with copper conductor and XLPE insulation.

**18/30 (36) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 50 RM/16	8.0	2.0	2.2	43.1	2164
1x 70 RM/16	8.0	2.0	2.3	44.9	2460
1x 95 RM/16	8.0	2.0	2.3	46.6	2793
1x 120 RM/16	8.0	2.0	2.4	48.4	3118
1x 150 RM/25	8.0	2.5	2.5	51.2	3730
1x 185 RM/25	8.0	2.5	2.5	52.9	4162
1x 240 RM/25	8.0	2.5	2.6	55.7	4885
1x 300 RM/25	8.0	2.5	2.7	58.2	5566
1x 400 RM/35	8.0	2.5	2.8	61.9	6659
1x 500 RM/35	8.0	2.5	2.9	65.6	7882
1x 630 RM/35	8.0	2.5	3.0	69.0	9416
1x 800 RM/35	8.0	2.5	3.1	73.7	11394

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen

6-Extruded PVC Bedding 7-Aluminium Wire Armour 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, tape screen, tape armour & PE sheath.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
	Trefoil	Flat	Trefoil	Flat	
1 x 50 RM / 16	0.494	0.494	0.167	0.242	0.14
1 x 70 RM / 16	0.342	0.342	0.158	0.231	0.15
1 x 95 RM / 16	0.247	0.246	0.15	0.222	0.16
1 x 120 RM / 16	0.196	0.196	0.144	0.214	0.18
1 x 150 RM / 25	0.159	0.159	0.142	0.210	
1 x 185 RM / 25	0.1273	0.1270	0.136	0.203	0.20
1 x 240 RM / 25	0.0974	0.0970	0.131	0.196	0.22
1 x 300 RM / 25	0.0782	0.778	0.127	0.190	0.24
1 x 400 RM / 35	0.0620.	0.614	0.122	0.183	0.26
1 x 500 RM / 35	0.0494	0.0485	0.118	0.177	0.30
1 x 630 RM / 35	0.0396	0.0385	0.144	0.172	0.32
1 x 800 RM / 35	0.0326	0.0312	0.111	0.167	0.35

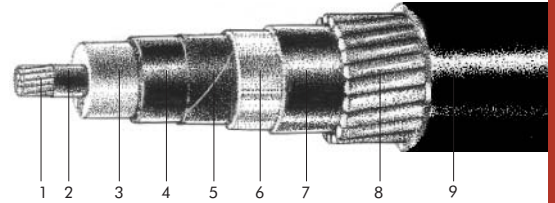




Cu/SC/XLPE/SC/SCT/LSH/Bd/AWA/PVC

IEC 60502-2

Wire armoured, lead sheathed, single core medium voltage power cable with copper conductor and XLPE insulation.



## 18/30 (36) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 50 RM	8.0	1.6	2.0	2.3	44.4	3809
1x 70 RM	8.0	1.7	2.5	2.4	47.7	4488
1x 95 RM	8.0	1.7	2.5	2.5	49.6	4951
1x 120 RM	8.0	1.8	2.5	2.5	51.3	5506
1x 150 RM	8.0	1.8	2.5	2.6	53.1	5981
1x 185 RM	8.0	1.9	2.5	2.6	55.0	6671
1x 240 RM	8.0	1.9	2.5	2.7	58.0	7524
1x 300 RM	8.0	2.0	2.5	2.8	60.6	8541
1x 400 RM	8.0	2.1	2.5	2.9	64.3	9924
1x 500 RM	8.0	2.2	2.5	3.0	68.4	11639
1x 630 RM	8.0	2.3	2.5	3.2	72.3	13642
1x 800 RM	8.0	2.4	3.2	3.3	77.6	16225

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Bedding Tape

6-Lead Sheath 7-Extruded PVC Bedding 8-Aluminium Wire Armour 9-PVC Overall Sheath

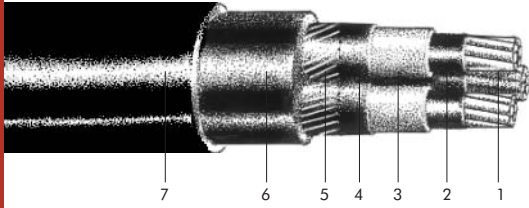
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/ tape screen & PE sheath.

## Electrical Data

Number of cores				AC resistance (Ohm/km)		REACTANCE (Ohm/km)		CAPACITANCE (micro F/km)
				Trefoil	Flat	Trefoil	Flat	
1	x	50	RM	0.494	0.494	0.169	0.243	0.14
1	x	70	RM	0.342	0.342	0.163	0.233	0.15
1	x	95	RM	0.246	0.246	0.155	0.224	0.16
1	x	120	RM	0.196	0.196	0.148	0.216	0.18
1	x	150	RM	0.159	0.159	0.144	0.211	0.19
1	x	185	RM	0.1272	0.1270.	0.140.	0.205	0.20
1	x	240	RM	0.0973	0.0970.	0.133	0.197	0.22
1	x	300	RM	0.0782	0.0778	0.130.	0.192	0.24
1	x	400	RM	0.0620.	0.0614	0.124	0.184	0.26
1	x	500	RM	0.0493	0.0485	0.121	0.178	0.30
1	x	630	RM	0.0395	0.0385	0.117	0.173	0.32
1	x	800	RM	0.0324	0.0311	0.115	0.169	0.35





IEC 60502-2

Cu/SC/XLPE/SC/SCT/CWS/PVC

Individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.

## 18/30 (36) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 RM/16	8.0	3.1	77.3	6729
3x 75 RM/16	8.0	3.2	81.5	7874
3x 95 RM/16	8.0	3.3	85.4	9098
3x 120 RM/16	8.0	3.4	88.9	10240
3x 150 RM/25	8.0	3.6	92.4	11499
3x 185 RM/25	8.0	3.7	96.3	13045
3x 240 RM/25	8.0	3.8	101.7	15402
3x 300 RM/25	8.0	4.0	106.8	17886

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen

6-Extruded PVC Inner Sheath 7-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper tape screen & PE sheath.

## Electrical Data

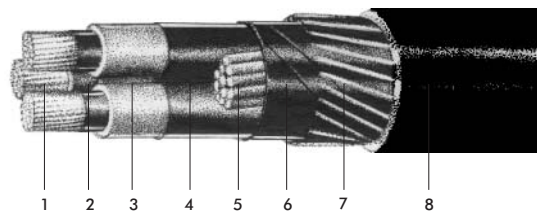
Number of cores		AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3	x 50 RM / 16	0.494	0.145	0.14
3	x 70 RM / 16	0.342	0.137	0.15
3	x 95 RM / 16	0.247	0.13	0.16
3	x 120 RM / 16	0.196	0.124	0.18
3	x 150 RM / 25	0.159	0.12	0.19
3	x 185 RM / 25	0.1275	0.116	0.20
3	x 240 RM / 25	0.0977	0.11	0.22
3	x 300 RM / 25	0.0787	0.107	0.24



Cu/SC/XLPE/SC/SCYF/SCT/OCWS/PVC

IEC 60502-2

Overall wire screened, three core medium voltage cable with copper conductor and XLPE insulation.



## 18/30 (36) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 RM/16	8.0	3.1	74.4	6168
3x 75 RM/16	8.0	3.2	78.0	7180
3x 95 RM/16	8.0	3.3	82.0	8371
3x 120 RM/16	8.0	3.4	85.4	9482
3x 150 RM/25	8.0	3.5	88.8	10663
3x 185 RM/25	8.0	3.6	92.6	12180
3x 240 RM/25	8.0	3.8	98.3	14537
3x 300 RM/25	8.0	3.9	102.7	16795

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Yarn Filler  
6-Semi-conductive Tape 7-Copper Wire Screen 8-PVC Overall Sheath

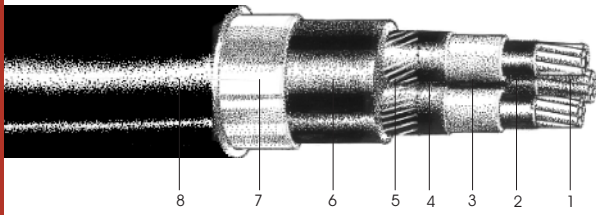
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper tape screen & PE sheath.

## Electrical Data

Number of cores					AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3	x	50	RM	/ 16	0.494	0.142	0.14
3	x	70	RM	/ 16	0.342	0.134	0.15
3	x	95	RM	/ 16	0.247	0.127	0.16
3	x	120	RM	/ 16	0.196	0.121	0.18
3	x	150	RM	/ 25	0.159	0.118	0.19
3	x	185	RM	/ 25	0.1275	0.113	0.20
3	x	240	RM	/ 25	0.0978	0.108	0.22
3	x	300	RM	/ 25	0.0788	0.105	0.24





**IEC 60502-2** Cu/SC/XLPE/SC/SCT/ICWS/Bd/Lsh/PVC

Lead sheathed, individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.

**18/30 (36) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 RM/16	8.0	2.5	3.3	82.8	13043
3x 70 RM/16	8.0	2.6	3.4	87.2	14801
3x 95 RM/16	8.0	2.7	3.5	91.3	16634
3x 120 RM/16	8.0	2.8	3.6	94.5	18296
3x 150 RM/25	8.0	3.0	3.9	100.1	22009
3x 185 RM/25	8.0	3.1	4.1	104.4	24420
3x 240 RM/25	8.0	3.2	4.2	110.3	27868
3x 300 RM/25	8.0	3.4	4.3	117.6	32242

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C Tape + Copper Wire Screen

6-Extruded PVC Bedding 7-Lead Sheath 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor & PE sheath.

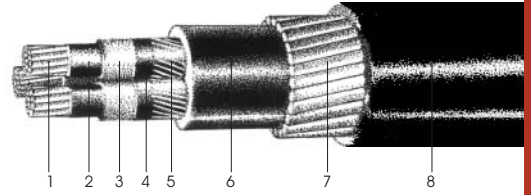
**Electrical Data**

Number of cores		AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3	x 50 RM / 16	0.494	0.145	0.14
3	x 70 RM / 16	0.342	0.137	0.15
3	x 95 RM / 16	0.247	0.13	0.16
3	x 120 RM / 16	0.196	0.124	0.18
3	x 150 RM / 25	0.159	0.12	0.19
3	x 185 RM / 25	0.1275	0.116	0.20
3	x 240 RM / 25	0.0977	0.11	0.22
3	x 300 RM / 25	0.0787	0.107	0.24



**Cu/SC/XLPE/SC/SCT/ICWS/Bd/SWA/PVC IEC 60502-2**

Wire armoured, individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.



**18/30 (36) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 RM/16	8.0	3.15	3.4	84.8	11146
3x 70 RM/16	8.0	3.15	3.5	88.6	12425
3x 95 RM/16	8.0	3.15	3.7	93.0	13910
3x 120 RM/16	8.0	3.15	3.8	96.7	15339
3x 150 RM/25	8.0	3.15	3.9	100.0	16730
3n 185 RM/25	8.0	3.15	4.0	104.1	18501
3x 240 RM/25	8.0	3.15	4.2	110.0	21317
3x 300 RM/25	8.0	3.15	4.3	114.7	23910

1-Stranded Circular Conductor 2-Semi- conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5- S.C Tape+Copper Wire Screen

6-Extruded PVC Bedding 7-Galvanized Steel Wire Armour 8-PVC Overall Sheath

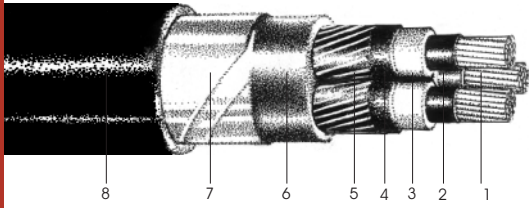
Maximum conductor temperature: 90°C

Also available with aluminium conductor, copper wire/tape common screen, galvanized steel tape armour & PE sheath.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 50 RM / 16	0.494	0.145	0.14
3 x 70 RM / 16	0.342	0.137	0.15
3 x 95 RM / 16	0.247	0.13	0.16
3 x 120 RM / 16	0.196	0.124	0.18
3 x 150 RM / 25	0.159	0.12	0.19
3 x 185 RM / 25	0.1275	0.116	0.20
3 x 240 RM / 25	0.0977	0.11	0.22
3 x 300 RM / 25	0.0787	0.107	0.24



**IEC 60502-2 Cu/SC/XLPE/SC/SCT/ICWS/Bd/DTA/PVC**

Tape armoured, individual wire screened, three core medium voltage power cable with copper conductor and XLPE insulation.

**18/30 (36) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 RM/16	8.0	0.5	3.3	80.8	7788
3x 70 RM/16	8.0	0.5	3.4	84.5	8869
3x 95 RM/16	8.0	0.5	3.5	88.7	10181
3x 120 RM/16	8.0	0.8	3.7	94.2	12272
3x 150 RM/25	8.0	0.8	3.8	97.4	13549
3x 185 RM/25	8.0	0.8	3.9	101.6	15231
3x 240 RM/25	8.0	0.8	4.1	107.5	17806
3x 300 RM/25	8.0	0.8	4.2	112.1	20258

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-S.C. Tape + Copper Wire Screen

6-Extruded PVC Bedding 7-Galvanized Steel Tape Armour 8-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, common wire screen & PE sheath.

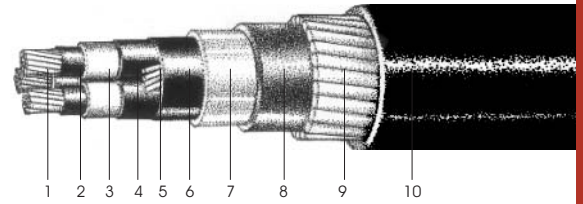
**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3 x 50 RM / 16	0.494	0.145	0.14
3 x 70 RM / 16	0.342	0.137	0.15
3 x 95 RM / 16	0.247	0.13	0.16
3 x 120 RM / 16	0.196	0.124	0.18
3 x 150 RM / 25	0.159	0.12	0.19
3 x 185 RM / 25	0.1275	0.116	0.20
3 x 240 RM / 25	0.0977	0.11	0.22
3 x 300 RM / 25	0.0787	0.107	0.24



**Cu/SC/XLPE/SC/SCYF/SCT/LSH/Bd/SWA/PVC IEC 60502-2**

Wire armoured, lead sheathed, three core medium voltage power cable with copper conductor and XLPE insulation.



**18/30 (36) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Wire Armour. Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 RM	8.0	2.5	3.15	3.6	91.0	18014
3x 70 RM	8.0	2.6	3.15	3.8	95.8	20110
3x 95 RM	8.0	2.7	3.15	3.9	100.0	22224
3x 120 RM	8.0	2.8	3.15	4.0	103.8	24211
3x 150 RM	8.0	2.9	3.15	4.1	107.6	26334
3x 185 RM	8.0	3.0	3.15	4.5	108.5	29887
3x 240 RM	8.0	3.1	3.15	4.7	114.5	33715
3x 300 RM	8.0	3.3	3.15	4.9	122.1	38595

1-Stranded Circular Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive Yarn Filler

6-Semi-conductive Tape 7-Lead Sheath 8-Extruded PVC Bedding 9-Galvanized Steel Wire Armour 10-PVC Overall Sheath

Maximum conductor temperature: 90°C

Also available with aluminium conductor, galvanized steel tape armour & PE sheath.

**Electrical Data**

Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	CAPACITANCE (micro F/km)
3	x	50	RM	0.494	0.142	0.14
3	x	70	RM	0.342	0.134	0.15
3	x	95	RM	0.247	0.127	0.16
3	x	120	RM	0.196	0.121	0.18
3	x	150	RM	0.159	0.118	0.19
3	x	185	RM	0.1275	0.113	0.20
3	x	240	RM	0.0978	0.108	0.22
3	x	300	RM	0.0788	0.105	0.24



# TECHNICAL DATA





## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Herlix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminum Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated



<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)



## VDE Abbreviations

<b>N</b>	DIN VDE standard type
<b>(N)</b>	With reference to DIN VDE standard
<b>A</b>	Aluminium conductor
<b>-</b>	Copper
<b>Y</b>	PVC
<b>2X</b>	Cross-linked PE(VPE)
<b>C</b>	Concentric Cu conductor,in longitudinal twist
<b>CW</b>	Concentric Cu conductor,corrugated
<b>CE</b>	Concentric Cu conductor for individual core
<b>S</b>	Cu shielding
<b>SE</b>	Cu screening per individual core in multi-core cables
<b>H</b>	Conductive layer
<b>(F)</b>	Longitudinally watertight shielding
<b>B</b>	Steel strip reinforcement
<b>F</b>	Flat wire,zinc-plated
<b>G</b>	Counterhelix consisting of zinc-plated steel strip
<b>R</b>	Round-section wire,zinc-plated
<b>A</b>	Protective cover consisting of fiber materials
<b>K</b>	Lead sheath
<b>KL</b>	Aluminium sheath
<b>Y</b>	PVC
<b>2Y</b>	PE
<b>I</b>	With protective conductor
<b>O</b>	Without protective conductor
<b>r...</b>	Round-section conductor
<b>s...</b>	Sector-section conductor
<b>o...</b>	Oval conductor
<b>e...</b>	Single wire conductor
<b>m...</b>	Multi-wire conductor
<b>h...</b>	Hollow conductor
<b>N</b>	Compacted conductor



## FORMULAS

### 1- DC Resistance

$$R_{dc_{\theta}} = R_{dc_{20}} [1 + \alpha (\theta - 20)] \quad (\Omega / km)$$

$R_{dc_{20}}$  : Resistance at 20°C according to IEC 60228 ( $\Omega / km$ )

$\alpha$  : Temperature coefficient of resistance per degree at 20°C  
(Copper =  $3.93 \times 10^{-3}$ , Aluminium =  $4.04 \times 10^{-3}$ )

$\theta$  : Temperature ( $^{\circ}C$ )

### 2- AC Resistance

$$R_{AC_{\theta}} = R_{dc_{\theta}} (1 + Y_p + Y_s) (1 + \lambda_1 + \lambda_2) \quad (\Omega / km)$$

$Y_p$  : Proximity effect

$Y_s$  : Skin effect

$\lambda_1$  : Sheath loss

$\lambda_2$  : Armour loss

### 3- Inductance

$$L = K + 0.2Ln(2S/d) \quad (mH / km)$$

$K$  : Constant relating to conductor structure

$S$  : Axial cable spacing ( $S = 1.26 \times \text{phase spacing}$  for flat and single core cables) (mm)

$d$  : Conductor diameter (mm)

$K$	Strands
0	1
0.078	3
0.0642	7
0.0554	19
0.0528	37
0.0514	61 & over

### 4- Capacitance

$$C = \frac{\epsilon_r}{18Ln(D/d)} \quad (\mu F / km)$$

$\epsilon_r$  : Dielectric constant (XLPE=2.3)

$D$  : Insulated diameter (mm)

$d$  : Conductor diameter (mm)



## FORMULAS

### 5- Reactance

$$X = \omega L 10^{-3} \quad (\Omega / km)$$

$$\omega = 2\pi f$$

$L$  : Inductance (mH/km)

### 6- Impedance

$$Z = \sqrt{R_{ac}^2 + X^2} \quad (\Omega / km)$$

$R_{ac}$  : AC resistance ( $\Omega / km$ )

$X$  : Reactance ( $\Omega / km$ )

### 7- Short-circuit current

$$I_{sc} = \frac{\varepsilon K S}{\sqrt{t}} \sqrt{\ln\left(\frac{\beta + \theta_F}{\beta + \theta_I}\right)} \quad (A)$$

$\varepsilon$  : Will be calculated acc. to IEC 60949

$S$  : Cross sectional area (mm<sup>2</sup>)

$t$  : Duration of short-circuit (Max. 5 sec.)

$\theta_F$  : Max. temperature at the short circuit condition (°C) (250°C for XLPE)

$\theta_I$  : Max. temperature at the normal operating (°C) (90°C for XLPE)

	Copper	Aluminium	Lead	Steel
$K$	226	148	41	78
$\beta$	234.5	228	230	202



## FORMULAS

### 8- Electrical field strength

$$E_{\max} = \frac{U_0}{d \ln(D/d)} \quad (kV/mm) \quad \text{On Conductor}$$

$$E_{\min} = \frac{U_0}{D \ln(D/d)} \quad (kV/mm) \quad \text{On Insulation}$$

$U_0$  : Voltage (kV)

$D$  : Insulated diameter (mm)

$d$  : Conductor diameter (mm)

### 9- Charging Current

$$I = C\omega U_0 10^{-3} \quad (A/km)$$

$$\omega = 2\pi f$$

$C$  : Capacitance ( $\mu F/km$ )

$U_0$  : Voltage (kV)

### 10- Dielectric loss

$$P = C\omega U_0^2 \tan \delta \quad (\text{watt}/km)$$

$$\omega = 2\pi f$$

$C$  : Capacitance ( $\mu F/km$ )

$U_0$  : Voltage (KV)

$\tan \delta = 0.004$



## FORMULAS

### 11- Sheath Loss

$$P_e = \frac{3I^2\omega^2(dm/2S)^2 10^{-8}}{R_s} \quad (\text{watt/km}) \quad \text{Eddy current losses}$$

$$P_c = \frac{I^2 X_m^2 R_s}{R_s^2 + X_m^2} \quad (\text{watt/km}) \quad \text{Circulating current losses}$$

$$X_m = \omega 0.2 L n(2S/d_m) 10^{-3}$$

$$\omega = 2\pi f$$

$$R_s : \text{Sheath resistance} \quad (\Omega/\text{km})$$

$$S : \text{Axial spacing} \quad (\text{mm})$$

$$I : \text{Current} \quad (A)$$

$$d_m : \text{Mean sheath diameter} \quad (\text{mm})$$

### 12- Insulation Resistance

$$R = \frac{\rho L n(D/d) 10^{-9}}{2\pi} \quad (M\Omega \cdot \text{km})$$

$$\rho : \text{Volume resistivity at } 20^\circ\text{C} \text{ (XLPE= } 10^{14}\text{)} \quad (\Omega \cdot \text{m})$$

$$D : \text{Insulated diameter (mm)}$$

$$d : \text{Conductor diameter (mm)}$$

### 13- Maximum Pulling Tension

#### Unarmoured :

$$T = K S \quad (\text{N}) \quad \begin{array}{l} K = 50 \text{ for copper} \\ K = 30 \text{ for aluminium} \end{array}$$

#### Armoured :

$$T = K'D^2 \quad (\text{N}) \quad \begin{array}{l} K' = 9 \text{ for wire armour} \\ K' = 3 \text{ for tape armour, lead sheath} \end{array}$$

$$S : \text{Conductor cross section} \quad (\text{mm}^2)$$

$$D : \text{Cable diameter} \quad (\text{mm})$$



## Conductors DC Resistance:

1	2	3	4	5	6	7	8	9	10
Nominal cross-sectional area mm <sup>2</sup>	Minimum number of wires in the conductor						Maximum resistance of conductor at 20°C		
	Circular		Circular compacted		Shaped		Annealed copper conductor		Aluminium or aluminium alloy conductor <sup>c</sup> ohm/km
	Cu	Al	Cu	Al	Cu	Al	Plain wires ohm/km	Metal-coated wires ohm/km	
0.5	7	-	-	-	-	-	36.5	36.7	-
0.75	7	-	-	-	-	-	24.5	24.8	-
1	7	-	-	-	-	-	18.1	18.2	-
1.5	7	-	6	-	-	-	12.1	12.2	-
2.5	7	-	6	-	-	-	7.41	7.56	-
4	7	-	6	-	-	-	4.61	4.70	-
6	7	-	6	-	-	-	3.08	3.11	-
10	7	7	6	6	-	-	1.83	1.84	3.08
16	7	7	6	6	-	-	1.15	1.16	1.91
25	7	7	6	6	6	6	0.727	0.734	1.20
35	7	7	6	6	6	6	0.524	0.529	0.868
50	19	19	6	6	6	6	0.387	0.391	0.641
70	19	19	12	12	12	12	0.268	0.27	0.443
95	19	19	15	15	15	15	0.193	0.195	0.32
120	37	37	18	15	18	15	0.153	0.154	0.253
150	37	37	18	15	18	15	0.124	0.126	0.206
185	37	37	30	30	30	30	0.0991	0.1	0.164
240	37	37	34	30	34	30	0.0754	0.0762	0.125
300	61	61	34	30	34	30	0.0601	0.0607	0.100
400	61	61	53	53	53	53	0.047	0.0475	0.0778
500	61	61	53	53	53	53	0.0366	0.0369	0.0605
630	91	91	53	53	53	53	0.0283	0.0286	0.0469
800	91	91	53	53	-	-	0.0221	0.0224	0.0367
1 000	91	91	53	53	-	-	0.0176	0.0177	0.0291
1 200				b			0.0151	0.0151	0.0247
1 400 <sup>a</sup>				b			0.0129	0.0129	0.0212
1 600				b			0.0113	0.0113	0.0186
1 800 <sup>a</sup>				b			0.0101	0.0101	0.0165
2 000				b			0.0090	0.0090	0.0149
2 500				b			0.0072	0.0072	0.0127

<sup>a</sup> These sizes are non-preferred. Other non-preferred sizes are recognized for some specialized applications but are not within the scope of this standard .

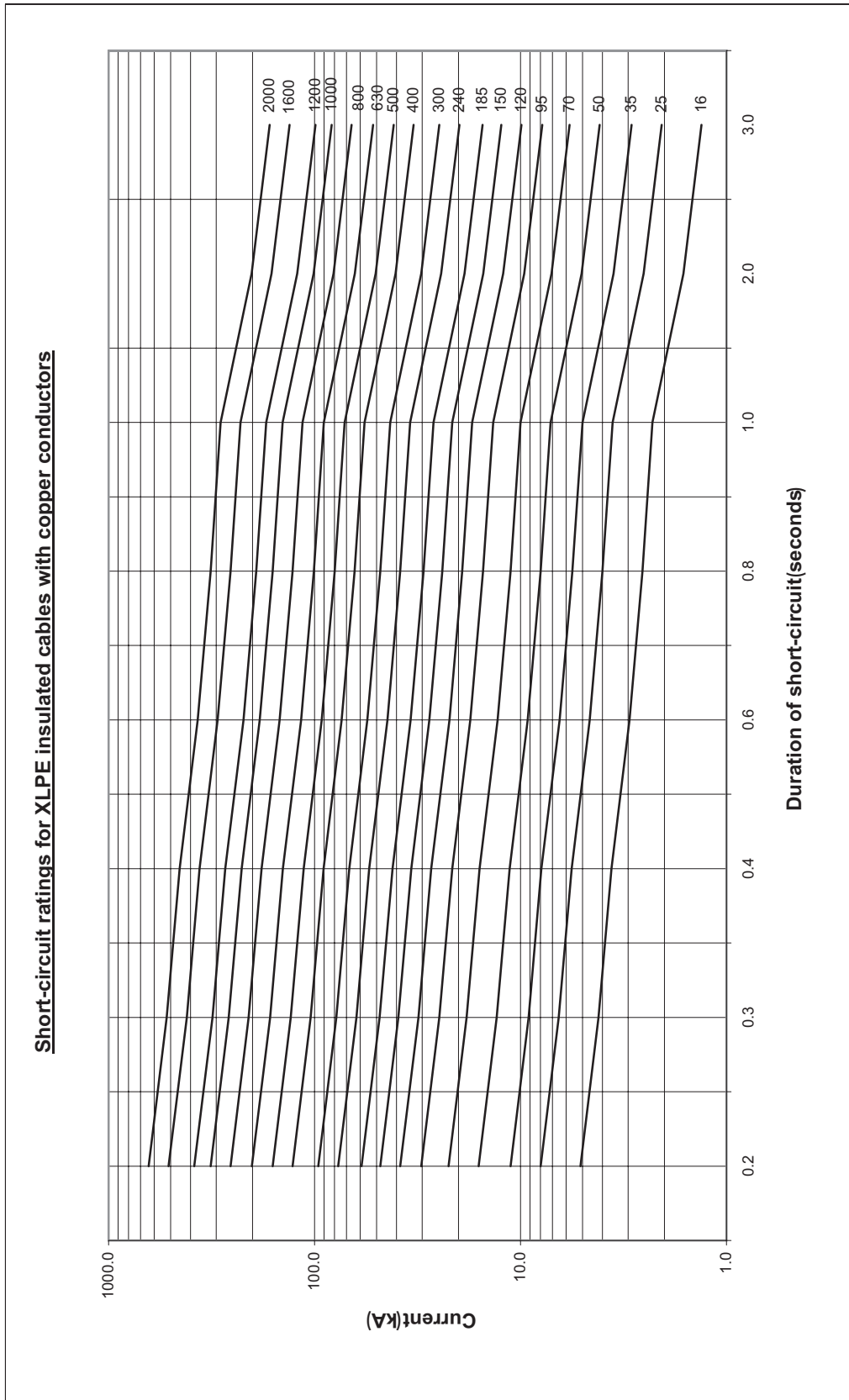
<sup>b</sup> The minimum number of wires for these sizes is not specified. These sizes may be constructed from 4.5 or 6 equal segments (Milliken).

<sup>c</sup> For stranded aluminium alloy conductors having the same nominal cross-sectional area as an aluminium conductor the resistance value should be agreed between the manufacture and the purchaser.





# Short-circuit ratings for XLPE insulated cables with copper conductors



# Short-circuit ratings for XLPE insulated cables with aluminium conductors

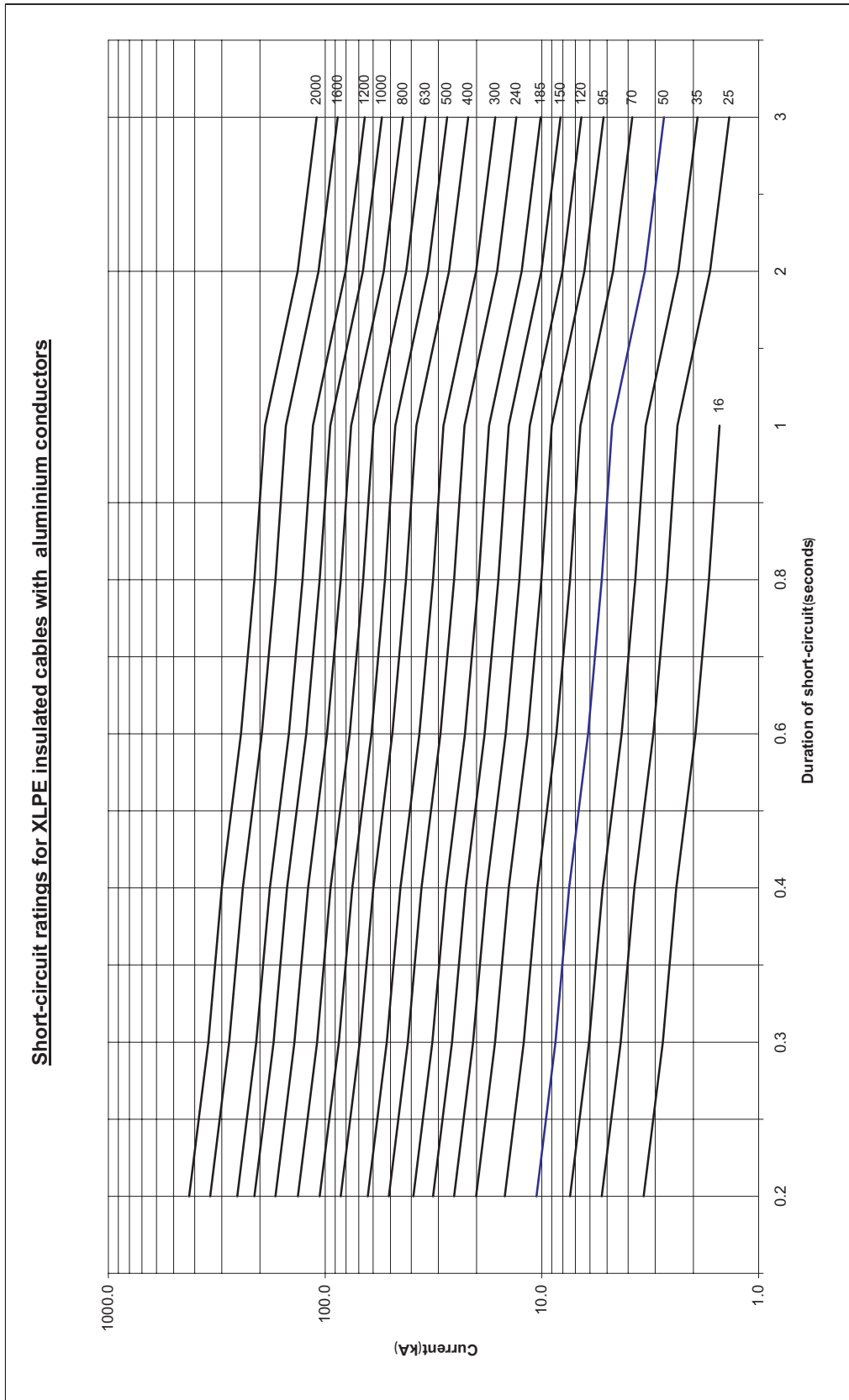


Table 1 - Nominal screen cross-sectional area

Nominal area of conductor , mm <sup>2</sup>	16	25	35	50	70	95	120	150	185	240	300	400
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Nominal cross-sectional area of screen , per core, mm<sup>2</sup>

XLPE insulated cable	16	16	16	16	16	16	16	25	25	25	25	35
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Table 2 - Current ratings for single core cables with XLPE insulation  
 Rated voltage 3,6/6 kV to 18/30 kV \*  
 Copper conductor







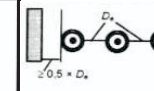
Nominal area of conductor	Buried direct in the ground		In single - way ducts		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat Touching ducts	Trefoil	Flat touching	Flat spaced
							
mm <sup>2</sup>	A	A	A	A	A	A	A
16	109	113	103	104	125	128	150
25	140	144	132	133	163	167	196
35	166	172	157	159	198	203	238
50	196	203	186	188	238	243	286
70	239	246	227	229	296	303	356
95	285	293	271	274	361	369	434
120	323	332	308	311	417	426	500
150	361	366	343	347	473	481	559
185	406	410	387	391	543	550	637
240	469	470	447	453	641	647	745
300	526	524	504	510	735	739	846
400	590	572	564	571	845	837	938
Maximum conductor temperature				90 °C			
Ambient air temperature				30 °C			
Ground temperature				20 °C			
Depth of laying				0.8 m			
Thermal resistivity of solid				1,5 K.m/W			
Thermal resistivity of earthenware ducts				1,2 K.m/W			
Screens bonded at both ends.							
* Current rating calculated for cables having a rated voltage of 6/10 Kv							



Table 3 - Current ratings for single core cables with XLPE insulation  
 Rated voltage 3,6/6 kV to 18/30 kV \*  
 Aluminium conductor

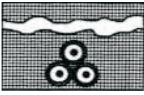
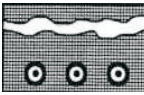

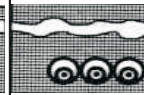

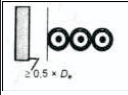
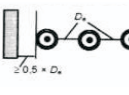
Nominal area of conductor	Buried direct in the ground		In single - way ducts		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat Touching ducts	Trefoil	Flat touching	Flat spaced
							
mm <sup>2</sup>	A	A	A	A	A	A	
16	84	88	80	81	97	99	116
25	108	112	102	103	127	130	153
35	129	134	122	123	154	157	185
50	152	157	144	146	184	189	222
70	186	192	176	178	230	236	278
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
Maximum conductor temperature				90 °C			
Ambient air temperature				30 °C			
Ground temperature				20 °C			
Depth of laying				0.8 m			
Thermal resistivity of solid				1,5 K.m/W			
Thermal resistivity of earthenware ducts				1,2 K.m/W			
Screens bonded at both ends.							
* Current rating calculated for cables having a rated voltage of 6/10 kV							

Table 4 - Current ratings for single core cables with EPR insulation  
 Rated voltage 3,6/6 kV to 18/30 kV \*  
 Copper conductor

Nominal area of conductor	Buried direct in the ground		In single - way ducts		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat Touching ducts	Trefoil	Flat touching	Flat spaced
mm <sup>2</sup>	A	A	A	A	A	A	A
16	106	109	99	100	116	119	138
25	136	140	128	129	153	156	181
35	162	167	153	154	186	190	221
50	192	198	181	183	224	229	266
70	234	242	222	224	280	287	334
95	280	289	266	269	343	352	409
120	319	329	303	306	398	407	474
150	357	369	341	344	454	465	540
185	403	417	386	390	522	534	621
240	467	484	449	454	619	634	736
300	526	545	509	515	712	728	843
400	597	618	580	588	825	843	977
Maximum conductor temperature				90 °C			
Ambient air temperature				30 °C			
Ground temperature				20 °C			
Depth of laying				0.8 m			
Thermal resistivity of solid				1,5 K.m/W			
Thermal resistivity of earthenware ducts				1,2 K.m/W			
Screens bonded at both ends.							
* Current rating calculated for cables having a rated voltage of 6/10 kV							



Table 5 - Current ratings for single core cables with EPR insulation  
 Rated voltage 3,6/6 kV to 18/30 kV \*  
 Aluminium conductor


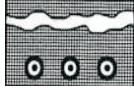


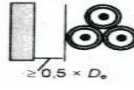

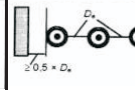
Nominal area of conductor	Buried direct in the ground		In single - way ducts		In air		
	Trefoil	Flat spaced	Trefoil ducts	Flat Touching ducts	Trefoil	Flat touching	Flat spaced
							
mm <sup>2</sup>	A	A	A	A	A	A	A
16	82	84	77	78	90	92	107
25	105	109	99	100	119	121	141
35	126	130	118	120	144	147	171
50	149	153	140	142	174	178	207
70	182	188	172	174	218	223	259
95	217	224	206	208	266	273	317
120	247	256	235	238	309	317	368
150	277	287	264	267	352	361	419
185	314	325	300	303	406	417	484
240	364	377	350	354	483	495	575
300	411	426	397	401	556	570	659
400	471	487	456	462	651	667	770
Maximum conductor temperature				90 °C			
Ambient air temperature				30 °C			
Ground temperature				20 °C			
Depth of laying				0.8 m			
Thermal resistivity of solid				1,5 K.m/W			
Thermal resistivity of earthenware ducts				1,2 K.m/W			
Screens bonded at both ends.							
* Current rating calculated for cables having a rated voltage of 6/10 kV							



Table 6 - Current ratings for three-core XLPE insulated cables  
 Rated voltage 3,6/6 kV to 18/30 kV \*  
 Copper conductor ,armoured and unarmoured

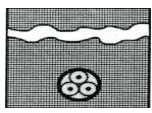
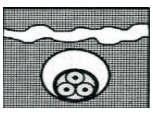
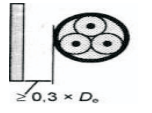
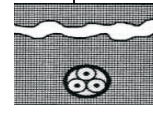
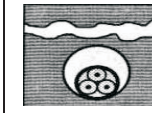
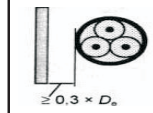
Nominal area of conductor	Unarmoured					
	Buried direct in ground	In a buried duct	In air	Buried direct in ground	In a buried duct	In air
						
mm <sup>2</sup>	A	A	A	A	A	
16	101	87	109	101	88	110
25	129	112	142	129	112	143
35	153	133	170	154	134	172
50	181	158	204	181	158	205
70	221	193	253	220	194	253
95	262	231	304	263	232	307
120	298	264	351	298	264	352
150	334	297	398	332	296	397
185	377	336	455	374	335	453
240	434	390	531	431	387	529
300	489	441	606	482	435	599
400	553	501	696	541	492	683
Maximum conductor temperature				90 °C		
Ambient air temperature				30 °C		
Ground temperature				20 °C		
Depth of laying				0.8 m		
Thermal resistivity of solid				1,5 K.m/W		
Thermal resistivity of earthenware ducts				1,2 K.m/W		
Screens bonded at both ends.						
* Current rating calculated for cables having a rated voltage of 6/10 kV						





Table 7 - Current ratings for three-core XLPE insulated cables  
 Rated voltage 3,6/6 kV to 18/30 kV \*  
 Aluminium conductor, armoured and unarmoured







Nominal area of conductor	Unarmoured			Armoured		
	Buried direct in ground	In a buried duct	In air	Buried direct in ground	In a buried duct	In air
						
mm <sup>2</sup>	A	A	A	A	A	
25	100	87	110	100	87	111
35	119	103	132	119	104	133
50	140	122	158	140	123	159
70	171	150	196	171	150	196
95	203	179	236	204	180	238
120	232	205	273	232	206	274
150	260	231	309	259	231	309
185	294	262	355	293	262	354
240	340	305	415	338	304	415
300	384	346	475	380	343	472
400	438	398	552	432	393	545
Maximum conductor temperature			90 °C			
Ambient air temperature			30 °C			
Ground temperature			20 °C			
Depth of laying			0.8 m			
Thermal resistivity of solid			1,5 K.m/W			
Thermal resistivity of earthenware ducts			1,2 K.m/W			
Screens bonded at both ends.						
* Current rating calculated for cables having a rated voltage of 6/10 kV						

Table 8 - Correction factors for ambient air temperatures other than 30°C

Maximum conductor temperature °C	Ambient air temperature °C							
	20	25	35	40	45	50	55	60
90	1,08	1,04	0,96	0,91	0,87	0,82	0,76	0,71

Table 9 - Correction factors for ambient ground temperatures other than 20°C

Maximum conductor temperature °C	Ambient ground temperature °C							
	10	15	25	30	35	40	45	50
90	1,07	1,04	0,96	0,93	0,89	0,85	0,80	0,76

Table 10 - Correction factors of depths of laying other than 0,8 m for direct buried cables

Depth of laying m	Single-core cables Nominal conductor size mm <sup>2</sup>		Three-core cables
	≤ 185 mm <sup>2</sup>	> 185 mm <sup>2</sup>	
0,5	1,04	1,06	1,04
0,6	1,02	1,04	1,03
1	0,98	0,97	0,98
1,25	0,96	0,95	0,96
1,5	0,95	0,93	0,95
1,75	0,94	0,91	0,94
2	0,93	0,90	0,93
2,5	0,91	0,88	0,91
3	0,90	0,86	0,90



Table11-Correction factors for depths of laying  
other than 0,8 m for cables in ducts

Depth of laying m	Single - core cables Nominal conductor size mm <sup>2</sup>		Three - core cable
	≤ 185 mm <sup>2</sup>	>185 mm <sup>2</sup>	
0,5	1,04	1,05	1,03
0,6	1,02	1,03	1,02
1	0,98	0,97	0,99
1,25	0,96	0,95	0,97
1,5	0,95	0,93	0,96
1,75	0,94	0,92	0,95
2	0,93	0,91	0,94
2,5	0,91	0,89	0,93
3	0,90	0,88	0,92

Table12 - Correction factors for soil thermal resistivities  
other than 1,5 K.m/W for direct buried single core cables

Nominal area of conductor mm <sup>2</sup>	Values of solid thermal resistivity K.m/W						
	0,7	0,8	0,9	1	2	2,5	3
16	1,29	1,24	1,19	1,15	0,89	0,82	0,75
25	1,30	1,25	1,20	1,16	0,89	0,81	0,75
35	1,30	1,25	1,21	1,16	0,89	0,81	0,75
50	1,32	1,26	1,21	1,16	0,89	0,81	0,74
70	1,33	1,27	1,22	1,17	0,89	0,81	0,74
95	1,34	1,28	1,22	1,18	0,89	0,80	0,74
120	1,34	1,28	1,22	1,18	0,88	0,80	0,74
150	1,35	1,28	1,23	1,18	0,88	0,80	0,74
185	1,35	1,29	1,23	1,18	0,88	0,80	0,74
240	1,36	1,29	1,23	1,18	0,88	0,80	0,73
300	1,36	1,30	1,24	1,19	0,88	0,80	0,73
400	1,37	1,30	1,24	1,19	0,88	0,79	0,73



Table 13 - correction factors for soil thermal resistivities other than 1,5 K.m/W single core cables in buried ducts

Nominal area of conductor mm <sup>2</sup>	Values of solid thermal resistivity K.m/W						
	0,7	0,8	0,9	1	2	2,5	3
	16	1,20	1,17	1,14	1,11	0,92	0,85
25	1,21	1,17	1,14	1,12	0,91	0,85	0,79
35	1,21	1,18	1,15	1,12	0,91	0,84	0,79
50	1,21	1,18	1,15	1,12	0,91	0,84	0,78
70	1,22	1,19	1,15	1,12	0,91	0,84	0,78
95	1,23	1,19	1,16	1,13	0,91	0,84	0,78
120	1,23	1,20	1,16	1,13	0,91	0,84	0,78
150	1,24	1,20	1,16	1,13	0,91	0,83	0,78
185	1,24	1,20	1,17	1,13	0,91	0,83	0,78
240	1,25	1,21	1,17	1,14	0,90	0,83	0,77
300	1,25	1,21	1,17	1,14	0,90	0,83	0,77
400	1,25	1,21	1,17	1,14	0,90	0,83	0,77

Table 14 - correction factors for soil thermal resistivities other than 1,5 K.m/W for direct buried three-core cables

Nominal area of conductor mm <sup>2</sup>	Values of solid thermal resistivity K.m/W						
	0,7	0,8	0,9	1	2	2,5	3
	16	1,23	1,19	1,16	1,13	0,91	0,84
25	1,24	1,20	1,16	1,13	0,91	0,84	0,78
35	1,25	1,21	1,17	1,13	0,91	0,83	0,78
50	1,25	1,21	1,17	1,14	0,91	0,83	0,77
70	1,26	1,21	1,18	1,14	0,90	0,83	0,77
95	1,26	1,22	1,18	1,14	0,90	0,83	0,77
120	1,26	1,22	1,18	1,14	0,90	0,83	0,77
150	1,27	1,22	1,18	1,15	0,90	0,83	0,77
185	1,27	1,23	1,18	1,15	0,90	0,83	0,77
240	1,28	1,23	1,19	1,15	0,90	0,83	0,77
300	1,28	1,23	1,19	1,15	0,90	0,82	0,77
400	1,28	1,23	1,19	1,15	0,90	0,82	0,76



Table 15 - correction factors for soil thermal resistivities  
other than 1,5 K.m/W single core cables in buried ducts

Nominal area of conductor mm <sup>2</sup>	Values of solid thermal resistivity K.m/W						
	0,7	0,8	0,9	1	2	2,5	3
	16	1.12	1.11	1.09	1.08	0.94	0.89
25	1.14	1.12	1.10	1.08	0.94	0.89	0.84
35	1.14	1.12	1.10	1.08	0.94	0.88	0.84
50	1.14	1.12	1.10	1.08	0.94	0.88	0.84
70	1.15	1.13	1.11	1.09	0.94	0.88	0.83
95	1.15	1.13	1.11	1.09	0.94	0.88	0.83
120	1.15	1.13	1.11	1.09	0.93	0.88	0.83
150	1.16	1.13	1.11	1.09	0.93	0.88	0.83
185	1.16	1.14	1.11	1.09	0.93	0.87	0.83
240	1.16	1.14	1.12	1.10	0.93	0.87	0.82
300	1.17	1.14	1.12	1.10	0.93	0.87	0.82
400	1.17	1.14	1.12	1.10	0.92	0.86	0.81

Table 16- correction factors for groups of three core cables  
in horizontal formation laid direct in the ground

Number of cables in group	Spacing between cable centres mm				
	Touching	200	400	600	800
	2	0.80	0.86	0.90	0.92
3	0.69	0.77	0.82	0.86	0.89
4	0.62	0.72	0.79	0.83	0.87
5	0.57	0.68	0.76	0.81	0.85
6	0.54	0.65	0.74	0.80	0.84
7	0.51	0.63	0.72	0.78	0.83
8	0.49	0.61	0.71	0.78	
9	0.47	0.60	0.70	0.77	
10	0.46	0.59	0.69		
11	0.45	0.57	0.69		
12	0.43	0.56	0.68		



Table 17 - correction factors for groups of three phase circuits of single core cables laid direct in the ground

Number of cables in group	Spacing between duct centres mm				
	Touching	200	400	600	800
2	0,73	0,83	0,88	0,90	0,92
3	0,60	0,73	0,79	0,83	0,86
4	0,54	0,68	0,75	0,80	0,84
5	0,49	0,63	0,72	0,78	0,82
6	0,46	0,61	0,70	0,76	0,81
7	0,43	0,58	0,68	0,75	0,80
8	0,41	0,57	0,67	0,74	—
9	0,39	0,55	0,66	0,73	—
10	0,37	0,54	0,65	—	—
11	0,36	0,53	0,64	—	—
12	0,35	0,52	0,64	—	—

Table 18 - Correction factors for groups of three core cables in single way ducts in horizontal formation

Number of cables in group	Spacing between cable centres mm				
	Touching	200	400	600	800
2	0,85	0,88	0,92	0,94	0,95
3	0,75	0,80	0,85	0,88	0,91
4	0,69	0,75	0,82	0,86	0,89
5	0,65	0,72	0,79	0,84	0,87
6	0,62	0,69	0,77	0,83	0,87
7	0,59	0,67	0,76	0,82	0,86
8	0,57	0,65	0,75	0,81	—
9	0,55	0,64	0,74	0,80	—
10	0,54	0,63	0,73	—	—
11	0,52	0,62	0,73	—	—
12	0,51	0,61	0,72	—	—

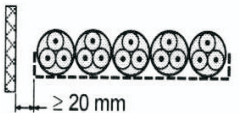
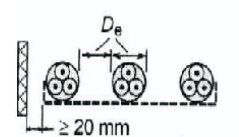
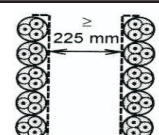
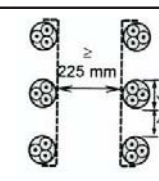
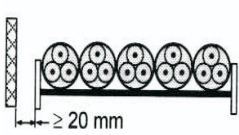
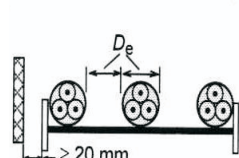


Table19 - Correction factors for groups of three phase circuits  
of single core cables in single way ducts

Number of cables in group	Spacing between duct group centres mm				
	Touching	200	400	600	800
2	0,78	0,85	0,89	0,91	0,93
3	0,66	0,75	0,81	0,85	0,88
4	0,59	0,70	0,77	0,82	0,86
5	0,55	,066	0,74	0,80	0,84
6	0,51	0,64	0,72	0,78	0,83
7	0,48	0,61	0,71	0,77	0,82
8	0,46	0,60	0,70	0,76	—
9	0,44	0,58	0,69	0,76	—
10	0,43	0,57	0,68	—	—
11	0,42	0,56	0,67	—	—
12	0,40	0,55	0,67	—	—



Table 20 - Reduction factors for groups of more than one multi core cable in air  
To be applied to the current carrying capacity for one multi core cable in free air

Method of installation		Number of trays	Number of cables					
			1	2	3	4	6	9
Cables on Perforated trays	Touching 	1	1,00	0,88	0,82	0,79	0,76	0,73
		2	1,00	0,87	0,80	0,77	0,73	0,68
		3	1,00	0,86	0,79	0,76	0,71	0,66
	Spaced 	1	1,00	1,00	0,98	0,95	0,91	—
		2	1,00	0,99	0,96	0,92	0,87	—
		3	1,00	0,98	0,95	0,91	0,85	—
Cables on vertical perforated trays	Touching 	1	1,00	0,88	0,82	0,78	0,73	0,72
		2	1,00	0,88	0,81	0,76	0,71	0,70
	Spaced 	1	1,00	0,91	0,89	0,88	0,87	—
		2	1,00	0,91	0,88	0,87	0,85	—
Cables on ladder supports cleats etc.	Touching 	1	1,00	0,87	0,82	0,80	0,79	0,78
		2	1,00	0,86	0,80	0,78	0,76	0,73
		3	1,00	0,85	0,79	0,76	0,73	0,70
	Spaced 	1	1,00	1,00	1,00	1,00	1,00	—
		2	1,00	0,99	0,98	0,97	0,96	—
		3	1,00	0,98	0,97	0,96	0,93	—

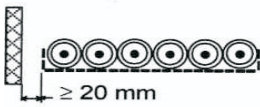
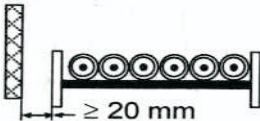
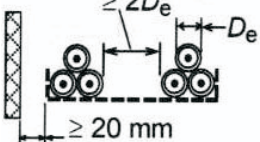
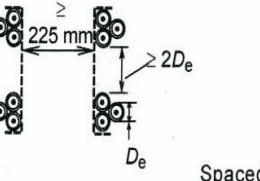
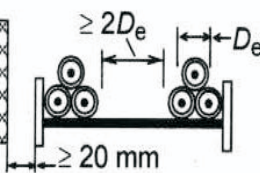
NOTE 1 Values given are averages for the cable types and range of conductor sizes considered. The spread of values is generally less than 5 %

NOTE 2 Factors apply to single layer groups of cables as shown above and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and must be determined by an appropriate method.





Table 21 - Reduction factors for groups of more than one circuit of single core cables (Note 2)  
To be applied to the current -carrying capacity for one circuit of single core cables in free air

Method of installation		Number of trays	Number of three-phase circuits (Note 5)			Use as a multiplier to rating for
			1	2	3	
Perforated trays (Note 3)	 <p>Touching</p>	1	0,98	0,91	0,87	Three cables in horizontal formation
		2	0,96	0,87	0,81	
		3	0,95	0,85	0,78	
Ladder Supports, cleats etc. (Note 3)	 <p>Touching</p>	1	1,00	0,97	0,96	Three cables in horizontal formation
		2	0,98	0,93	0,89	
		3	0,97	0,90	0,86	
Perforated trays (Note 3)		1	1,00	0,98	0,96	Three cables in trefoil formation
		2	0,97	0,93	0,89	
		3	0,96	0,92	0,86	
Vertical perforated trays (Note 4)	 <p>Spaced</p>	1	1,00	0,91	0,89	Three cables in trefoil formation
		2	1,00	0,90	0,86	
Ladder Supports, cleats etc. (Note 3)		1	1,00	1,00	1,00	Three cables in trefoil formation
		2	0,97	0,95	0,93	
		3	0,96	0,94	0,90	

NOTE 1 Values given are average for the cable types and range of conductor sizes considered. The spread of values is generally less than 5 %

NOTE 2 Factors are given for single layers of cables (or trefoil groups) as shown in the table and do not apply when cables are installed in more than one layer touching each other .Values for such installations may be significantly lower and should be determined by an appropriate method.

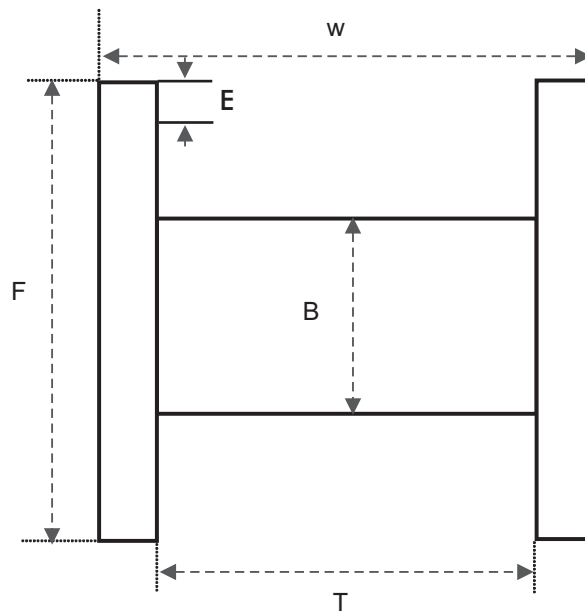
NOTE 3 Values are given for vertical spacings between trays of 300 mm .For closer spacing .The factors should be reduced.

Max Cable length in meters on standard drums

Drum Sizes														
Cable Dia.mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia.mm	
6	1326	3961											6	
7	975	2910											7	
8	746	2228	4391										8	
9	590	1760	3470										9	
10	478	1426	2810	4566									10	
11	395	1178	2323	3774									11	
12	332	990	1952	3171	4912								12	
13	283	844	1663	2702	4185								13	
14		727	1434	2330	3609	4934							14	
15		634	1249	2029	3144	4298							15	
16		557	1098	1784	2763	3777							16	
17		493	972	1580	2448	3346	4858						17	
18		440	867	1409	2183	2985	4333	4643					18	
19		395	778	1265	1959	2679	3889	4167	4722				19	
20		356	703	1142	1768	2417	3510	3760	4262				20	
21		323	637	1035	1604	2193	3183	3411	3866				21	
22		295	581	943	1461	1998	2901	3108	3522	4815			22	
23		270	531	863	1337	1828	2654	2843	3223	4406			23	
24			488	793	1228	1679	2437	2611	2960	4046			24	
25			450	731	1132	1547	2246	2407	2728	3729			25	
26			416	675	1046	1430	2077	2225	2522	3448			26	
27			386	626	970	1326	1926	2063	2338	3197			27	
28			358	582	902	1233	1791	1919	2174	2973			28	
29			334	543	841	1150	1669	1789	2027	2771	4826		29	
30			312	507	786	1074	1560	1671	1894	2590	4510		30	
31			292	475	736	1006	1461	1565	1774	2425	4224		31	
32			274	446	691	944	1371	1469	1665	2276	3964		32	
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33	
34				395	612	836	1214	1301	1475	2016	3511	4709	34	
35				373	577	789	1146	1228	1392	1903	3313	4444	35	
36				352	546	746	1083	1161	1315	1798	3132	4200	36	
37				334	517	706	1026	1099	1245	1702	2965	3976	37	
38				316	490	670	972	1042	1181	1614	2811	3770	38	
39				300	465	636	923	989	1121	1532	2669	3579	39	
40				285	442	604	877	940	1065	1457	2537	3402	40	
41				272	421	575	835	895	1014	1386	2415	3238	41	
42				259	401	548	796	853	966	1321	2301	3086	42	
43					383	523	759	814	922	1260	2195	2944	43	
44					365	499	725	777	881	1204	2097	2812	44	
45					349	478	693	743	842	1151	2004	2688	45	
46					334	457	663	711	806	1101	1918	2573	46	
47					320	438	636	681	772	1055	1837	2464	47	
48					307	420	609	653	740	1012	1762	2363	48	
49					295	403	585	626	710	971	1691	2267	49	
50					283	387	562	602	682	932	1624	2178	50	
51					272	372	540	578	655	896	1561	2093	51	
52					262	358	519	556	630	862	1501	2013	52	
53					252	344	500	535	607	830	1445	1938	53	
54						332	481	516	585	799	1392	1867	54	
55						320	464	497	564	770	1342	1800	55	
56						308	448	480	544	743	1294	1736	56	
57						298	432	463	525	717	1249	1676	57	
58						287	417	447	507	693	1207	1618	58	
59						278	403	432	490	670	1166	1564	59	
60						269	390	418	474	647	1127	1512	60	
61						260	377	404	458	626	1091	1463	61	
62							252	365	391	443	606	1056	1416	62
63								354	379	430	587	1023	1372	63
64								343	367	416	569	991	1329	64
65								332	356	403	552	961	1288	65
66								322	345	391	535	932	1250	66
67								313	335	380	519	904	1213	67
68								304	325	369	504	878	1177	68
69								295	316	358	490	853	1143	69
70								287	307	348	476	828	1111	70
71								278	298	338	462	805	1080	71
72								271	290	329	450	783	1050	72
73								263	282	320	437	762	1022	73
74								256	275	311	426	741	994	74
75								250	267	303	414	722	968	75
76									260	295	403	703	942	76
77									254	288	393	685	918	77
78										280	383	667	895	78
79										273	373	650	872	79
80										266	364	634	851	80
81										260	355	619	830	81
82										254	347	604	810	82
83											338	589	790	83
84											330	575	772	84
85											323	562	753	85
86											315	549	736	86
87											308	536	719	87
88											301	524	703	88
89											294	512	687	89
90											288	501	672	90
91											281	490	657	91
92											275	480	643	92
93											269	469	629	93
94											264	459	616	94
95											258	450	603	95
96											253	440	591	96
97												431	579	97
98												423	567	98
99												414	555	99
100												406	544	100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





**LOW VOLTAGE CABLES**

# **ABHAR WIRE + CABLE CO.**



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Dutch Council for  
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## Low Voltage Cables

Low Voltage cables encompass all types of copper or aluminium cables insulated with a variety of polymers rated voltages of 600 / 1000 Volts. These cables are used for delivering electrical power for a wide variety of uses, from lighting to providing drive for electric motors.

 can provide its clients with an extremely wide range of Low Voltage cables customized for use in the working environment in which they will be utilized. Our product range includes Fire Resistant (IEC 331: for use in critical areas where fire survival are important), Flame Retardant (IEC 332: for use in areas of fire hazard where fire survival is not needed but the cables should not be flammable), Lead Sheathed (provides a total barrier to hydrocarbons, corrosive gases and water) and Armoured Cables (to provide mechanical protection), Low Smoke, Zero Halogen and Oil Hydrocarbon resistant cables.

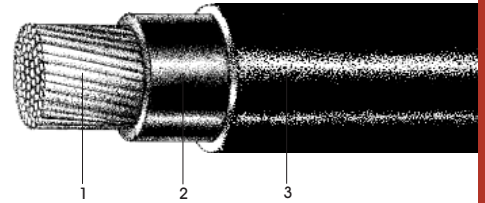
\*Additionally, our unique facilities allow the production of large cables in long lengths; saving money on jointing AND providing additional reliability by reducing the number of joints required in total cable route that are often sources of failures

# CONTENTS

	CABLE TYPES	INSULATION	NO. OF CORES	DESIGNATION	PAGE
<b>COPPER CONDUCTOR</b>	UNARMoured	PVC	SINGLE CORE	Cu/PVC/PVC	1
		PVC	2 CORE	Cu/PVC/PVC	2
		PVC	3 CORE	Cu/PVC/PVC	3
		PVC	3½ CORE	Cu/PVC/PVC	4
		PVC	3½ CORE	Cu/PVC/Bd/Lsh/PVC	5
		PVC	4 CORE	Cu/PVC/PVC	6
		PVC	5 CORE	Cu/PVC/PVC	7
	WIRE ARMoured	PVC	SINGLE CORE	Cu/PVC/Bd/AWA/PVC	8
		PVC	2 CORE	Cu/PVC/Bd/SWA/PVC	9
		PVC	3 CORE	Cu/PVC/Bd/SWA/PVC	10
		PVC	3½ CORE	Cu/PVC/Bd/SWA/PVC	11
		PVC	3½ CORE	Cu/PVC/Bd/Lsh/Bd/SWA/PVC	12
		PVC	4 CORE	Cu/PVC/Bd/SWA/PVC	13
		PVC	5 CORE	Cu/PVC/Bd/SWA/PVC	14
	TAPE ARMoured	PVC	2 CORE	Cu/PVC/Bd/DTA/PVC	15
		PVC	3 CORE	Cu/PVC/Bd/DTA/PVC	16
		PVC	3½ CORE	Cu/PVC/Bd/DTA/PVC	17
		PVC	4 CORE	Cu/PVC/Bd/DTA/PVC	18
	UNARMoured	XLPE	SINGLE CORE	Cu/XLPE/PVC	19
		XLPE	2 CORE	Cu/XLPE/PVC	20
		XLPE	3 CORE	Cu/XLPE/PVC	21
		XLPE	3½ CORE	Cu/XLPE/PVC	22
		XLPE	3½ CORE	Cu/XLPE/Bd/Lsh/PVC	23
		XLPE	4 CORE	Cu/XLPE/PVC	24
		XLPE	5 CORE	Cu/XLPE/PVC	25
WIRE ARMoured		XLPE	SINGLE CORE	Cu/XLPE/Bd/AWA/PVC	26
		XLPE	2 CORE	Cu/XLPE/Bd/SWA/PVC	27
		XLPE	3 CORE	Cu/XLPE/Bd/SWA/PVC	28
	XLPE	3½ CORE	Cu/XLPE/Bd/SWA/PVC	29	
	XLPE	3½ CORE	Cu/XLPE/Bd/Lsh/Bd/SWA/PVC	30	
	XLPE	4 CORE	Cu/XLPE/Bd/SWA/PVC	31	
SCREENED	PVC	SINGLE CORE	Cu/PVC/CWS/PVC	33	
	PVC	2 CORE	Cu/PVC/Bd/CWS/PVC	34	
	PVC	3 CORE	Cu/PVC/Bd/CWS/PVC	35	
	PVC	4 CORE	Cu/PVC/Bd/CWS/PVC	36	
	PVC	5 CORE	Cu/PVC/Bd/CWS/PVC	37	
ALUMINIUM CONDUCTOR	UNARMoured	PVC	SINGLE CORE	Al/PVC/PVC	38
		PVC	2 CORE	Al/PVC/PVC	39
		PVC	3 CORE	Al/PVC/PVC	40
		PVC	4 CORE	Al/PVC/PVC	41
	WIRE ARMoured	PVC	SINGLE CORE	Al/PVC/Bd/AWA/PVC	42
		PVC	2 CORE	Al/PVC/Bd/SWA/PVC	43
		PVC	3 CORE	Al/PVC/Bd/SWA/PVC	44
		PVC	4 CORE	Al/PVC/Bd/SWA/PVC	45
	UNARMoured	XLPE	SINGLE CORE	Al/XLPE/PVC	46
		XLPE	2 CORE	Al/XLPE/PVC	47
		XLPE	3 CORE	Al/XLPE/PVC	48
		XLPE	4 CORE	Al/XLPE/PVC	49
WIRE ARMoured	XLPE	SINGLE CORE	Al/XLPE/Bd/AWA/PVC	50	
	XLPE	2 CORE	Al/XLPE/Bd/SWA/PVC	51	
	XLPE	3 CORE	Al/XLPE/Bd/SWA/PVC	52	
	XLPE	4 CORE	Al/XLPE/Bd/SWA/PVC	53	
CONTROL	UNARMoured	PVC	1.5	Cu/PVC/PVC	54
		PVC	2.5	Cu/PVC/PVC	55
		XLPE	1.5	Cu/XLPE/PVC	56
		XLPE	2.5	Cu/XLPE/PVC	57
		WIRE ARMoured	PVC	1.5	Cu/PVC/Bd/SWA/PVC
	PVC		2.5	Cu/PVC/Bd/SWA/PVC	59
	XLPE		1.5	Cu/XLPE/Bd/SWA/PVC	60
	XLPE		2.5	Cu/XLPE/Bd/SWA/PVC	61
	TAPE ARMoured	PVC	2.5	Cu/PVC/Bd/DTA/PVC	62
		XLPE	2.5	Cu/XLPE/Bd/DTA/PVC	63
	LEAD SHEATHED	PVC	2.5	Cu/PVC/Bd/Lsh/Bd/SWA/PVC	64
		XLPE	2.5	Cu/XLPE/Bd/Lsh/Bd/SWA/PVC	65
	SCREENED	PVC	1.5	Cu/PVC/Bd/CWS/PVC	66
		XLPE	2.5	Cu/XLPE/Bd/CWS/PVC	67
		PVC	2.5	Cu/PVC/Bd/CuB/Pet/PVC	68
XLPE		2.5	Cu/XLPE/Bd/CuB/PVC	69	
PVC		2.5	TiCu/PVC/Bd/TCB/Pet/PVC	70	
XLPE		2.5	TiCu/XLPE/BD/TCB/Pet/PVC	71	
<b>PVC/PVC</b>	SINGLE CORE	PVC	Cu/PVC/PVC	72	
	2 CORE	PVC	Cu/PVC/PVC	73	
	3 CORE	PVC	Cu/PVC/PVC	74	
	3½ CORE	PVC	Cu/PVC/PVC	75	
	4 CORE	PVC	Cu/PVC/PVC	76	
<b>EPR/EPR</b>	SINGLE CORE	EPR	Cu/EPR/EPR	78	
	2 CORE	EPR	Cu/EPR/EPR	79	
	3 CORE	EPR	Cu/EPR/EPR	80	
	4 CORE	EPR	Cu/EPR/EPR	81	
	SINGLE CORE	EPR	TiCu/EPR/EPR	82	
2 CORE	EPR	TiCu/EPR/EPR	83		
3 CORE	EPR	TiCu/EPR/EPR	84		
4 CORE	EPR	TiCu/EPR/EPR	85		

**Description:**

Unarmoured single core cable with copper conductor & PVC insulation.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 1.5 RM	0.8	1.4	6.4	54
1x 2.5 RM	0.8	1.4	6.8	67
1x 4 RM	1.0	1.4	7.8	94
1x 6 RM	1.0	1.4	8.2	116
1x 10 RM	1.0	1.4	9.2	165
1x 16 RM	1.0	1.4	9.9	220
1x 25 RM	1.2	1.4	11.5	325
1x 35 RM	1.2	1.4	12.5	422
1x 50 RM	1.4	1.4	14.1	559
1x 70 RM	1.4	1.4	15.8	765
1x 95 RM	1.6	1.5	18.1	1041
1x 120 RM	1.6	1.5	19.8	1279
1x 150 RM	1.8	1.6	21.8	1573
1x 185 RM	2.0	1.7	24.1	1956
1x 240 RM	2.2	1.8	27.1	2541
1x 300 RM	2.4	1.9	29.9	3152
1x 400 RM	2.6	2.0	33.5	3993
1x 500 RM	2.8	2.1	38.0	5098
1x 630 RM	2.8	2.2	41.0	6450

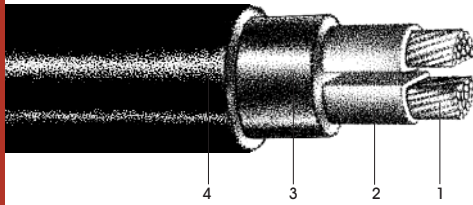
1-Stranded Circular Conductor 2-PVC Insulation 3-PVC Sheathing.

Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mV.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 1.5 RM	14.48	14.48	0.149	0.319	20.22	20.39
1 x 2.5 RM	8.87	8.87	0.137	0.303	12.43	12.61
1 x 4 RM	5.52	5.52	0.13	0.289	7.78	7.95
1 x 6 RM	3.69	3.69	0.124	0.281	5.24	5.40
1 x 10 RM	2.19	2.19	0.115	0.265	3.15	3.31
1 x 16 RM	1.38	1.38	0.111	0.256	2.03	2.18
1 x 25 RM	0.87	0.87	0.106	0.243	1.32	1.46
1 x 35 RM	0.627	0.627	0.101	0.234	0.97	1.11
1 x 50 RM	0.463	0.463	0.096	0.223	0.74	0.87
1 x 70 RM	0.321	0.321	0.092	0.212	0.54	0.67
1 x 95 RM	0.232	0.231	0.09	0.204	0.41	0.53
1 x 120 RM	0.184	0.184	0.087	0.197	0.35	0.46
1 x 150 RM	0.15	0.149	0.087	0.192	0.30	0.41
1 x 185 RM	0.1206	0.1193	0.086	0.186	0.26	0.36
1 x 240 RM	0.0929	0.0912	0.084	0.179	0.22	0.31
1 x 300 RM	0.0753	0.0732	0.084	0.175	0.19	0.28
1 x 400 RM	0.0606	0.0579	0.082	0.167	0.17	0.25
1 x 500 RM	0.0493	0.0459	0.081	0.161	0.15	0.23
1 x 630 RM	0.0406	0.0365	0.08	0.157	0.14	0.21





IEC 60502-1

Cu/PVC/PVC

**Description:**

Unarmoured 2 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
○ 2x 1.5 RE	0.8	1.8	12.2	194
○ 2x 1.5 RM	0.8	1.8	12.8	210
○ 2x 2.5 RE	0.8	1.8	13.0	233
○ 2x 2.5 RM	0.8	1.8	13.6	250
○ 2x 4 RE	1.0	1.8	14.8	316
○ 2x 4 RM	1.0	1.8	15.6	341
○ 2x 6 RE	1.0	1.8	15.8	382
○ 2x 6 RM	1.0	1.8	16.4	403
○ 2x 10 RE	1.0	1.8	17.4	507
○ 2x 10 RM	1.0	1.8	18.4	546
○ 2x 16 RM	1.0	1.4	19.9	692
○ 2x 25 RM	1.2	1.4	23.2	998
○ 2x 35 RM	1.2	1.4	25.2	1258
○ 2x 50 SM	1.4	1.4	25.2	1143
○ 2x 70 SM	1.4	1.4	28.5	1570
○ 2x 95 SM	1.6	1.5	32.9	2135
○ 2x 120 SM	1.6	1.5	35.6	2639
○ 2x 150 SM	1.8	1.6	39.3	3239
○ 2x 185 SM	2.0	1.7	43.8	4047
○ 2x 240 SM	2.2	1.8	49.0	5243
○ 2x 300 SM	2.4	1.9	54.4	6534

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing.

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less

○ : Solid circular conductor

Maximum conductor temperature: 70°C

**Electrical Data**

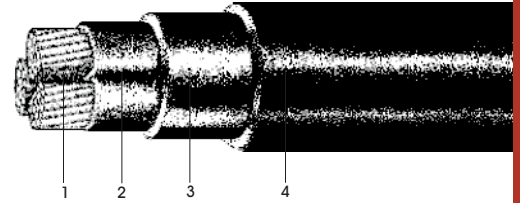
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)	Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
2 x 1.5 RE	14.48	0.091	23.28	2 x 16 RM	1.38	0.087	2.31
2 x 1.5 RM	14.48	0.107	23.30	2 x 25 RM	0.87	0.086	1.50
2 x 2.5 RE	8.87	0.084	14.29	2 x 35 RM	0.627	0.083	1.10
2 x 2.5 RM	8.87	0.098	14.31	2 x 50 SM	0.464	0.08	0.84
2 x 4 RE	5.52	0.084	8.93	2 x 70 SM	0.321	0.078	0.61
2 x 4 RM	5.52	0.099	8.95	2 x 95 SM	0.232	0.077	0.46
2 x 6 RE	3.69	0.078	6.00	2 x 120 SM	0.184	0.075	0.38
2 x 6 RM	3.69	0.095	6.02	2 x 150 SM	0.15	0.075	0.33
2 x 10 RE	2.19	0.072	3.59	2 x 185 SM	0.1205	0.075	0.28
2 x 10 RM	2.19	0.089	3.61	2 x 240 SM	0.0928	0.074	0.24
				2 x 300 SM	0.0752	0.074	0.21

Cu/PVC/PVC

IEC 60502-1

**Description:**

Unarmoured 3 core cable with copper conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
○ 3x 1.5 RE	0.8	1.8	12.7	218
3x 1.5 RM	0.8	1.8	13.3	234
○ 3x 2.5 RE	0.8	1.8	13.5	265
3x 2.5 RM	0.8	1.8	14.2	285
○ 3x 4 RE	1.0	1.8	15.5	368
3x 4 RM	1.0	1.8	16.3	393
○ 3x 6 RE	1.0	1.8	16.5	450
3x 6 RM	1.0	1.8	17.2	475
○ 3x 10 RE	1.0	1.8	18.3	616
3x 10 RM	1.0	1.8	19.4	653
3x 16 RM	1.0	1.8	21.0	852
3x 25 RM	1.2	1.8	24.5	1242
3x 35 RM	1.2	1.8	26.7	1588
3x 50 SM	1.4	1.8	28.5	1654
3x 70 SM	1.4	1.9	32.5	2284
3x 95 SM	1.6	2.1	37.6	3134

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing.

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less

○ : Solid circular conductor

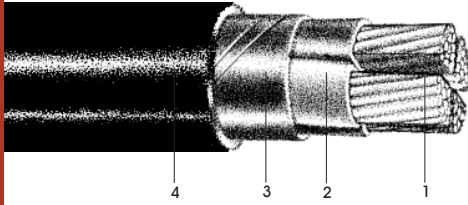
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)	Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
3 x 1, 5 RE	14.48	0.091	20.16	3 x 16 RM	1.38	0.087	2.00
3 x 1, 5 RM	14.48	0.107	20.17	3 x 25 RM	0.87	0.086	1.29
3 x 2, 5 RE	8.87	0.084	12.38	3 x 35 RM	0.627	0.083	0.96
3 x 2, 5 RM	8.87	0.098	12.39	3 x 50 SM	0.464	0.08	0.73
3 x 4 RE	5.52	0.084	7.74	3 x 70 SM	0.322	0.078	0.53
3 x 4 RM	5.52	0.099	7.75	3 x 95 SM	0.232	0.077	0.40
3 x 6 RE	3.69	0.078	5.19	3 x 120 SM	0.185	0.075	0.33
3 x 6 RM	3.69	0.095	5.21	3 x 150 SM	0.15	0.075	0.29
3 x 10 RE	2.19	0.072	3.11	3 x 185 SM	0.1212	0.075	0.25
3 x 10 RM	2.19	0.089	3.13	3 x 240 SM	0.0937	0.074	0.21
				3 x 300 SM	0.0762	0.074	0.18

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Cu/PVC/PVC

**Description:**

Unarmoured 3½ core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness		Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
	PH mm	N mm			
3x 50 +25 SM	1.4	1.2	1.9	31.8	1965
3x 70 +35 SM	1.4	1.2	2.0	36.2	2704
3x 95 +50 SM	1.6	1.4	2.2	41.7	3696
3x 120 +70 SM	1.6	1.4	2.3	45.3	4637
3x 150 +70 SM	1.8	1.4	2.5	50.1	5559
3x 185 +95 SM	2.0	1.6	2.6	55.5	6993
3x 240 +120 SM	2.2	1.6	2.9	63.2	9060
3x 300 +150 SM	2.4	1.8	3.1	69.9	11254

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing

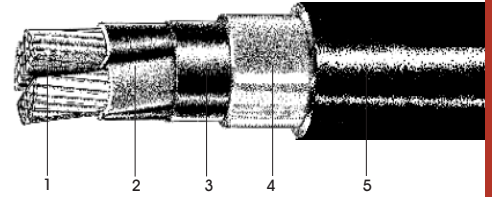
- ★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores						AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop (mV.A/m)
3	x	50	SM	+	25 RM	0.464	0.088	0.73
3	x	70	SM	+	35 RM	0.321	0.085	0.53
3	x	95	SM	+	50 SM	0.232	0.084	0.41
3	x	120	SM	+	70 SM	0.185	0.082	0.34
3	x	150	SM	+	70 SM	0.15	0.083	0.29
3	x	185	SM	+	95 SM	0.1208	0.082	0.25
3	x	240	SM	+	120 SM	0.0931	0.082	0.21
3	x	300	SM	+	150 SM	0.0755	0.081	0.19

**Description:**

Unarmoured 3½ core cable, lead sheathed with copper conductor & PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH N mm mm		Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 +25 SM	1.4	1.2	1.4	2.0	37.6	3802
3x 70 +35 SM	1.4	1.2	1.5	2.2	42.5	4940
3x 95 +50 SM	1.6	1.4	1.7	2.3	48.1	6531
3x 120 +70 SM	1.6	1.4	1.8	2.5	52.7	7987
3x 150 +70 SM	1.8	1.4	1.9	2.6	57.7	9390
3x 185 +95 SM	2.0	1.6	2.0	2.8	64.0	11555
3x 240 +120 SM	2.2	1.6	2.2	3.0	71.7	14622
3x 300 +150 SM	2.4	1.8	2.4	3.3	79.1	17921

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Lead Sheath 5-PVC Sheathing.

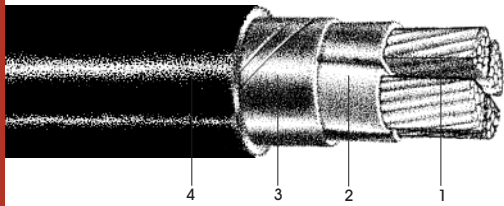
★ :Circular conductor for cross sections of 35 mm<sup>2</sup> or less

★★:Single & other multi cores are also available

Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores						AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop (mV.A/m)
3	x	50	SM	+	25 RM	0.464	0.088	0.73
3	x	70	SM	+	35 RM	0.321	0.085	0.53
3	x	95	SM	+	50 SM	0.232	0.084	0.41
3	x	120	SM	+	70 SM	0.185	0.082	0.34
3	x	150	SM	+	70 SM	0.15	0.083	0.29
3	x	185	SM	+	95 SM	0.1208	0.261	0.44
3	x	240	SM	+	120 SM	0.0931	0.082	0.21
3	x	300	SM	+	150 SM	0.0755	0.081	0.19



IEC 60502-1

Cu/PVC/PVC

**Description:**

Unarmoured 4 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 1.5 RM	0.8	1.8	14.2	271
4x 2.5 RM	0.8	1.8	15.1	330
4x 4 RM	1.0	1.8	17.5	463
4x 6 RM	1.0	1.8	18.5	566
4x 10 RM	1.0	1.8	21.0	791
4x 16 RM	1.0	1.8	22.8	1046
4x 25 RM	1.2	1.8	26.7	1536
4x 35 RM	1.2	1.8	29.1	1973
★ 4x 50 SM	1.4	1.9	31.8	2179
4x 70 SM	1.4	2.0	36.2	3016
4x 95 SM	1.6	2.2	41.7	4133
4x 120 SM	1.6	2.3	45.3	5114
4x 150 SM	1.8	2.5	50.1	6307
4x 185 SM	2.0	2.6	55.5	7846
4x 240 SM	2.2	2.9	63.2	10247
4x 300 SM	2.4	3.1	69.9	12762

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less

Maximum conductor temperature: 70°C

**Electrical Data**

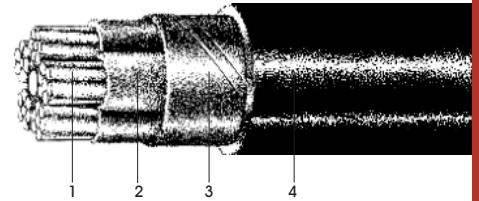
Number of cores	AC resistance(Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop(mV.A/m)
4 x 1.5 RM	14.48	0.115	20.18
4 x 2.5 RM	8.87	0.106	12.40
4 x 4 RM	5.52	0.106	7.76
4 x 6 RM	3.69	0.102	5.22
4 x 10 RM	2.19	0.097	3.14
4 x 16 RM	1.38	0.094	2.01
4 x 25 RM	0.87	0.093	1.30
4 x 35 RM	0.627	0.09	0.96
4 x 50 SM	0.464	0.088	0.73
4 x 70 SM	0.321	0.085	0.53
4 x 95 SM	0.232	0.084	0.41
4 x 120 SM	0.185	0.082	0.34
4 x 150 SM	0.15	0.083	0.29
4 x 185 SM	0.1208	0.082	0.25
4 x 240 SM	0.0931	0.082	0.21
4 x 300 SM	0.0755	0.081	0.19

Cu/PVC/PVC

IEC 60502-1

**Description:**

Unarmoured 5 core cable with copper conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5x 1.5RM	0.8	1.8	15.1	306
5x 2.5RM	0.8	1.8	16.2	381
5x 4 RM	1.0	1.8	18.9	540
5x 6 RM	1.0	1.8	20.1	664
5x 10 RM	1.0	1.8	22.9	943
5x 16 RM	1.0	1.8	24.8	1247
5x 25 RM	1.2	1.8	29.1	1837
5x 35 RM	1.2	1.9	32.4	2395

1-Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing

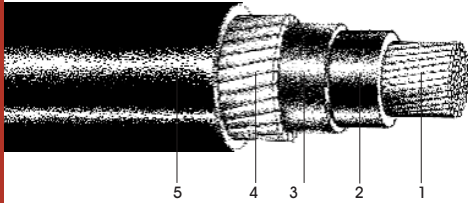
- ★ :Solid, circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mv.A/m)
5 x 1.5 RM	14.48	0.117	20.19
5 x 2.5 RM	8.87	0.109	12.40
5 x 4 RM	5.52	0.109	7.76
5 x 6 RM	3.69	0.105	5.22
5 x 10 RM	2.19	0.1	3.14
5 x 16 RM	1.38	0.097	2.01
5 x 25 RM	0.87	0.096	1.31
5 x 35 RM	0.627	0.093	0.97

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Cu/PVC/Bd/AWA/PVC

**Description:**

Wire armoured single core cable with copper conductor & PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 16 RM	1.0	1.6	1.8	16.2	430
1x 25 RM	1.2	1.6	1.8	17.8	569
1x 35 RM	1.2	1.6	1.8	18.8	678
1x 50 RM	1.4	1.6	1.8	20.5	843
1x 70 RM	1.4	1.6	1.8	22.2	1082
1x 95 RM	1.6	1.6	1.8	24.3	1387
1x 120 RM	1.6	1.6	1.8	25.9	1652
1x 150 RM	1.8	1.6	1.8	27.7	1965
1x 185 RM	2.0	1.6	1.8	30.0	2371
1x 240 RM	2.2	1.6	1.9	33.1	3008
1x 300 RM	2.4	2.0	2.0	36.5	3751
1x 400 RM	2.6	2.0	2.1	40.8	4705
1x 500 RM	2.8	2.0	2.2	44.9	5879
1x 630 RM	2.8	2.0	2.4	48.3	7315

1-Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Aluminium Wire Armour 5-PVC Sheathing

★ :Solid, circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 70°C

**Electrical Data**

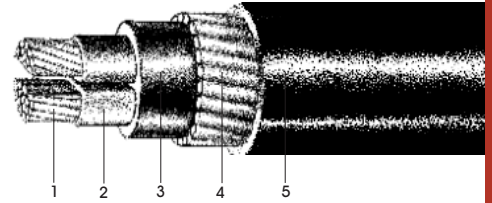
Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop(mV.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 16 RM	1.38	1.38	0.146	0.262	2.06	2.18
1 x 25 RM	0.87	0.87	0.137	0.249	1.35	1.46
1 x 35 RM	0.627	0.627	0.131	0.24	1.00	1.12
1 x 50 RM	0.463	0.463	0.123	0.228	0.77	0.88
1 x 70 RM	0.321	0.321	0.116	0.218	0.57	0.67
1 x 95 RM	0.232	0.231	0.111	0.209	0.44	0.54
1 x 120 RM	0.184	0.184	0.107	0.201	0.37	0.46
1 x 150 RM	0.15	0.149	0.104	0.196	0.32	0.41
1 x 185 RM	0.1201	0.1193	0.102	0.19	0.27	0.36
1 x 240 RM	0.0922	0.0912	0.099	0.184	0.23	0.32
1 x 300 RM	0.0745	0.0731	0.097	0.179	0.20	0.29
1 x 400 RM	0.0596	0.0578	0.095	0.172	0.18	0.26
1 x 500 RM	0.0481	0.0458	0.092	0.166	0.16	0.24
1 x 630 RM	0.0393	0.0365	0.09	0.161	0.15	0.22

Cu/PVC/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured 2 core cable with copper conductor & PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 16 RM	1.0	1.25	1.8	22.4	1097
2x 25 RM	1.2	1.6	1.8	26.4	1626
2x 35 RM	1.2	1.6	1.8	28.4	1944
2x 50 SM	1.4	2.0	1.9	31.9	2334
2x 70 SM	1.4	2.0	2.0	35.1	2915
2x 95 SM	1.6	2.0	2.2	40.2	3762
2x 120 SM	1.6	2.0	2.3	42.9	4370
2x 150 SM	1.8	2.5	2.4	47.6	5536
2x 185 SM	2.0	2.5	2.6	52.5	6695
2x 240 SM	2.2	2.5	2.8	58.3	8216
2x 300 SM	2.4	2.5	2.9	63.9	9863

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

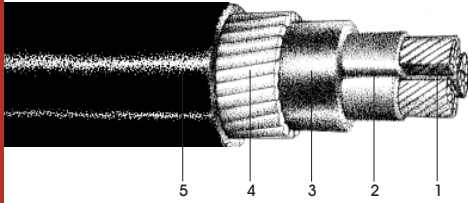
**Electrical Data**

Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mV.A/m)
2 x 16 RM	1.38	0.087	2.31
2 x 25 RM	0.87	0.086	1.50
2 x 35 RM	0.627	0.083	1.10
2 x 50 SM	0.464	0.08	0.84
2 x 70 SM	0.321	0.078	0.61
2 x 95 SM	0.232	0.077	0.46
2 x 120 SM	0.184	0.075	0.38
2 x 150 SM	0.15	0.075	0.33
2 x 185 SM	0.1205	0.075	0.28
2 x 240 SM	0.0928	0.074	0.24
2 x 300 SM	0.0752	0.074	0.21

0.6/1 kV

LOW VOLTAGE CABLES





IEC 60502-1

Cu/PVC/Bd/SWA/PVC

**Description:**

Wire armoured 3 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 16 RM	1.0	1.25	1.8	23.5	1288
3x 25 RM	1.2	1.6	1.8	27.7	1906
3x 35 RM	1.2	2.0	1.9	31.2	2540
3x 50 SM	1.4	2.0	2.0	35.4	2991
3x 70 SM	1.4	2.0	2.1	39.7	3848
3x 95 SM	1.6	2.0	2.2	44.7	4901
3x 120 SM	1.6	2.0	2.3	47.7	5794
3x 150 SM	1.8	2.5	2.5	53.7	7445
3x 185 SM	2.0	2.5	2.7	59.1	8881
3x 240 SM	2.2	2.5	2.9	65.8	11132
3x 300 SM	2.4	2.5	3.0	71.8	13352

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

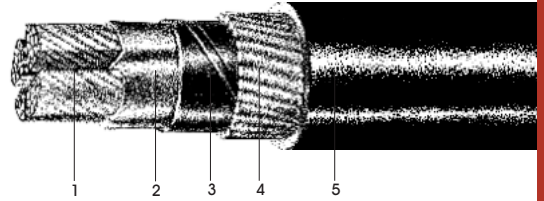
Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mV.A/m)
3 x 16 RM	1.38	0.087	2.00
3 x 25 RM	0.87	0.086	1.29
3 x 35 RM	0.627	0.083	0.96
3 x 50 SM	0.464	0.08	0.73
3 x 70 SM	0.322	0.078	0.53
3 x 95 SM	0.232	0.077	0.40
3 x 120 SM	0.185	0.075	0.33
3 x 150 SM	0.15	0.075	0.29
3 x 185 SM	0.1212	0.075	0.25
3 x 240 SM	0.0937	0.074	0.21
3 x 300 SM	0.0762	0.074	0.18

Cu/PVC/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured 3½ core cable with copper conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness		Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
	PH mm	N mm				
3x 25 +16 RM	1.2	1.0	2.0	1.8	30.9	2406
3x 35 +16 RM	1.2	1.0	2.0	1.9	33.6	2885
3x 50 +25 SM	1.4	1.2	2.00	2.1	39.0	3473
3x 70 +35 SM	1.4	1.2	2.0	2.2	43.5	4426
3x 95 +50 SM	1.6	1.4	2.5	2.4	50.0	6061
3x 120 +70 SM	1.6	1.4	2.5	2.5	54.1	7286
3x 150 +70 SM	1.8	1.4	2.5	2.7	59.2	8453
3x 185 +95 SM	2.0	1.6	2.5	2.8	65.0	10281
3x 240 +120 SM	2.2	1.6	2.5	3.1	72.6	12748
3x 300 +150 SM	2.4	1.8	2.5	3.3	79.3	15330

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

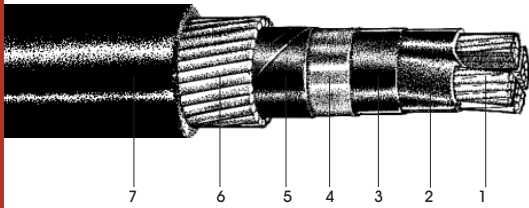
★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop (mV.A/m)
3 x 25 RM + 16 RM	0.87	0.093	1.30
3 x 35 RM + 16 RM	0.627	0.09	0.96
3 x 50 SM + 25 RM	0.464	0.088	0.73
3 x 70 SM + 35 RM	0.321	0.085	0.53
3 x 95 SM + 50 SM	0.232	0.084	0.41
3 x 120 SM + 70 SM	0.185	0.082	0.34
3 x 150 SM + 70 SM	0.15	0.083	0.29
3 x 185 SM + 95 SM	0.1208	0.082	0.25
3 x 240 SM + 120 SM	0.0931	0.082	0.21
3 x 300 SM + 150 SM	0.0755	0.081	0.19

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1 Cu/PVC/Bd/Lsh/Bd/SWA/PVC

★★

**Description:**

Wire armoured 3½ core cable, lead sheathed with copper conductor & PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH N mm mm		Lead Thickness mm	Diameter of Armour mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 +16 RM	1.2	1.0	1.3	2.0	2.0	36.5	3935
3x 35 +16 RM	1.2	1.0	1.4	2.0	2.1	39.3	4644
3x 50 +25 SM	1.4	1.2	1.4	2.0	2.3	45.1	5564
3x 70 +35 SM	1.4	1.2	1.5	2.5	2.4	51.0	7364
3x 95 +50 SM	1.6	1.4	1.7	2.5	2.6	57.3	9285
3x 120 +70 SM	1.6	1.4	1.8	2.5	2.7	61.7	10951
3x 150 +70 SM	1.8	1.4	1.9	2.5	2.9	67.1	12692
3x 185 +95 SM	2.0	1.6	2.0	2.5	3.1	73.6	15263
3x 240 +120 SM	2.2	1.6	2.2	3.15	3.4	83.3	19821
3x 300 +150 SM	2.4	1.8	2.4	3.15	3.6	90.7	23580

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Lead Sheath 5-PVC Bedding 6-Galvanized Steel Wire Armour 7-PVC Sheathing

- ★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
 ★★: Single & other multi cores are also available  
 Maximum conductor temperature: 70°C

**Electrical Data**

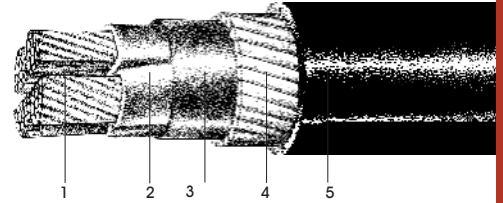
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3 x 25 RM + 16 RM	0.87	0.976	2.22
3 x 35 RM + 16 RM	0.627	0.897	1.80
3 x 50 SM + 25 RM	0.464	0.771	1.44
3 x 70 SM + 35 RM	0.321	0.541	1.01
3 x 95 SM + 50 SM	0.232	0.476	0.82
3 x 120 SM + 70 SM	0.185	0.082	0.34
3 x 150 SM + 70 SM	0.15	0.083	0.29
3 x 185 SM + 95 SM	0.1208	0.082	0.25
3 x 240 SM + 120 SM	0.931	0.082	1.38
3 x 300 SM + 150 SM	0.0755	0.081	0.19

Cu/PVC/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured 4 core cable with copper conductor & PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 1.5 RM	0.8	0.8	1.8	15.8	442
4x 2.5 RM	0.8	0.8	1.8	16.7	517
4x 4 RM	1.0	1.25	1.8	20.1	818
4x 6 RM	1.0	1.25	1.8	21.1	949
4x 10 RM	1.0	1.25	1.8	23.5	1230
4x 16 RM	1.0	1.60	1.8	26.0	1668
4x 25 RM	1.2	2.0	1.8	30.9	2478
4x 35 RM	1.2	2.0	1.9	33.6	3026
4x 50 SM	1.4	2.0	2.1	39.0	3687
4x 70 SM	1.4	2.0	2.2	43.5	4737
4x 95 SM	1.6	2.5	2.4	50.0	6497
4x 120 SM	1.6	2.5	2.5	54.1	7763
4x 150 SM	1.8	2.5	2.7	59.2	9200
4x 185 SM	2.0	2.5	2.8	65.0	11135
4x 240 SM	2.2	2.5	3.1	72.6	13935
4x 300 SM	2.4	2.5	3.3	79.3	16839

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

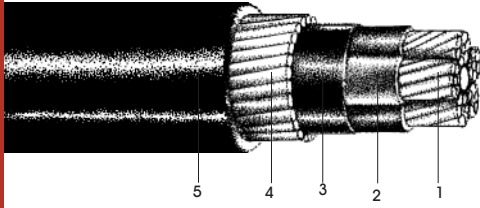
★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mV.A/m)
4 x 1.5 RM	14.48	0.115	20.18
4 x 2.5 RM	8.87	0.106	12.40
4 x 4 RM	5.52	0.106	7.76
4 x 6 RM	3.69	0.102	5.22
4 x 10 RM	2.19	0.097	3.14
4 x 16 RM	1.38	0.094	2.01
4 x 25 RM	0.87	0.093	1.30
4 x 35 RM	0.627	0.09	0.96
4 x 50 SM	0.464	0.088	0.73
4 x 70 SM	0.321	0.085	0.53
4 x 95 SM	0.232	0.084	0.41
4 x 120 SM	0.185	0.082	0.34
4 x 150 SM	0.15	0.083	0.29
4 x 185 SM	0.1208	0.082	0.25
4 x 240 SM	0.0931	0.082	0.21
4 x 300 SM	0.0755	0.081	0.19

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Cu/PVC/Bd/SWA/PVC

**Description:**

Wire armoured 5 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5x 1.5 RE	0.8	0.8	1.8	15.9	460
5x 2.5 RE	0.8	0.8	1.8	17.0	549
5x 4 RE	1.0	1.25	1.8	20.4	870
5x 6 RE	1.0	1.25	1.8	21.8	1039
5x 10 RE	1.0	1.6	1.8	24.7	1480
5x 16 RM	1.0	1.6	1.8	28.0	1932
5x 25 RM	1.2	2.0	1.9	33.6	2894
5x 35 RM	1.2	2.0	2.0	36.6	3550

1-Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

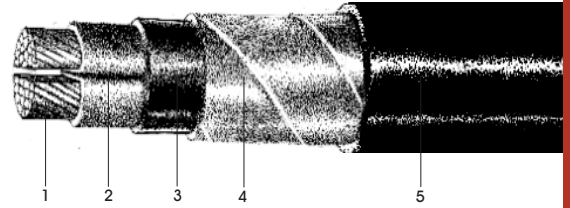
★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mV.A/m)
5 x 1.5 RE	14.48	0.115	20.18
5 x 2.5 RE	8.87	0.106	12.40
5 x 4 RE	5.52	0.106	7.76
5 x 6 RE	3.69	0.102	5.22
5 x 10 RE	2.19	0.097	3.14
5 x 16 RM	1.38	0.094	2.01
5 x 25 RM	0.87	0.093	1.30
5 x 35 RM	0.627	0.09	0.96

**Description:**

Tape armoured 2 core cable with copper conductor & PVC insulation.



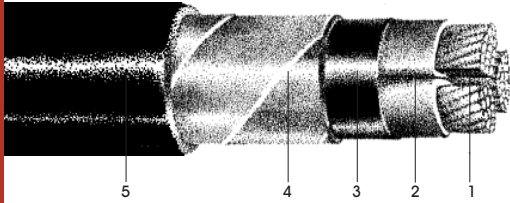
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 50 SM	1.4	0.2	1.8	28.9	1564
2x 70 SM	1.4	0.2	1.9	32.4	2044
2x 95 SM	1.6	0.2	2.1	37.4	2754
2x 120 SM	1.6	0.5	2.2	41.2	3536
2x 150 SM	1.8	0.5	2.3	44.8	4226
2x 185 SM	2.0	0.5	2.4	49.6	5193
2x 240 SM	2.2	0.5	2.6	55.0	6550
2x 300 SM	2.4	0.5	2.8	61.1	8068

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Tape Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mV.A/m)
2 x 50 SM	0.464	0.08	0.84
2 x 70 SM	0.321	0.078	0.61
2 x 95 SM	0.232	0.077	0.46
2 x 120 SM	0.184	0.075	0.38
2 x 150 SM	0.15	0.075	0.33
2 x 185 SM	0.1205	0.075	0.28
2 x 240 SM	0.0928	0.074	0.24
2 x 300 SM	0.0752	0.074	0.21



IEC 60502-1

Cu/PVC/Bd/DTA/PVC

**Description:**

Tape armoured 3 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 16 RM	1.0	0.2	1.8	22.5	1010
3x 25 RM	1.2	0.2	1.8	26.0	1426
3x 35 RM	1.2	0.2	1.8	28.2	1788
3x 50 SM	1.4	0.2	1.9	32.7	2123
3x 70 SM	1.4	0.2	2.0	37.0	2865
3x 95 SM	1.6	0.5	2.2	43.2	4043
3x 120 SM	1.6	0.5	2.3	46.2	4855
3x 150 SM	1.8	0.5	2.4	51.0	5911
3x 185 SM	2.0	0.5	2.6	56.0	7218
3x 240 SM	2.2	0.5	2.8	63.0	9249
3x 300 SM	2.4	0.5	2.9	69.1	11282

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Tape Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

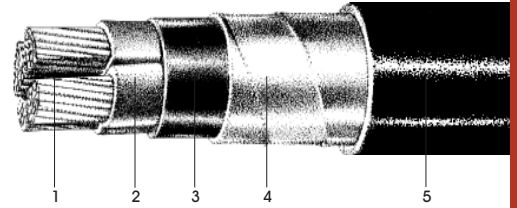
Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mV.A/m)
3 x 16 RM	1.38	0.087	2.00
3 x 25 RM	0.87	0.086	1.29
3 x 35 RM	0.627	0.083	0.96
3 x 50 SM	0.464	0.08	0.73
3 x 70 SM	0.322	0.078	0.53
3 x 95 SM	0.232	0.077	0.40
3 x 120 SM	0.185	0.075	0.33
3 x 150 SM	0.15	0.075	0.29
3 x 185 SM	0.1212	0.075	0.25
3 x 240 SM	0.0937	0.074	0.21
3 x 300 SM	0.0762	0.074	0.18

Cu/PVC/Bd/DTA/PVC

IEC 60502-1

**Description:**

Tape armoured 3½ corer cable with copper conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH mm N mm		Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 + 16 RM	1.2	1.0	0.2	1.8	28.2	1669
3x 35 + 16 RM	1.2	1.0	0.2	1.8	30.8	2053
3x 50 + 25 SM	1.4	1.2	0.2	2.0	36.3	2508
3x 70 + 35 SM	1.4	1.2	0.5	2.1	41.7	3555
3x 95 + 50 SM	1.6	1.4	0.5	2.3	47.2	4670
3x 120 + 70 SM	1.6	1.4	0.5	2.4	51.4	5758
3x 150 + 70 SM	1.8	1.4	0.5	2.6	56.1	6792
3x 185 + 95 SM	2.0	1.6	0.5	2.7	62.3	8430
3x 240 + 120 SM	2.2	1.6	0.5	3.0	69.8	10684
3x 300 + 150 SM	2.4	1.8	0.5	3.2	76.5	13046

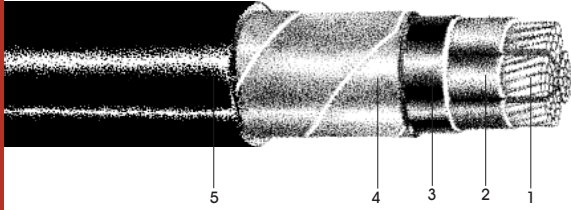
1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Tape Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores						AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	25	RM	+	16 RM	0.87	0.093	1.30
3	x	35	RM	+	16 RM	0.627	0.09	0.96
3	x	50	SM	+	25 RM	0.464	0.088	0.73
3	x	70	SM	+	35 RM	0.321	0.085	0.53
3	x	95	SM	+	50 SM	0.232	0.084	0.41
3	x	120	SM	+	70 SM	0.185	0.082	0.34
3	x	150	SM	+	70 SM	0.15	0.083	0.29
3	x	185	SM	+	95 SM	0.1208	0.082	0.25
3	x	240	SM	+	120 SM	0.0931	0.082	0.21
3	x	300	SM	+	150 SM	0.0755	0.081	0.19





IEC 60502-1

Cu/PVC/Bd/DTA/PVC

**Description:**

Tape armoured 4 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 16 RM	1.0	0.2	1.8	24.3	1220
4x 25 RM	1.2	0.2	1.8	28.2	1740
4x 35 RM	1.2	0.2	1.8	30.8	2195
4x 50 SM	1.4	0.2	2.0	36.3	2722
4x 70 SM	1.4	0.5	2.1	41.7	3866
4x 95 SM	1.6	0.5	2.3	47.2	5106
4x 120 SM	1.6	0.5	2.4	51.4	6234
4x 150 SM	1.8	0.5	2.6	56.1	7540
4x 185 SM	2.0	0.5	2.7	62.3	9284
4x 240 SM	2.2	0.5	3.0	69.8	11872
4x 300 SM	2.4	0.5	3.2	76.5	14554

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Tape Armour 5-PVC Sheathing

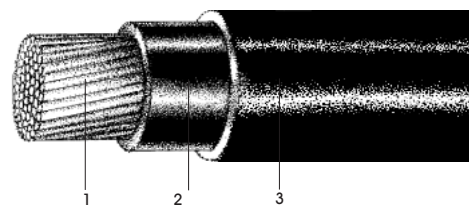
★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4	x	16	RM	1.38	0.094	2.01
4	x	25	RM	0.87	0.093	1.30
4	x	35	RM	0.627	0.09	0.96
4	x	50	SM	0.464	0.088	0.73
4	x	70	SM	0.321	0.085	0.53
4	x	95	SM	0.232	0.084	0.41
4	x	120	SM	0.185	0.082	0.34
4	x	150	SM	0.15	0.083	0.29
4	x	185	SM	0.1208	0.082	0.25
4	x	240	SM	0.0931	0.082	0.21
4	x	300	SM	0.0755	0.081	0.19

**Description:**

Unarmoured single core cable with copper conductor & XLPE insulation.



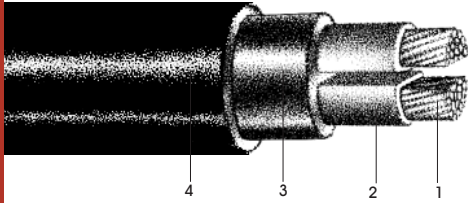
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 1.5 RM	0.7	1.4	6.2	49
1x 2.5 RM	0.7	1.4	6.6	61
1x 4 RM	0.7	1.4	7.2	80
1x 6 RM	0.7	1.4	7.6	101
1x 10 RM	0.7	1.4	8.6	147
1x 16 RM	0.7	1.4	9.3	201
1x 25 RM	0.9	1.4	10.9	300
1x 35 RM	0.9	1.4	11.9	394
1x 50 RM	1.0	1.4	13.3	518
1x 70 RM	1.1	1.4	15.2	723
1x 95 RM	1.1	1.5	17.1	977
1x 120 RM	1.2	1.5	19.0	1215
1x 150 RM.	1.4	1.6	21.0	1496
1x 185 RM	1.6	1.6	23.1	1854
1x 240 RM	1.7	1.7	25.9	2409
1x 300 RM	1.8	1.8	28.2	2990
1x 400 RM	2.0	1.9	32.1	3800
1x 500 RM	2.2	2.0	36.6	4866
1x 630 RM	2.4	2.2	40.2	6242

1-Stranded Circular Conductor 2-XLPE Insulation 3-PVC Sheathing

Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop(mV.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 1.5 RM	15.53	15.53	0.15	0.319	21.67	21.85
1 x 2.5 RM	9.45	9.45	0.14	0.303	13.23	13.41
1 x 4 RM	5.88	5.88	0.13	0.289	8.28	8.45
1 x 6 RM	3.93	3.93	0.12	0.28	5.57	5.74
1 x 10 RM	2.33	2.33	0.11	0.265	3.34	3.50
1 x 16 RM	1.47	1.47	0.11	0.256	2.15	2.30
1 x 25 RM	0.927	0.927	0.10	0.243	1.39	1.54
1 x 35 RM	0.668	0.668	0.10	0.234	1.03	1.17
1 x 50 RM	0.494	0.494	0.09	0.222	0.78	0.92
1 x 70 RM	0.342	0.342	0.09	0.212	0.57	0.69
1 x 95 RM	0.247	0.246	0.09	0.203	0.43	0.55
1 x 120 RM	0.196	0.196	0.08	0.196	0.36	0.48
1 x 150 RM	0.16	0.159	0.09	0.191	0.31	0.42
1 x 185 RM	0.1284	0.1271	0.08	0.185	0.26	0.37
1 x 240 RM	0.0898	0.0971	0.08	0.178	0.21	0.32
1 x 300 RM	0.0801	0.0778	0.08	0.174	0.20	0.29
1 x 400 RM	0.0643	0.0615	0.08	0.167	0.17	0.26
1 x 500 RM	0.0522	0.0486	0.08	0.161	0.15	0.23
1 x 630 RM	0.0427	0.0386	0.08	0.156	0.14	0.22



IEC 60502-1

Cu/XLPE/PVC

**Description:**

Unarmoured 2 core cable with copper conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
○ 2x 1.5 RE	0.7	1.8	11.8	178
2x 1.5 RM	0.7	1.8	12.4	193
○ 2x 2.5 RE	0.7	1.8	12.6	215
2x 2.5 RM	0.7	1.8	13.2	231
○ 2x 4 RE	0.7	1.8	13.6	268
2x 4 RM	0.7	1.8	14.4	290
○ 2x 6 RE	0.7	1.8	14.6	330
2x 6 RM	0.7	1.8	15.2	349
○ 2x 10 RE	0.7	1.8	16.2	449
2x 10 RM	0.7	1.8	17.2	483
2x 16 RM	0.7	1.8	18.6	624
2x 25 RM	0.9	1.8	22.0	912
2x 35 RM	0.9	1.8	24.0	1163
2x 50 SM	1.0	1.8	23.5	1070
2x 70 SM	1.1	1.8	27.0	1485
2 x 95 SM	1.1	1.9	30.6	2004
2x 120 SM	1.2	2.0	33.7	2502
2x 150 SM	1.4	2.2	37.7	3094
2x 185 SM	1.6	2.3	41.7	3847
2x 240 SM	1.7	2.5	46.9	5004
2x 300 SM	1.8	2.6	51.6	6204

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less

○ : Solid circular conductor

Maximum conductor temperature: 90°C

**Electrical Data**

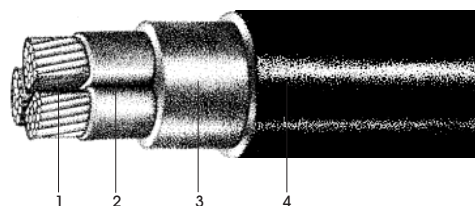
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)	Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
2 x 1.5 RE	15.43	0.087	24.79	2 x 16 RM	1.47	0.081	2.45
2 x 1.5 RM	15.43	0.103	24.81	2 x 25 RM	0.927	0.081	1.58
2 x 2.5 RE	9.45	0.08	15.22	2 x 35 RM	0.668	0.079	1.16
2 x 2.5 RM	9.45	0.095	15.23	2 x 50 SM	0.494	0.075	0.88
2 x 4 RE	5.88	0.075	9.50	2 x 70 SM	0.342	0.075	0.64
2 x 4 RM	5.88	0.09	9.52	2 x 95 SM	0.247	0.072	0.48
2 x 6 RE	3.93	0.07	6.37	2 x 120 SM	0.196	0.072	0.40
2 x 6 RM	3.93	0.087	6.39	2 x 150 SM	0.16	0.072	0.34
2 x 10 RE	2.33	0.065	3.81	2 x 185 SM	0.1283	0.072	0.29
2 x 10 RM	2.33	0.083	3.83	2 x 240 SM	0.0987	0.071	0.24
				2 x 300 SM	0.0799	0.071	0.21

Cu/XLPE/PVC

IEC 60502-1

**Description:**

Unarmoured 3 core cable with copper conductor &amp; XLPE insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
○ 3x 1.5 RE	0.7	1.8	12.2	197
3x 1.5 RM	0.7	1.8	12.9	214
○ 3x 2.5 RE	0.7	1.8	13.1	244
3x 2.5 RM	0.7	1.8	13.7	259
○ 3x 4 RE	0.7	1.8	14.2	312
3x 4 RM	0.7	1.8	15.0	333
○ 3x 6 RE	0.7	1.8	15.3	393
3x 6 RM	0.7	1.8	15.9	410
○ 3x 10 RE	0.7	1.8	17.0	546
3x 10 RM	0.7	1.8	18.1	583
3x 16 RM	0.7	1.8	19.7	771
3x 25 RM	0.9	1.8	23.2	1137
3x 35 RM	0.9	1.8	25.4	1472
3x 50 SM	1.0	1.8	26.6	1544
3x 70 SM	1.1	1.9	31.1	2173
3x 95 SM	1.1	2.0	35.0	2938
3x 120 SM	1.2	2.1	38.5	3672
3x 150 SM	1.4	2.3	43.0	4538
3x 185 SM	1.6	2.4	47.9	5650
3x 240 SM	1.7	2.6	53.7	7354
3x 300 SM	1.8	2.7	59.4	9127

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less

○ : Solid circular conductor

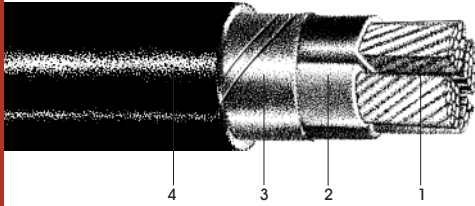
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)	Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3 x 1.5 RE	15.43	0.087	21.47	3 x 16 RM	1.47	0.081	2.12
3 x 1.5 RM	15.43	0.103	21.49	3 x 25 RM	0.927	0.081	1.37
3 x 2.5 RE	9.45	0.08	13.18	3 x 35 RM	0.669	0.079	1.01
3 x 2.5 RM	9.45	0.095	13.19	3 x 50 SM	0.494	0.075	0.76
3 x 4 RE	5.88	0.075	8.23	3 x 70 SM	0.343	0.075	0.55
3 x 4 RM	5.88	0.09	8.24	3 x 95 SM	0.247	0.072	0.42
3 x 6 RE	3.93	0.07	5.52	3 x 120 SM	0.197	0.072	0.35
3 x 6 RM	3.93	0.087	5.54	3 x 150 SM	0.16	0.072	0.30
3 x 10 RE	2.33	0.065	3.30	3 x 185 SM	0.129	0.072	0.25
3 x 10 RM	2.33	0.083	3.31	3 x 240 SM	0.0996	0.071	0.21
				3 x 300 SM	0.081	0.071	0.19

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Cu/XLPE/PVC

**Description:**

Unarmoured 3½ core cable with copper conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness		Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
	PH mm	N mm			
3x 50 +25 SM	1.0	0.9	1.8	29.5	1813
3x 70 +35 SM	1.1	0.9	2.0	34.6	2556
3x 95 +50 SM	1.1	1.0	2.1	38.8	3448
3x 120 +70 SM	1.2	1.1	2.3	43.1	4402
3x 150 +70 SM	1.4	1.1	2.4	47.9	5263
3x 185 +95 SM	1.6	1.1	2.6	53.3	6648
3x 240 +120 SM	1.7	1.2	2.8	60.2	8598
3x 300 +150 SM	1.8	1.4	3.0	66.5	10680

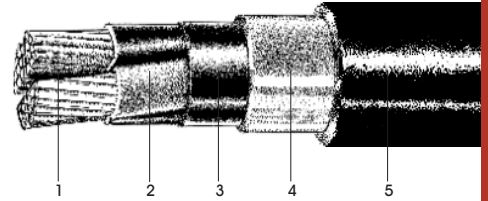
1-Stranded Shaped Conductor 2-XLPE Insulation 3-Taped PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C**Electrical Data**

Number of cores						AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	50	SM	+	25 RM	0.494	0.083	0.77
3	x	70	SM	+	35 RM	0.343	0.082	0.56
3	x	95	SM	+	50 SM	0.247	0.079	0.42
3	x	120	SM	+	70 SM	0.197	0.079	0.36
3	x	150	SM	+	70 SM	0.16	0.08	0.30
3	x	185	SM	+	95 SM	0.1286	0.08	0.26
3	x	240	SM	+	120 SM	0.0991	0.079	0.22
3	x	300	SM	+	150 SM	0.0803	0.078	0.19

**Description:**

Unarmoured 3½ core cable, lead sheathed with copper conductor & XLPE insulation.



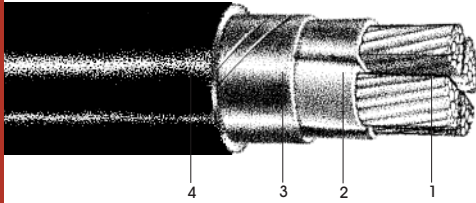
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH N mm mm		Lead Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 +25 SM	1.0	0.9	1.3	2.0	34.9	3377
3x 70 +35 SM	1.1	0.9	1.5	2.1	40.6	4676
3x 95 +50 SM	1.1	1.0	1.6	2.3	45.3	5979
3x 120 +70 SM	1.2	1.1	1.7	2.4	50.1	7407
3x 150 +70 SM	1.4	1.1	1.8	2.6	55.2	8787
3x 185 +95 SM	1.6	1.1	2.0	2.7	61.2	10910
3x 240+120 SM	1.7	1.2	2.1	3.0	68.8	13728
3x 300+150 SM	1.8	1.4	2.3	3.2	75.5	16802

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Lead Sheath 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores							AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	50	SM	+	25	RM	0.494	0.083	0.77
3	x	70	SM	+	35	RM	0.343	0.082	0.56
3	x	95	SM	+	50	SM	0.247	0.079	0.42
3	x	120	SM	+	70	SM	0.197	0.079	0.36
3	x	150	SM	+	70	SM	0.16	0.08	0.30
3	x	185	SM	+	95	SM	0.1286	0.08	0.26
3	x	240	SM	+	120	SM	0.0991	0.079	0.22
3	x	300	SM	+	150	SM	0.0803	0.078	0.19



IEC 60502-1

Cu/XLPE/PVC

**Description:**

Unarmoured 4 core cable with copper conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 1.5 RM	0.7	1.8	13.7	243
4x 2.5 RM	0.7	1.8	14.6	300
4x 4 RM	0.7	1.8	16.1	392
4x 6 RM	0.7	1.8	17.1	490
4x 10 RM	0.7	1.8	19.6	703
4x 16 RM	0.7	1.8	21.3	944
4x 25 RM	0.9	1.8	25.2	1404
4x 35 RM	0.9	1.8	27.6	1826
4x 50 SM	1.0	1.8	29.5	2016
4x 70 SM	1.1	2.0	34.6	2862
4x 95 SM	1.1	2.1	38.8	3872
4x 120 SM	1.2	2.3	43.1	4863
4x 150 SM	1.4	2.4	47.9	5984
4x 185 SM	1.6	2.6	53.3	7477
4x 240 SM	1.7	2.8	60.2	9733
4x 300 SM	1.8	3.0	66.5	12115

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Taped PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

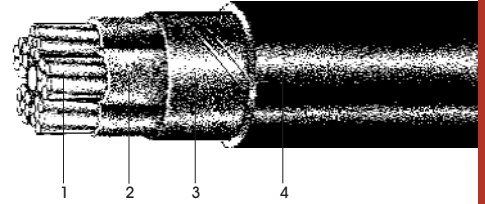
Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4	x	1.5	RM	15.43	0.111	21.50
4	x	2.5	RM	9.45	0.102	13.20
4	x	4	RM	5.88	0.097	8.25
4	x	6	RM	3.93	0.094	5.54
4	x	10	RM	2.33	0.09	3.32
4	x	16	RM	1.47	0.088	2.13
4	x	25	RM	0.927	0.089	1.38
4	x	35	RM	0.669	0.086	1.02
4	x	50	SM	0.494	0.083	0.77
4	x	70	SM	0.343	0.082	0.56
4	x	95	SM	0.247	0.079	0.42
4	x	120	SM	0.197	0.079	0.36
4	x	150	SM	0.16	0.08	0.30
4	x	185	SM	0.1286	0.08	0.26
4	x	240	SM	0.0991	0.079	0.22
4	x	300	SM	0.0803	0.078	0.19

Cu/XLPE/PVC

IEC 60502-1

**Description:**

Unarmoured 5 core cable with copper conductor &amp; XLPE insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5x1.5 RE	0.7	1.8	13.8	257
5x 5 RE	0.7	1.8	14.8	323
5x 4 RE	0.7	1.8	16.2	426
5x 6 RE	0.7	1.8	17.5	545
5x 10 RE	0.7	1.8	19.8	783
5x 16 RM	0.7	1.8	23.1	1125
5x 25 RM	0.9	1.8	27.5	1684
5x 35 RM	0.9	1.8	30.4	2202

1-Stranded Circular Conductor 2-XLPE Insulation 3-Extruded PVC Filler 4-PVC Sheathing

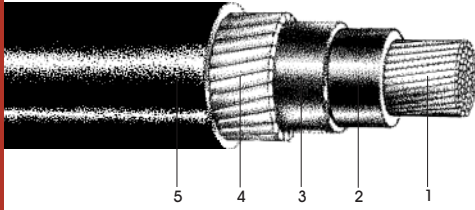
★ : Solid, circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 90°C**Electrical Data**

Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
5	x	1.5	RE	15.43	0.097	21.48
5	x	2.5	RE	9.45	0.09	13.19
5	x	4	RE	5.88	0.085	8.24
5	x	6	RE	3.93	0.08	5.53
5	x	10	RE	2.33	0.075	3.31
5	x	16	RM	1.47	0.091	2.13
5	x	25	RM	0.927	0.091	1.38
5	x	35	RM	0.668	0.089	1.02

0.6/1 kV

LOW VOLTAGE CABLES





IEC 60502-1

Cu/XLPE/Bd/AWA/PVC

**Description:**

Wire armoured single core cable with copper conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 16 RM	0.7	1.60	1.8	15.6	402
1x 25 RM	0.9	1.60	1.8	17.2	529
1x 35 RM	0.9	1.60	1.8	18.2	641
1x 50 RM	1.0	1.60	1.8	19.7	792
1x 70 RM	1.1	1.60	1.8	21.6	1032
1x 95 RM	1.1	1.60	1.8	23.3	1307
1x 120 RM	1.2	1.60	1.8	25.1	1573
1x 150 RM	1.4	1.60	1.8	26.9	1878
1x 185 RM	1.6	1.60	1.8	29.0	2270
1x 240 RM	1.7	1.60	1.9	32.1	2872
1x 300 RM	1.8	1.60	1.9	34.2	3475
1x 400 RM	2.0	2.00	2.1	39.6	4502
1x 500 RM	2.2	2.00	2.2	43.7	5642
1x 630 RM	2.4	2.00	2.3	47.2	7072

1-Stranded Circular Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Aluminium Wire Armour 5-PVC Sheathing

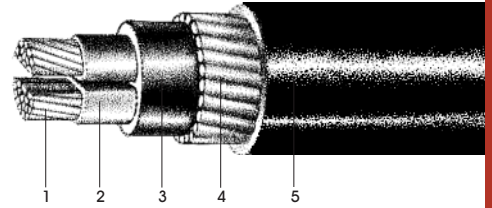
★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mV.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 16 RM	1.47	1.47	0.143	0.261	2.19	2.31
1 x 25 RM	0.927	0.927	0.135	0.248	1.42	1.54
1 x 35 RM	0.668	0.668	0.129	0.239	1.06	1.17
1 x 50 RM	0.494	0.494	0.12	0.227	0.81	0.92
1 x 70 RM	0.342	0.342	0.114	0.217	0.59	0.70
1 x 95 RM	0.247	0.246	0.109	0.208	0.46	0.56
1 x 120 RM	0.196	0.196	0.105	0.201	0.38	0.48
1 x 150 RM	0.159	0.159	0.103	0.196	0.33	0.42
1 x 185 RM	0.1278	0.1271	0.100	0.19	0.28	0.37
1 x 240 RM	0.0981	0.0971	0.097	0.183	0.24	0.32
1 x 300 RM	0.0792	0.0778	0.095	0.178	0.21	0.29
1 x 400 RM	0.0632	0.0614	0.093	0.171	0.18	0.26
1 x 500 RM	0.0509	0.0486	0.09	0.165	0.16	0.24
1 x 630 RM	0.0414	0.0386	0.089	0.16	0.15	0.22

**Description:**

Wire armoured 2 core cable with copper conductor & XLPE insulation.



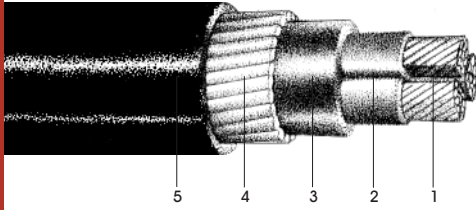
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 1.5 RM	0.7	0.80	1.8	14.0	341
2x 2.5 RM	0.7	0.80	1.8	14.8	390
2x 4 RM	0.7	0.80	1.8	16.0	464
2x 6 RM	0.7	0.80	1.8	16.8	533
2x 10 RM	0.7	1.25	1.8	19.8	835
2x 16 RM	0.7	1.25	1.8	21.2	1002
2x 25 RM	0.9	1.60	1.8	25.2	1512
2x 35 RM	0.9	1.60	1.8	27.2	1805
2x 50 SM	1.0	2.00	1.9	30.2	2174
2x 70 SM	1.1	2.00	2.0	33.9	2784
2x 95 SM	1.1	2.00	2.1	37.8	3506
2x 120 SM	1.2	2.00	2.2	41.0	4163
2x 150 SM	1.4	2.00	2.3	44.7	4902
2x 185 SM	1.6	2.50	2.5	50.5	6393
2x 240 SM	1.7	2.50	2.7	55.7	7810
2x 300 SM	1.8	2.50	2.8	61.1	9381

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance(Ohm/km)	REACTANCE(Ohm/km)	Voltage Drop(mV.A/m)
2 x 1.5 RM	15.43	0.103	24.81
2 x 2.5 RM	9.45	0.095	15.23
2 x 4 RM	5.88	0.09	9.52
2 x 6 RM	3.93	0.087	6.39
2 x 10 RM	2.33	0.083	3.83
2 x 16 RM	1.47	0.081	2.45
2 x 25 RM	0.927	0.081	1.58
2 x 35 RM	0.668	0.079	1.16
2 x 50 SM	0.494	0.075	0.88
2 x 70 SM	0.342	0.075	0.64
2 x 95 SM	0.247	0.072	0.48
2 x 120 SM	0.196	0.072	0.40
2 x 150 SM	0.16	0.072	0.34
2 x 185 SM	0.1283	0.072	0.29
2 x 240 SM	0.0987	0.071	0.24
2 x 300 SM	0.0799	0.071	0.21



IEC 60502-1

Cu/XLPE/Bd/SWA/PVC

**Description:**

Wire armoured 3 core cable with copper conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 1.5 RM	0.7	0.8	1.8	14.5	366
3x 2.5 RM	0.7	0.8	1.8	15.3	423
3x 4 RM	0.7	0.8	1.8	16.6	515
3x 6 RM	0.7	0.8	1.8	17.5	607
3x 10 RM	0.7	1.25	1.8	20.7	955
3x 16 RM	0.7	1.25	1.8	22.2	1180
3x 25 RM	0.9	1.6	1.8	26.4	1772
3x 35 RM	0.9	1.6	1.8	28.6	2166
3x 50 SM	1.0	2.0	1.9	33.3	2777
3x 70 SM	1.1	2.0	2.0	37.6	3589
3x 95 SM	1.1	2.0	2.2	42.3	4627
3x 120 SM	1.2	2.0	2.3	45.8	5520
3x 150 SM	1.4	2.5	2.5	51.8	7087
3x 185 SM	1.6	2.5	2.6	56.9	8487
3x 240 SM	1.7	2.5	2.8	63.2	10603
3x 300 SM	1.8	2.5	3.0	69.0	12710

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

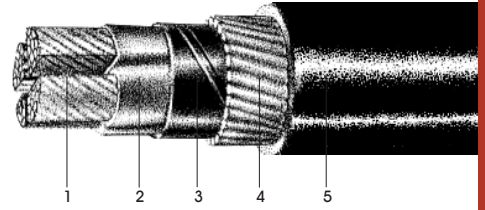
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3 x 1.5 RM	15.43	0.103	21.49
3 x 2.5 RM	9.45	0.095	13.19
3 x 4 RM	5.88	0.09	8.24
3 x 6 RM	3.93	0.087	5.54
3 x 10 RM	2.33	0.083	3.31
3 x 16 RM	1.47	0.081	2.12
3 x 25 RM	0.927	0.081	1.37
3 x 35 RM	0.669	0.079	1.01
3 x 50 SM	0.494	0.075	0.76
3 x 70 SM	0.343	0.075	0.55
3 x 95 SM	0.247	0.072	0.42
3 x 120 SM	0.197	0.072	0.35
3 x 150 SM	0.16	0.072	0.30
3 x 185 SM	0.129	0.072	0.25
3 x 240 SM	0.0996	0.071	0.21
3 x 300 SM	0.081	0.071	0.19

Cu/XLPE/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured 3½ core cable with copper conductor &amp; XLPE insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH mm N mm		Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50 +25 SM	1.0	0.9	2.0	2.0	36.3	3164
3x 70 +35 SM	1.1	0.9	2.0	2.1	41.6	4171
3x 95 +50 SM	1.1	1.0	2.0	2.3	46.1	5269
3x 120 +70 SM	1.2	1.1	2.5	2.5	51.9	6914
3x 150 +70 SM	1.4	1.1	2.5	2.6	56.9	8057
3x 185 +95 SM	1.6	1.1	2.5	2.8	62.4	9733
3x 240+120 SM	1.7	1.2	2.5	3.0	69.6	12137
3x 300+150 SM	1.8	1.4 <sub>s</sub>	2.5	3.2	75.9	14565

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

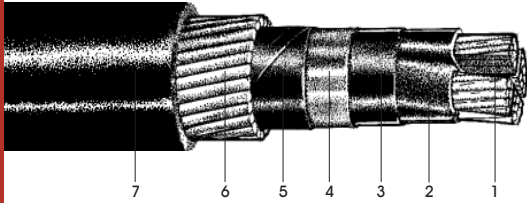
★ : Circular conductor for cross section of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores						AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	50	SM	+	25 RM	0.494	0.083	0.77
3	x	70	SM	+	35 RM	0.343	0.082	0.56
3	x	95	SM	+	50 SM	0.247	0.079	0.42
3	x	120	SM	+	70 SM	0.197	0.079	0.36
3	x	150	SM	+	70 SM	0.16	0.08	0.30
3	x	185	SM	+	95 SM	0.1286	0.08	0.26
3	x	240	SM	+	120 SM	0.0991	0.079	0.22
3	x	300	SM	+	150 SM	0.0803	0.078	0.19

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1 Cu/XLPE/Bd/Lsh/Bd/SWA/PVC

★★

**Description:**

Wire armoured 3½ core cable, lead sheath with copper conductor & XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness		Lead Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
	PH mm	N mm					
3x 50+25 SM	1.0	0.9	1.2	2.00	2.2	42.2	5001
3x 70+35 SM	1.1	0.9	1.2	2.00	2.3	47.9	6542
3x 95+50 SM	1.1	1.0	1.3	2.50	2.5	53.8	8547
3x 120+70 SM	1.2	1.1	1.4	2.50	2.7	59.3	10260
3x 150+70 SM	1.4	1.1	1.5	2.50	2.9	64.8	11992
3x 185+95 SM	1.6	1.1	1.6	2.50	3.0	70.7	14435
3x240+120 SM	1.7	1.2	1.7	2.50	3.2	78.4	17683
3x300+150 SM	1.8	1.4	1.8	3.15	3.5	86.9	22198

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Lead Sheath 5-Extruded PVC Bedding 6-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less

★★: Single & other multi core are also available

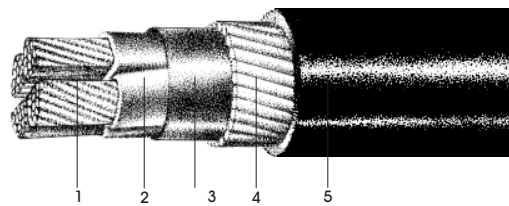
Maximum conductor temperature: 90°C

## Electrical Data

Number of cores						AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	50	SM	+	25 RM	0.494	0.083	0.77
3	x	70	SM	+	35 RM	0.343	0.082	0.56
3	x	95	SM	+	50 SM	0.247	0.079	0.42
3	x	120	SM	+	70 SM	0.197	0.079	0.36
3	x	150	SM	+	70 SM	0.16	0.08	0.30
3	x	185	SM	+	95 SM	0.1286	0.08	0.26
3	x	240	SM	+	120 SM	0.0991	0.079	0.22
3	x	300	SM	+	150 SM	0.0803	0.078	0.19

**Description:**

Wire armoured 4 core cable with copper conductor & XLPE insulation.



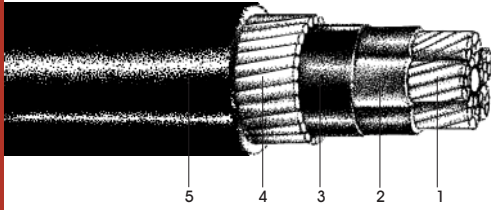
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 1.5 RM	0.7	0.80	1.8	15.3	408
4x 2.5 RM	0.7	0.80	1.8	16.2	479
4x 4 RM	0.7	0.80	1.8	17.7	594
4x 6 RM	0.7	1.25	1.8	19.7	836
4x 10 RM	0.7	1.25	1.8	22.1	1105
4x 16 RM	0.7	1.60	1.8	24.5	1520
4x 25 RM	0.9	1.60	1.8	28.4	2102
4x 35 RM	0.9	2.00	1.9	32.1	2807
4x 50 SM	1.0	2.00	2.0	36.3	3368
4x 70 SM	1.1	2.00	2.1	41.6	4477
4x 95 SM	1.1	2.00	2.3	46.1	5693
4x 120 SM	1.2	2.50	2.5	51.9	7375
4x 150 SM	1.4	2.50	2.6	56.9	8778
4x 185 SM	1.6	2.50	2.8	62.4	10562
4x 240 SM	1.7	2.50	3.0	69.6	13273
4x 300 SM	1.8	2.50	3.2	75.9	16000

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4 x 1.5 RM	15.43	0.111	0.15
4 x 2.5 RM	9.45	0.102	0.14
4 x 4 RM	5.88	0.097	0.13
4 x 6 RM	3.93	0.094	0.13
4 x 10 RM	2.33	0.09	0.12
4 x 16 RM	1.47	0.088	0.12
4 x 25 RM	0.927	0.089	0.12
4 x 35 RM	0.669	0.086	0.12
4 x 50 SM	0.494	0.083	0.12
4 x 70 SM	0.343	0.082	0.11
4 x 95 SM	0.247	0.079	0.11
4 x 120 SM	0.197	0.079	0.11
4 x 150 SM	0.16	0.08	0.11
4 x 185 SM	0.1286	0.08	0.11
4 x 240 SM	0.0991	0.079	0.11
4 x 300 SM	0.0803	0.078	0.11



IEC 60502-1

Cu/XLPE/Bd/SWA/PVC

**Description:**

Wire armoured 5 core cable with copper conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5x 1.5 RE	0.7	0.80	1.8	15.4	425
5x 2.5 RE	0.7	0.80	1.8	16.4	507
5x 4 RE	0.7	1.25	1.8	18.7	754
5x 6 RE	0.7	1.25	1.8	20.1	901
5x 10 RE	0.7	1.25	1.8	22.3	1195
5x 16 RM	0.7	1.60	1.8	26.3	1765
5x 25 RM	0.9	2.00	1.9	32.0	2668
5x 35 RM	0.9	2.00	2.0	34.9	3299

1-Stranded Circular Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
 Maximum conductor temperature: 90°C

**Electrical Data**

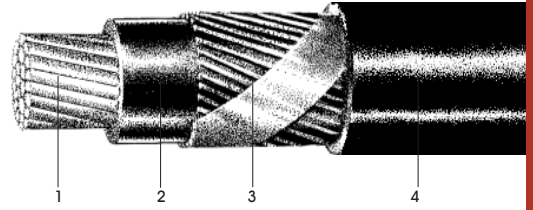
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
5 x 1.5 RE	15.43	0.114	0.16
5 x 2.5 RE	9.45	0.105	0.15
5 x 4 RE	5.88	0.100	0.14
5 x 6 RE	3.93	0.097	0.13
5 x 10 RE	2.33	0.093	0.13
5 x 16 RM	1.47	0.091	0.13
5 x 25 RM	0.927	0.091	0.13
5 x 35 RM	0.668	0.089	0.12

Cu/PVC/CWS/PVC

IEC 60502-1

**Description:**

Screened single core cable with copper conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 1.5 /1.5 RE	0.8	1.8	8.4	99
1x 2.5 /2.5 RE	0.8	1.8	8.8	113
1x 4 /4 RE	1.0	1.8	9.7	153
1x 6 /6 RE	1.0	1.8	10.2	195
1x 10 /10 RE	1.0	1.8	11.0	278
1x 16 /16 RM	1.0	1.8	13.2	408
1x 25 /25 RM	1.2	1.8	14.8	603
1x 35 /35 RM	1.2	1.8	16.4	805

1-Stranded Circular Conductor 2-PVC Insulation 3-Copper Wire Screen 4-PVC Sheathing

- ★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 70°C

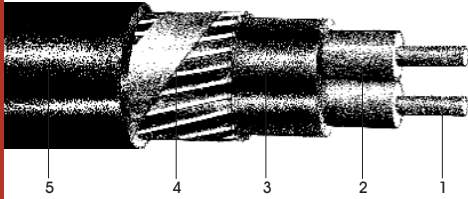
**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mV.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 1.5 / 1.5 RE	14.48	14.48	0.168	0.321	20.24	20.40
1 x 2.5 / 2.5 RE	8.87	8.87	0.155	0.305	12.45	12.61
1 x 4 / 4 RE	5.52	5.52	0.147	0.291	7.80	7.95
1 x 6 / 6 RE	3.69	3.69	0.14	0.282	5.26	5.41
1 x 10 / 10 RE	2.19	2.19	0.129	0.267	3.17	3.31
1 x 16 / 16 RM	1.38	1.38	0.129	0.259	2.05	2.18
1 x 25 / 25 RM	0.87	0.87	0.119	0.245	1.33	1.46
1 x 35 / 35 RM	0.627	0.627	0.113	0.236	0.99	1.11

0.6/1 kV

LOW VOLTAGE CABLES





IEC 60502-1

Cu/PVC/Bd/CWS/PVC

**Description:**

Screened 2 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 1.5 /1.5 RE	0.8	1.8	13.6	226
2x 2.5 /2.5 RE	0.8	1.8	14.4	264
2x 4 /4 RE	1.0	1.8	16.2	354
2x 6 /6 RE	1.0	1.8	17.2	437
2x 10 /10 RE	1.0	1.8	18.8	595
2x 16 /16 RM	1.0	1.8	21.3	831
2x 25 /25 RM	1.2	1.8	24.6	1128
2x 35 /35 RM	1.2	1.8	26.6	1381

1-Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-Copper Wire Screen 5-PVC Sheathing

★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 70°C

**Electrical Data**

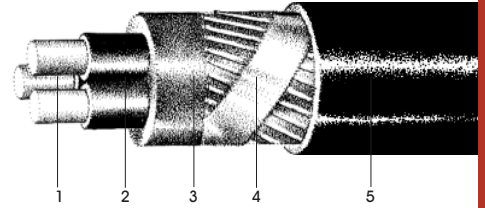
Number of cores					AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
2	x	1.5	/	1.5 RE	14.48	0.107	23.30
2	x	2.5	/	2.5 RE	8.87	0.098	14.31
2	x	4	/	4 RE	5.52	0.099	8.95
2	x	6	/	6 RE	3.69	0.095	6.02
2	x	10	/	10 RE	2.19	0.089	3.61
2	x	16	/	16 RM	1.38	0.087	2.31
2	x	25	/	25 RM	0.87	0.086	1.50
2	x	35	/	35 RM	0.627	0.083	1.10

Cu/PVC/Bd/CWS/PVC

IEC 60502-1

**Description:**

Screened 3 core cable with copper conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 1.5 /1.5 RE	0.8	1.8	14.1	251
3x 2.5 /2.5 RE	0.8	1.8	14.9	297
3x 4 /4 RE	1.0	1.8	16.9	407
3x 6 /6 RE	1.0	1.8	17.9	506
3x 10 /10 RE	1.0	1.8	19.8	705
3x 16 /16 RM	1.0	1.8	22.4	993
3x 25 /25 RM	1.2	1.8	25.9	1375
3x 35 /35 RM	1.2	1.8	28.1	1715

1-Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-Copper Wire Screen 5-PVC Sheathing

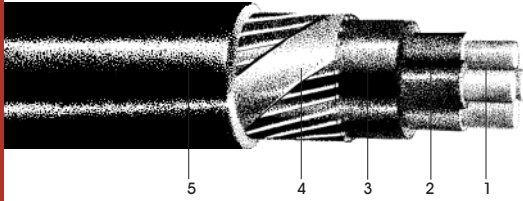
★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
 Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores					AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	1.5	/	1.5 RE	14.48	0.107	20.17
3	x	2.5	/	2.5 RE	8.87	0.098	12.39
3	x	4	/	4 RE	5.52	0.099	7.75
3	x	6	/	6 RE	3.69	0.095	5.21
3	x	10	/	10 RE	2.19	0.089	3.13
3	x	16	/	16 RM	1.38	0.087	2.00
3	x	25	/	25 RM	0.87	0.086	1.29
3	x	35	/	35 RM	0.627	0.083	0.96

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Cu/PVC/Bd/CWS/PVC

**Description:**

Screened 4 core cable with copper conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 1.5 /1.5 RE	0.8	1.8	14.8	281
4x 2.5 /2.5 RE	0.8	1.8	15.8	344
4x 4 /4 RE	1.0	1.8	18.0	473
4x 6 /6 RE	1.0	1.8	19.3	596
4x 10 /10 RE	1.0	1.8	21.2	833
4x 16 /16 RM	1.0	1.8	24.2	1185
4x 25 /25 RM	1.2	1.8	28.1	1667
4x 35 /35 RM	1.2	1.8	30.7	2099

1-Stranded Circular Conductor 2-PVC Insulation 3-PVC Extruded Filler 4-Copper Wire Screen 5-PVC Sheathing

- ★ : Solid circular conductor for cross section of less than 16 mm<sup>2</sup>  
Maximum Conductor temperature: 70°C

**Electrical Data**

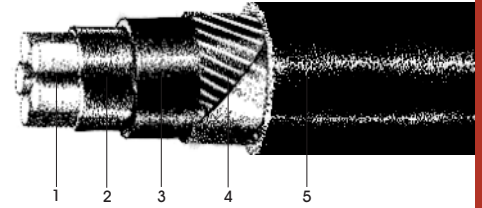
Number of cores		AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4	x 1.5 / 1.5 RE	14.48	0.115	20.18
4	x 2.5 / 2.5 RE	8.87	0.106	12.40
4	x 4 / 4 RE	5.52	0.106	7.76
4	x 6 / 6 RE	3.69	0.102	5.22
4	x 10 / 10 RE	2.19	0.097	3.14
4	x 16 / 16 RM	1.38	0.094	2.01
4	x 25 / 25 RM	0.87	0.093	1.30
4	x 35 / 35 RM	0.627	0.09	0.96

Cu/PVC/Bd/CWS/PVC

IEC 60502-1

**Description:**

Screened 5 core cable with copper conductor &amp; PVC insulation.



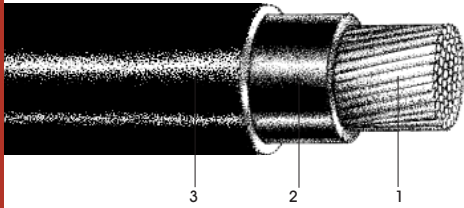
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5x 1.5 /1.5 RE	0.8	1.8	15.7	319
5x 2.5 /2.5 RE	0.8	1.8	16.8	394
5x 4 /4 RE	1.0	1.8	19.3	542
5x 6 /6 RE	1.0	1.8	20.7	689
5x 10 /10 RE	1.0	1.8	22.9	973
5x 16 /16. RM	1.0	1.8	26.2	1385
5x 25 /25 RM	1.2	1.8	30.7	1967
5x 35 /35 RM	1.2	1.9	33.8	2519

1-Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-Copper Wire Screen 5-PVC Sheathing

★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
 Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
5 x 1.5 / 1.5 RE	14.48	0.117	20.19
5 x 2.5 / 2.5 RE	8.87	0.109	12.40
5 x 4 / 4 RE	5.52	0.109	7.76
5 x 6 / 6 RE	3.69	0.105	5.22
5 x 10 / 10 RE	2.19	0.100	3.14
5 x 16 / 16 RM	1.38	0.097	2.01
5 x 25 / 25 RM	0.87	0.096	1.31
5 x 35 / 35 RM	0.627	0.093	0.97



IEC 60502-1

Al/PVC/PVC

**Description:**

Unarmoured single core cable with aluminium conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM	1.2	1.4	11.4	169
1x 35 RM	1.2	1.4	12.5	208
1x 50 RM	1.4	1.4	14.0	265
1x 70 RM	1.4	1.4	15.7	342
1x 95 RM	1.6	1.5	18.0	455
1x 120 RM	1.6	1.5	19.6	542
1x 150 RM	1.8	1.6	21.5	663
1x 185 RM	2.0	1.7	23.9	821
1x 240 RM	2.2	1.8	26.9	1039
1x 300 RM	2.4	1.9	29.9	1283
1x 400 RM	2.6	2.0	33.4	1614
1x 500 RM	2.8	2.1	36.8	1989
1x 630 RM	2.8	2.2	40.6	2462

1-Stranded Circular Conductor 2-PVC Insulation 3-PVC Sheathing

★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
 Maximum conductor temperature: 70°C

**Electrical Data**

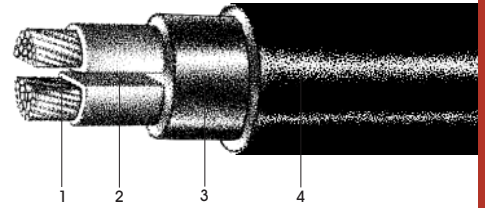
Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mv.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 25 RM	1.442	1.442	0.106	0.244	2.11	2.25
1 x 35 RM	1.043	1.043	0.101	0.234	1.55	1.69
1 x 50 RM	0.77	0.77	0.099	0.226	1.17	1.30
1 x 70 RM	0.533	0.532	0.092	0.213	0.83	0.96
1 x 95 RM	0.385	0.385	0.09	0.205	0.63	0.75
1 x 120 RM	0.305	0.304	0.88	0.198	1.34	0.63
1 x 150 RM	0.248	0.248	0.088	0.194	0.44	0.55
1 x 185 RM	0.1983	0.1975	0.086	0.187	0.36	0.47
1 x 240 RM	0.1518	0.1508	0.085	0.18	0.30	0.40
1 x 300 RM	0.1222	0.1209	0.085	0.175	0.26	0.35
1 x 400 RM	0.0962	0.0945	0.083	0.168	0.22	0.31
1 x 500 RM	0.0762	0.074	0.082	0.163	0.19	0.27
1 x 630 RM	0.0609	0.058	0.08	0.157	0.17	0.24

Al/PVC/PVC

IEC 60502-1

**Description:**

Unarmoured 2 core cable with aluminium conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 25 RM	1.2	1.8	23.0	677
2x 35 RM	1.2	1.8	25.2	825
2x 50 SM	1.4	1.8	25.1	555
2x 70 SM	1.4	1.9	28.5	717
2x 95 SM	1.6	2.0	32.8	952
2x 120 SM	1.6	2.1	35.5	1154
2x 150 SM	1.8	2.2	39.2	1408
2x 185 SM	2.0	2.4	43.5	1754
2x 240 SM	2.2	2.5	48.7	2208
2x 300 SM	2.4	2.7	54.1	2751

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing

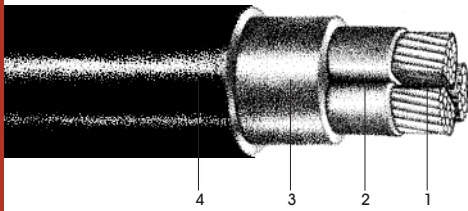
- ★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
2 x 25 RM	1.442	0.086	2.41
2 x 35 RM	1.043	0.083	1.77
2 x 50 SM	0.77	0.084	1.33
2 x 70 SM	0.533	0.078	0.95
2 x 95 SM	0.385	0.078	0.71
2 x 120 SM	0.305	0.076	0.58
2 x 150 SM	0.248	0.076	0.49
2 x 185 SM	0.1982	0.075	0.41
2 x 240 SM	0.1517	0.074	0.33
2 x 300 SM	0.1221	0.074	0.28

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Al/PVC/PVC

**Description:**

Unarmoured 3 core cable with aluminium conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM	1.2	1.8	24.3	765
3x 35 RM	1.2	1.8	26.7	940
3x 50 SM	1.4	1.8	28.4	767
3x 70 SM	1.4	1.9	32.4	1006
3x 95 SM	1.6	2.1	37.3	1358
3x 120 SM	1.6	2.2	40.6	1646
3x 150 SM	1.8	2.3	44.8	2013
3x 185 SM	2.0	2.5	49.8	2507
3x 240 SM	2.2	2.7	56.1	3188
3x 300 SM	2.4	2.8	62.2	3939

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
 Maximum conductor temperature: 70°C

**Electrical Data**

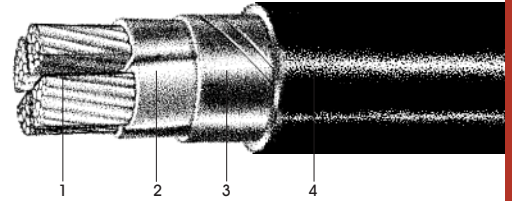
Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
3	x	25	RM	1.442	0.086	2.09
3	x	35	RM	1.043	0.083	1.53
3	x	50	SM	0.771	0.084	1.16
3	x	70	SM	0.533	0.078	0.82
3	x	95	SM	0.385	0.078	0.61
3	x	120	SM	0.305	0.076	0.50
3	x	150	SM	0.249	0.076	0.42
3	x	185	SM	0.1986	0.075	0.35
3	x	240	SM	0.1523	0.074	0.29
3	x	300	SM	0.1228	0.074	0.25

Al/PVC/PVC

IEC 60502-1

**Description:**

Unarmoured 4 core cable with aluminium conductor & PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 25 RM	1.2	1.8	26.4	896
4x 35 RM	1.2	1.8	29.1	1108
4x 50 SM	1.4	1.9	31.8	996
4x 70 SM	1.4	2.0	36.1	1312
4x 95 SM	1.6	2.2	41.6	1769
4x 120 SM	1.6	2.3	45.2	2144
4x 150 SM	1.8	2.5	50.0	2646
4x 185 SM	2.0	2.6	55.3	3265
4x 240 SM	2.2	2.9	62.8	4179
4x 300 SM	2.4	3.1	69.7	5201

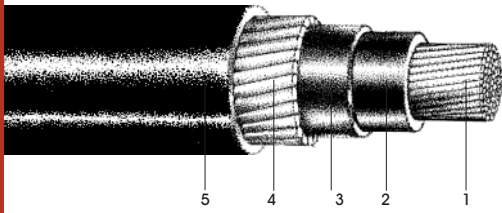
1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
4 x 25 RM	1.442	0.094	2.10
4 x 35 RM	1.043	0.09	1.54
4 x 50 SM	0.77	0.091	1.16
4 x 70 SM	0.533	0.085	0.83
4 x 95 SM	0.385	0.085	0.62
4 x 120 SM	0.305	0.083	0.51
4 x 150 SM	0.249	0.084	0.43
4 x 185 SM	0.1984	0.082	0.36
4 x 240 SM	0.152	0.082	0.30
4 x 300 SM	0.1224	0.081	0.25





IEC 60502-1

Al/PVC/Bd/AWA/PVC

**Description:**

Wire armoured single core cable with aluminium conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM	1.2	1.6	1.8	17.7	406
1x 35 RM	1.2	1.6	1.8	18.8	464
1x 50 RM	1.4	1.6	1.8	20.4	548
1x 70 RM	1.4	1.6	1.8	22.1	659
1x 95 RM	1.6	1.6	1.8	24.2	801
1x 120 RM	1.6	1.6	1.8	25.7	908
1x 150 RM	1.8	1.6	1.8	27.4	1053
1x 185 RM	2.0	1.6	1.8	29.8	1235
1x 240 RM	2.2	1.6	1.9	32.9	1499
1x 300 RM	2.4	2.0	2.0	36.5	1882
1x 400 RM	2.6	2.0	2.1	40.5	2311

1-Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Aluminium Wire Armour 5-PVC Sheathing

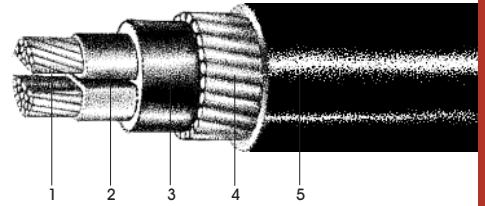
★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
 Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mv.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 25 RM	1.442	1.442	0.138	0.25	2.14	2.26
1 x 35 RM	1.043	1.043	0.131	0.24	1.58	1.69
1 x 50 RM	0.77	0.77	0.126	0.232	1.20	1.31
1 x 70 RM	0.533	0.532	0.116	0.218	0.86	0.96
1 x 95 RM	0.385	0.385	0.112	0.21	0.65	0.75
1 x 120 RM	0.305	0.304	0.108	0.203	0.53	0.63
1 x 150 RM	0.248	0.248	0.106	0.198	0.45	0.55
1 x 185 RM	0.1979	0.1975	0.102	0.191	0.38	0.47
1 x 240 RM	0.1514	0.1508	0.100	0.184	0.31	0.40
1 x 300 RM	0.1217	0.1209	0.098	0.179	0.27	0.35
1 x 400 RM	0.0956	0.0945	0.095	0.173	0.23	0.31

**Description:**

Wire armoured 2 core cable with aluminium conductor & PVC insulation.



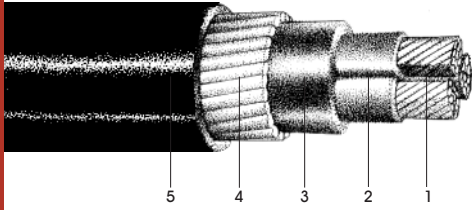
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 25 RM	1.2	1.6	1.8	26.2	1305
2x 35 RM	1.2	1.6	1.8	28.4	1512
2x 50 SM	1.4	2.0	1.9	31.8	1746
2x 70 SM	1.4	2.0	2.0	35.1	2063
2x 95 SM	1.6	2.0	2.2	40.1	2553
2x 120 SM	1.6	2.0	2.3	42.8	2884
2x 150 SM	1.8	2.5	2.4	47.5	3703
2x 185 SM	2.0	2.5	2.6	52.2	4399
2x 240 SM	2.2	2.5	2.8	58.0	5177
2x 300 SM	2.4	2.5	2.9	63.6	6076

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
2 x 25 RM	1.442	0.086	2.41
2 x 35 RM	1.043	0.083	1.77
2 x 50 SM	0.77	0.084	1.33
2 x 70 SM	0.533	0.078	0.95
2 x 95 SM	0.385	0.078	0.71
2 x 120 SM	0.305	0.076	0.58
2 x 150 SM	0.248	0.076	0.49
2 x 185 SM	0.1982	0.075	0.41
2 x 240 SM	0.1517	0.074	0.33
2 x 300 SM	0.1221	0.074	0.28



IEC 60502-1

Al/PVC/Bd/SWA/PVC

**Description:**

Wire armoured 3 core cable with aluminium conductor &amp; PVC insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM	1.2	1.6	1.8	27.5	1429
3x 35 RM	1.2	2.0	1.9	31.2	1891
3x 50 SM	1.4	2.0	2.0	35.3	2103
3x 70 SM	1.4	2.0	2.1	39.6	2568
3x 95 SM	1.6	2.0	2.2	44.4	3123
3x 120 SM	1.6	2.0	2.3	47.6	3566
3x 150 SM	1.8	2.5	2.5	53.6	4658
3x 185 SM	2.0	2.5	2.7	58.9	5443
3x 240 SM	2.2	2.5	2.9	65.6	6581
3x 300 SM	2.4	2.5	3.0	71.6	7680

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 70°C

**Electrical Data**

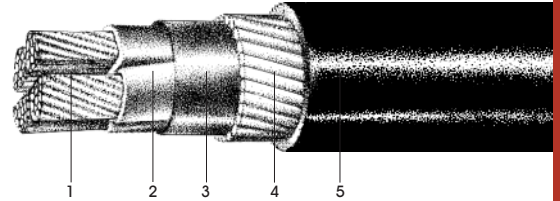
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
3 x 25 RM	1.442	0.086	2.09
3 x 35 RM	1.043	0.083	1.53
3 x 50 SM	0.771	0.084	1.16
3 x 70 SM	0.533	0.078	0.82
3 x 95 SM	0.385	0.078	0.61
3 x 120 SM	0.305	0.076	0.50
3 x 150 SM	0.249	0.076	0.42
3 x 185 SM	0.1986	0.075	0.35
3 x 240 SM	0.1523	0.074	0.29
3 x 300 SM	0.1228	0.074	0.25

Al/PVC/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured 4 core cable with aluminium conductor &amp; PVC insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 25 RM	1.2	2.0	1.8	30.6	1839
4x 35 RM	1.2	2.0	1.9	33.6	2161
4x 50 SM	1.4	2.0	2.1	39.0	2504
4x 70 SM	1.4	2.0	2.2	43.4	3032
4x 95 SM	1.6	2.5	2.4	49.9	4133
4x 120 SM	1.6	2.5	2.5	54.0	4792
4x 150 SM	1.8	2.5	2.7	59.1	5538
4x 185 SM	2.0	2.5	2.8	64.8	6551
4x 240 SM	2.2	2.5	3.1	72.2	7863
4x 300 SM	2.4	2.5	3.3	79.1	9276

1-Stranded Shaped Conductor 2-PVC Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less

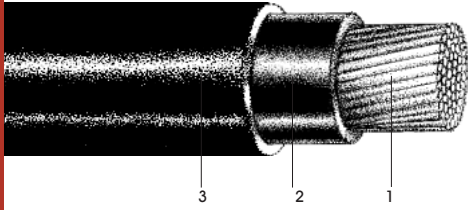
Maximum conductor temperature: 70°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
4 x 25 RM	1.442	0.094	2.10
4 x 35 RM	1.043	0.09	1.54
4 x 50 SM	0.77	0.091	1.16
4 x 70 SM	0.533	0.085	0.83
4 x 95 SM	0.385	0.085	0.62
4 x 120 SM	0.305	0.083	0.51
4 x 150 SM	0.249	0.084	0.43
4 x 185 SM	0.1984	0.082	0.36
4 x 240 SM	0.152	0.082	0.30
4 x 300 SM	0.1224	0.081	0.25

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Al/XLPE/PVC

**Description:**

Unarmoured single core cable with aluminium conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM	0.9	1.4	10.8	144
1x 35 RM	0.9	1.4	11.9	180
1x 50 RM	1.0	1.4	13.2	225
1x 70 RM	1.1	1.4	15.1	301
1x 95 RM	1.1	1.5	17.0	392
1x 120 RM	1.2	1.5	18.8	478
1x 150 RM	1.4	1.6	20.7	587
1x 185 RM	1.6	1.6	22.9	719
1x 240 RM	1.7	1.7	25.7	908
1x 300 RM	1.8	1.8	28.2	1121
1x 400 RM	2.0	1.9	32.0	1422
1x 500 RM	2.2	2.0	35.4	1766
1x 630 RM	2.4	2.2	39.8	2256

1-Stranded Circular Conductor 2-XLPE Insulation 3-PVC Sheathing

★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>  
Maximum conductor temperature: 90°C

**Electrical Data**

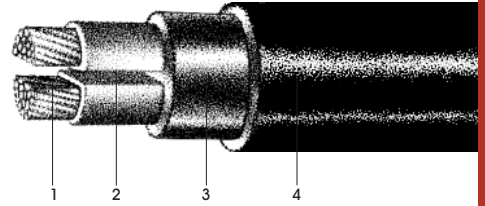
Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mv.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 25 RM	1.539	1.539	0.103	0.244	2.24	2.39
1 x 35 RM	1.113	1.113	0.098	0.234	1.64	1.79
1 x 50 RM	0.822	0.822	0.096	0.226	1.24	1.37
1 x 70 RM	0.568	0.568	0.089	0.213	0.88	1.01
1 x 95 RM	0.411	0.41	0.087	0.204	0.66	0.78
1 x 120 RM	0.325	0.325	0.086	0.198	0.54	0.66
1 x 150 RM	0.265	0.264	0.086	0.193	0.46	0.57
1 x 185 RM	0.2115	0.2107	0.083	0.186	0.38	0.49
1 x 240 RM	0.1619	0.1608	0.082	0.179	0.31	0.41
1 x 300 RM	0.1303	0.1289	0.081	0.174	0.26	0.36
1 x 400 RM	0.1025	0.1007	0.08	0.167	0.23	0.31
1 x 500 RM	0.0811	0.0788	0.079	0.162	0.19	0.28
1 x 630 RM	0.0646	0.0617	0.079	0.157	0.17	0.25

Al/XLPE/PVC

IEC 60502-1

**Description:**

Unarmoured 2 core cable with aluminium conductor & XLPE insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 25 RM	0.9	1.8	21.8	592
2x 35 RM	0.9	1.8	24.0	730
2x 50 SM	1.0	1.8	23.3	478
2x 70 SM	1.1	1.8	26.8	628
2x 95 SM	1.1	1.9	30.5	822
2x 120 SM	1.2	2.0	33.7	1018
2x 150 SM	1.4	2.2	37.5	1262
2x 185 SM	1.6	2.3	41.6	1557
2x 240 SM	1.7	2.5	46.7	1972
2x 300 SM	1.8	2.6	51.3	2423

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Filler 4-PVC Sheathing

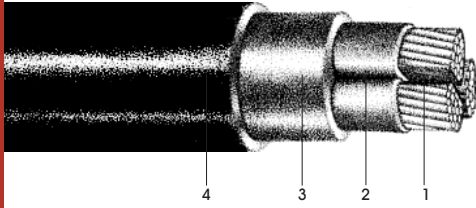
★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
2 x 25 RM	1.539	0.082	2.56
2 x 35 RM	1.113	0.079	1.88
2 x 50 SM	0.822	0.079	1.41
2 x 70 SM	0.568	0.075	1.00
2 x 95 SM	0.411	0.073	0.75
2 x 120 SM	0.325	0.073	0.61
2 x 150 SM	0.265	0.073	0.51
2 x 185 SM	0.2114	0.072	0.42
2 x 240 SM	0.1618	0.072	0.35
2 x 300 SM	0.1302	0.071	0.29

0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Al/XLPE/PVC

**Description:**

Unarmoured 3 core cable with aluminium conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM	0.9	1.8	23.0	661
3x 35 RM	0.9	1.8	25.4	823
3x 50 SM	1.0	1.8	26.5	658
3x 70 SM	1.1	1.9	31.0	895
3x 95 SM	1.1	2.0	34.8	1165
3x 120 SM	1.2	2.1	38.4	1445
3x 150 SM	1.4	2.3	42.8	1791
3x 185 SM	1.6	2.4	47.7	2215
3x 240 SM	1.7	2.6	53.4	2806
3x 300 SM	1.8	2.7	59.1	3458

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Filler 4-PVC Sheathing

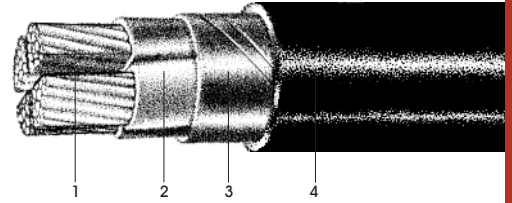
★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
 Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
3 x 25 RM	1.539	0.082	2.22
3 x 35 RM	1.113	0.079	1.62
3 x 50 SM	0.822	0.079	1.22
3 x 70 SM	0.569	0.075	0.87
3 x 95 SM	0.411	0.073	0.65
3 x 120 SM	0.325	0.073	0.53
3 x 150 SM	0.265	0.073	0.44
3 x 185 SM	0.2119	0.072	0.37
3 x 240 SM	0.1624	0.072	0.30
3 x 300 SM	0.1309	0.071	0.26

**Description:**

Unarmoured 4 core cable with aluminium conductor & XLPE insulation.



★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 25 RM	0.9	1.8	25.0	772
4x 35 RM	0.9	1.8	27.6	961
4x 50 SM	1.0	1.8	29.4	826
4x 70 SM	1.1	2.0	34.5	1159
4x 95 SM	1.1	2.1	38.7	1510
4x 120 SM	1.2	2.3	43.0	1894
4x 150 SM	1.4	2.4	47.6	2321
4x 185 SM	1.6	2.6	53.1	2898
4x 240 SM	1.7	2.8	59.9	3670
4x 300 SM	1.8	3.0	66.1	4555

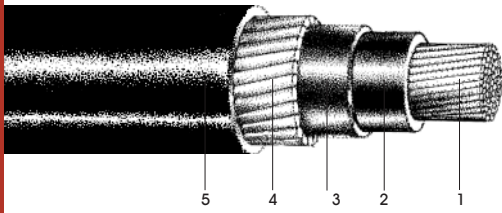
1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Filler 4-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mv.A/m)
4 x 25 RM	1.539	0.089	2.22
4 x 35 RM	1.113	0.086	1.63
4 x 50 SM	0.822	0.086	1.23
4 x 70 SM	0.568	0.082	0.87
4 x 95 SM	0.411	0.081	0.65
4 x 120 SM	0.325	0.08	0.53
4 x 150 SM	0.265	0.081	0.45
4 x 185 SM	0.2116	0.08	0.38
4 x 240 SM	0.162	0.079	0.31
4 x 300 SM	0.1304	0.078	0.26





IEC 60502-1

Al/XLPE/Bd/AWA/PVC

**Description:**

Wire armoured single core cable with aluminium conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 25 RM	0.9	1.6	1.8	17.1	372
1x 35 RM	0.9	1.6	1.8	18.2	427
1x 50 RM	1.0	1.6	1.8	19.6	498
1x 70 RM	1.1	1.6	1.8	21.5	604
1x 95 RM	1.1	1.6	1.8	23.2	721
1x 120 RM	1.2	1.6	1.8	24.9	835
1x 150 RM	1.4	1.6	1.8	26.6	962
1x 185 RM	1.6	1.6	1.8	28.8	1129
1x 240 RM	1.7	1.6	1.9	31.9	1364
1x 300 RM	1.8	1.6	1.9	34.2	1606
1x 400 RM	2.0	2.0	2.1	39.3	2119
1x 500 RM	2.2	2.0	2.2	42.8	2523
1x 630 RM	2.4	2.0	2.3	46.9	3077

1-Stranded Circular Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Aluminium Wire Armour 5-PVC Sheathing

★ : Solid circular conductor for cross sections of less than 16 mm<sup>2</sup>

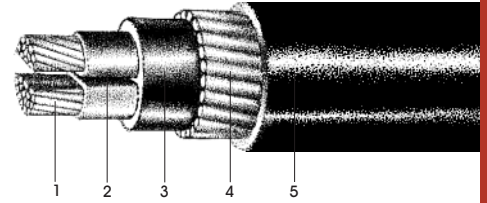
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop(mV.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 25 RM	1.539	1.539	0.136	0.249	2.27	2.39
1 x 35 RM	1.113	1.113	0.129	0.239	1.68	1.79
1 x 50 RM	0.822	0.822	0.124	0.231	1.27	1.38
1 x 70 RM	0.568	0.568	0.115	0.218	0.91	1.01
1 x 95 RM	0.411	0.41	0.109	0.209	0.68	0.79
1 x 120 RM	0.325	0.325	0.106	0.203	0.56	0.66
1 x 150 RM	0.265	0.264	0.104	0.198	0.48	0.57
1 x 185 RM	0.2111	0.2107	0.101	0.191	0.40	0.49
1 x 240 RM	0.1615	0.1608	0.098	0.184	0.33	0.41
1 x 300 RM	0.1298	0.1289	0.095	0.178	0.28	0.36
1 x 400 RM	0.1018	0.1007	0.093	0.172	0.24	0.32
1 x 500 RM	0.0803	0.0788	0.091	0.167	0.21	0.28
1 x 630 RM	0.0637	0.0617	0.089	0.161	0.18	0.25

**Description:**

Wire armoured 2 core cable with aluminium conductor & XLPE insulation.



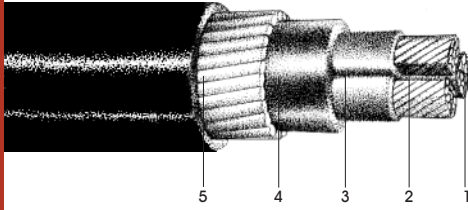
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 25 RM	0.9	1.6	1.8	25.0	1175
2x 35 RM	0.9	1.6	1.8	27.2	1372
2x 50 SM	1.0	2.0	1.9	30.0	1580
2x 70 SM	1.1	2.0	2.0	33.7	1899
2x 95 SM	1.1	2.0	2.1	37.7	2324
2x 120 SM	1.2	2.0	2.2	41.0	2680
2x 150 SM	1.4	2.0	2.3	44.5	3069
2x 185 SM	1.6	2.5	2.5	50.4	4102
2x 240 SM	1.7	2.5	2.7	55.5	4776
2x 300 SM	1.8	2.5	2.8	60.8	5596

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
2	x	25	RM	1.539	0.082	2.56
2	x	35	RM	1.113	0.079	1.88
2	x	50	SM	0.822	0.079	1.41
2	x	70	SM	0.568	0.075	1.00
2	x	95	SM	0.411	0.073	0.75
2	x	120	SM	0.325	0.073	0.61
2	x	150	SM	0.265	0.073	0.51
2	x	185	SM	0.2114	0.072	0.42
2	x	240	SM	0.1618	0.072	0.35
2	x	300	SM	0.1302	0.071	0.29



IEC 60502-1

Al/XLPE/Bd/SWA/PVC

**Description:**

Wire armoured 3 core cable with aluminium conductor &amp; XLPE insulation.

★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 25 RM	0.9	1.6	1.8	26.2	1296
3x 35 RM	0.9	1.6	1.8	28.6	1517
3x 50 SM	1.0	2.0	1.9	33.2	1889
3x 70 SM	1.1	2.0	2.0	37.5	2310
3x 95 SM	1.1	2.0	2.2	42.1	2852
3x 120 SM	1.2	2.0	2.3	45.7	3292
3x 150 SM	1.4	2.5	2.5	51.6	4339
3x 185 SM	1.6	2.5	2.6	56.7	5051
3x 240 SM	1.7	2.5	2.8	62.9	6065
3x 300 SM	1.8	2.5	3.0	68.7	7037

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

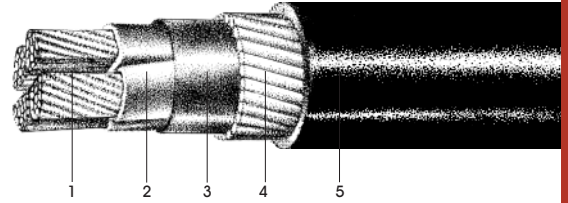
★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores			AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	25 RM	0.927	0.081	1.37
3	x	35 RM	0.669	0.079	1.01
3	x	50 SM	0.494	0.075	0.76
3	x	70 SM	0.343	0.075	0.55
3	x	95 SM	0.247	0.072	0.42
3	x	120 SM	0.197	0.072	0.35
3	x	150 SM	0.16	0.072	0.30
3	x	185 SM	0.129	0.072	0.25
3	x	240 SM	0.0996	0.071	0.21
3	x	300 SM	0.081	0.071	0.19

**Description:**

Wire armoured 4 core cable with aluminium conductor & XLPE insulation.



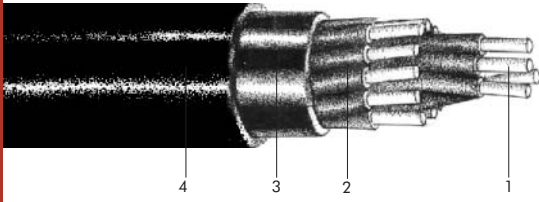
★ Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 25 RM	0.9	1.6	1.8	28.2	1455
4x 35 RM	0.9	2.0	1.9	32.1	1942
4x 50 SM	1.0	2.0	2.0	36.1	2176
4x 70 SM	1.1	2.0	2.1	41.5	2773
4x 95 SM	1.1	2.0	2.3	46.0	3330
4x 120 SM	1.2	2.5	2.5	51.8	4405
4x 150 SM	1.4	2.5	2.6	56.6	5113
4x 185 SM	1.6	2.5	2.8	62.2	5982
4x 240 SM	1.7	2.5	3.0	69.3	7207
4x 300 SM	1.8	2.5	3.2	75.5	8436

1-Stranded Shaped Conductor 2-XLPE Insulation 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing

★ : Circular conductor for cross sections of 35 mm<sup>2</sup> or less  
Maximum conductor temperature: 90°C

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4 x 25 RM	0.927	0.089	1.38
4 x 35 RM	0.669	0.086	1.02
4 x 50 SM	0.494	0.083	0.77
4 x 70 SM	0.343	0.082	0.56
4 x 95 SM	0.247	0.079	0.42
4 x 120 SM	0.197	0.079	0.36
4 x 150 SM	0.16	0.08	0.30
4 x 185 SM	0.1286	0.08	0.26
4 x 240 SM	0.0991	0.079	0.22
4 x 300 SM	0.0803	0.078	0.19



IEC 60502-1

Cu/PVC/PVC

**Description:**

Unarmoured control cable with copper conductor & PVC insulation.  
For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x 1.5 RE	0.8	1.8	14.3	278
7 x 1.5 RE	0.8	1.8	13.1	239
8 x 1.5 RE	0.8	1.8	14.5	272
10 x 1.5 RE	0.8	1.8	16.1	327
12 x 1.5 RE	0.8	1.8	16.6	373
16 x 1.5 RE	0.8	1.8	18.2	469
18 x 1.5 RE	0.8	1.8	19.2	519
20 x 1.5 RE	0.8	1.8	20.2	569
24 x 1.5 RE	0.8	1.8	22.2	669
30 x 1.5 RE	0.8	1.8	23.4	803
40 x 1.5 RE	0.8	1.8	26.2	1035
61 x 1.5 RE	0.8	1.9	31.7	1527

1-Solid Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Filler 4-PVC Sheathing.

Maximum conductor temperature: 70°C

Conductor cross-section of 1 and 2.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 14.48 (Ohm/km)
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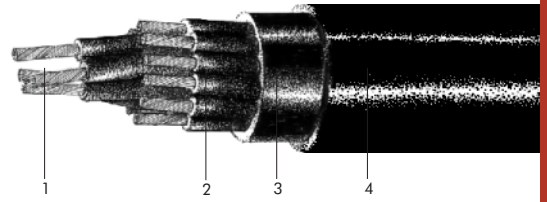


Cu/PVC/PVC

IEC 60502-1

**Description:**

Unarmoured control cable with copper conductor & PVC insulation.  
For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.8	1.8	16.2	373
7 x2.5 RM	0.8	1.8	15.2	338
8 x2.5 RM	0.8	1.8	16.9	385
10 x2.5 RM	0.8	1.8	18.9	466
12 x2.5 RM	0.8	1.8	19.6	536
16 x2.5 RM	0.8	1.8	21.6	682
18 x2.5 RM	0.8	1.8	22.7	756
20 x2.5 RM	0.8	1.8	23.9	831
24 x2.5 RM	0.8	1.8	26.4	981
30 x2.5 RM	0.8	1.8	27.9	1187
40 x2.5 RM	0.8	1.9	31.8	1553
61 x2.5 RM	0.8	2.1	38.4	2321

1-Stranded Circular Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Filler 4-PVC Sheathing.

Maximum conductor temperature: 70°C

Conductor cross-section of 1.5 mm<sup>2</sup> are also available.

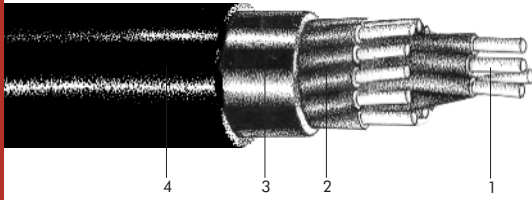
**Electrical Data**

AC resistance : 8.87 (Ohm/km)



0.6/1 kV

LOW VOLTAGE CABLES



IEC 60502-1

Cu/XLPE/PVC

**Description:**

Unarmoured control cable with copper conductor & XLPE insulation.  
For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x 1.5 RE	0.7	1.8	13.8	257
7 x 1.5 RE	0.7	1.8	12.5	215
8 x 1.5 RE	0.7	1.8	13.8	244
10 x 1.5 RE	0.7	1.8	15.3	293
12 x 1.5 RE	0.7	1.8	15.7	332
6 x 1.5 RE	0.7	1.8	17.3	417
18 x 1.5 RE	0.7	1.8	18.1	460
20 x 1.5 RE	0.7	1.8	19.0	504
24 x 1.5 RE	0.7	1.8	21.0	592
30 x 1.5 RE	0.7	1.8	22.1	708
40 x 1.5 RE	0.7	1.8	24.7	909
61 x 1.5 RE	0.7	1.9	29.9	1338

1-Solid Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Filler 4-PVC Sheathing.

Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 2.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 15.43 (Ohm/km)
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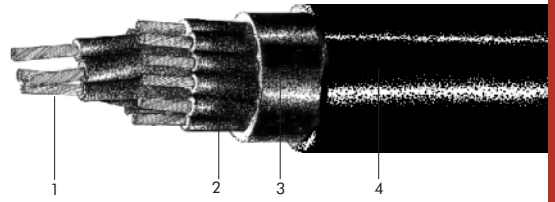


Cu/XLPE/PVC

IEC 60502-1

**Description:**

Unarmoured control cable with copper conductor & XLPE insulation.  
For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.7	1.8	15.7	347
7 x2.5 RM	0.7	1.8	14.6	308
8 x2.5 RM	0.7	1.8	16.2	350
10 x2.5 RM	0.7	1.8	18.1	424
12 x2.5 RM	0.7	1.8	18.7	486
16 x2.5 RM	0.7	1.8	20.6	616
18 x2.5 RM	0.7	1.8	21.7	683
20 x2.5 RM	0.7	1.8	22.9	750
24 x2.5 RM	0.7	1.8	25.2	884
30 x2.5 RM	0.7	1.8	26.6	1067
40 x2.5 RM	0.7	1.8	30.1	1381
61 x2.5 RM	0.7	2.0	36.4	2063

1-Stranded Circular Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Filler 4-PVC Sheathing.

Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

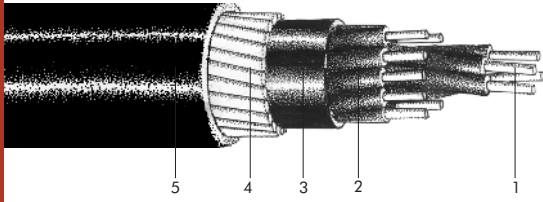
**Electrical Data**

AC resistance : 9.45 (Ohm/km)

0.6/1 kV

LOW VOLTAGE CABLES





IEC 60502-1

Cu/PVC/Bd/SWA/PVC

**Description:**

Wire armoured control cable with copper conductor & PVC insulation.  
For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x 1.5 RE	0.8	0.8	1.8	15.9	455
7 x 1.5 RE	0.8	0.8	1.8	16.9	505
8 x 1.5 RE	0.8	1.25	1.8	19.3	702
10 x 1.5 RE	0.8	1.25	1.8	20.9	795
12 x 1.5 RE	0.8	1.25	1.8	21.4	863
16 x 1.5 RE	0.8	1.25	1.8	23.0	1007
18 x 1.5 RE	0.8	1.6	1.8	24.7	1225
20 x 1.5 RE	0.8	1.6	1.8	25.7	1312
24 x 1.5 RE	0.8	1.6	1.8	27.7	1470
30 x 1.5 RE	0.8	2.0	1.8	29.9	1839
40 x 1.5 RE	0.8	2.0	1.9	33.0	2226
61 x 1.5 RE	0.8	2.0	2.1	39.0	3001

1-Solid Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing.

Maximum conductor temperature: 70°C

Conductor cross-section of 1 and 2.5 mm<sup>2</sup> are also available.

**Electrical Data**

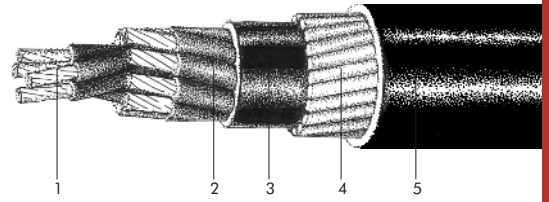
AC resistance : 14.48 (Ohm/km)
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Cu/PVC/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured control cable with copper conductor & PVC insulation.  
For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.8	0.8	1.8	17.8	575
7 x2.5 RM	0.8	1.25	1.8	20.0	781
8 x2.5 RM	0.8	1.25	1.8	21.7	876
10 x2.5 RM	0.8	1.25	1.8	23.7	1017
12 x2.5 RM	0.8	1.25	1.8	24.4	1110
16 x2.5 RM	0.8	1.6	1.8	27.1	1465
18 x2.5 RM	0.8	1.6	1.8	28.2	1576
20 x2.5 RM	0.8	1.6	1.8	29.6	1705
24 x2.5 RM	0.8	2.0	1.9	33.2	2173
30 x2.5 RM	0.8	2.0	1.9	34.7	2438
40 x2.5 RM	0.8	2.0	2.0	38.4	2977
61 x2.5 RM	0.8	2.0	2.2	45.6	4076

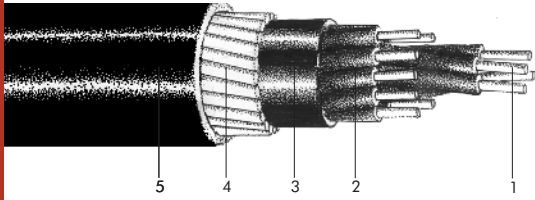
1-Stranded Circular Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing.

Maximum conductor temperature: 70°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 8.87 (Ohm/km)



IEC 60502-1

Cu/XLPE/Bd/SWA/PVC

**Description:**

Wire armoured control cable with copper conductor & XLPE insulation.  
For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x 1.5 RE	0.7	0.8	1.8	15.4	425
7 x 1.5 RE	0.7	0.8	1.8	16.3	467
8 x 1.5 RE	0.7	1.25	1.8	18.5	652
10 x 1.5 RE	0.7	1.25	1.8	20.1	738
12 x 1.5 RE	0.7	1.25	1.8	20.5	789
16 x 1.5 RE	0.7	1.25	1.8	22.1	921
18 x 1.5 RE	0.7	1.25	1.8	22.9	987
20 x 1.5 RE	0.7	1.6	1.8	24.5	1193
24 x 1.5 RE	0.7	1.6	1.8	26.5	1356
30 x 1.5 RE	0.7	1.6	1.8	27.6	1510
40 x 1.5 RE	0.7	2.0	1.9	31.5	2017
61 x 1.5 RE	0.7	2.0	2.0	37.0	2734

1-Solid Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing.

**Maximum conductor temperature: 90°C**

Conductor cross-section of 1 and 2.5 mm<sup>2</sup> are also available.

**Electrical Data**

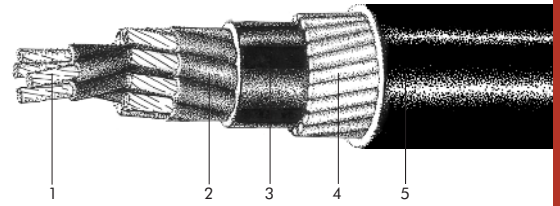
AC resistance : 15.43 (Ohm/km)
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Cu/XLPE/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured control cable with copper conductor & XLPE insulation.  
For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.7	0.8	1.8	17.3	542
7 x2.5 RM	0.7	1.25	1.8	19.4	739
8 x2.5 RM	0.7	1.25	1.8	21.0	829
10 x2.5 RM	0.7	1.25	1.8	22.9	951
12 x2.5 RM	0.7	1.25	1.8	23.5	1036
16 x2.5 RM	0.7	1.6	1.8	26.1	1362
18 x2.5 RM	0.7	1.6	1.8	27.2	1466
20 x2.5 RM	0.7	1.6	1.8	28.4	1588
24 x2.5 RM	0.7	2.0	1.8	31.7	2005
30 x2.5 RM	0.7	2.0	1.9	33.4	2261
40 x2.5 RM	0.7	2.0	2.0	37.0	2762
61 x2.5 RM	0.7	2.0	2.2	43.8	3749

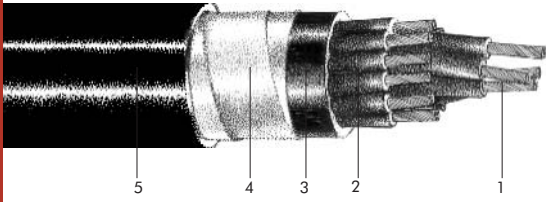
1-Stranded Circular Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Galvanized Steel Wire Armour 5-PVC Sheathing.

Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 9.45 (Ohm/km)



IEC 60502-1

Cu/PVC/Bd/DTA/PVC

**Description:**

Tape armoured control cable with copper conductor & PVC insulation.  
For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
8 x2.5 RM	0.8	0.2	1.8	20.7	629
10 x2.5 RM	0.8	0.2	1.8	22.7	740
12 x2.5 RM	0.8	0.2	1.8	23.4	820
16 x2.5 RM	0.8	0.2	1.8	25.4	995
18 x2.5 RM	0.8	0.2	1.8	26.5	1085
20 x2.5 RM	0.8	0.2	1.8	27.7	1177
24 x2.5 RM	0.8	0.2	1.8	30.4	1364
30 x2.5 RM	0.8	0.2	1.8	31.9	1592
40 x2.5 RM	0.8	0.2	1.9	35.7	2011
61 x2.5 RM	0.8	0.5	2.2	44.1	3182

1-Stranded Circular Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Galvanized Steel Tape Armour 5-PVC Sheathing.

**Maximum conductor temperature: 70°C**

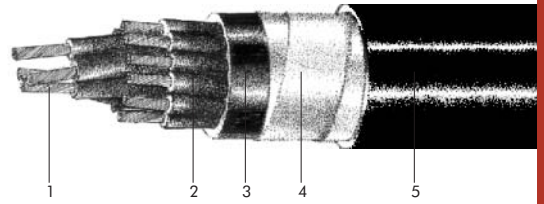
Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 8.87 (Ohm/km)
-------------------------------

**Description:**

Tape armoured control cable with copper conductor & XLPE insulation.  
For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
10 x2.5 RM	0.7	0.2	1.8	21.9	686
12 x2.5 RM	0.7	0.2	1.8	22.5	757
16 x2.5 RM	0.7	0.2	1.8	24.4	915
18 x2.5 RM	0.7	0.2	1.8	25.5	997
20 x2.5 RM	0.7	0.2	1.8	26.7	1082
24 x2.5 RM	0.7	0.2	1.8	29.0	1250
30 x2.5 RM	0.7	0.2	1.8	30.6	1453
40 x2.5 RM	0.7	0.2	1.9	34.3	1832
61 x2.5 RM	0.7	0.2	2.1	41.0	2647

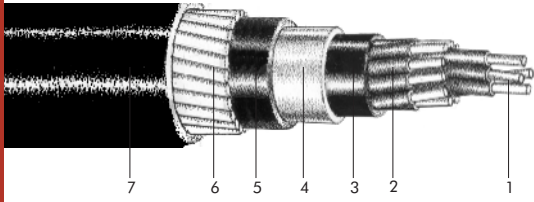
1-Stranded Circular Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Galvanized Steel Tape Armour 5-PVC Sheathing.

Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

### Electrical Data

AC resistance : 9.45 (Ohm/km)



IEC 60502-1

Cu/PVC/Bd/Lsh/Bd/SWA/PVC

**Description:**

Wire armoured control cable, lead sheathed with copper conductor & PVC insulation. For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH mm	Lead Thickness mm	Diameter of Armour mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.8	1.2	1.25	1.8	23.3	1498
7 x2.5 RM	0.8	1.2	1.6	1.8	25.3	1787
8 x2.5 RM	0.8	1.2	1.6	1.8	27.0	1971
10 x2.5 RM	0.8	1.2	1.6	1.8	29.0	2223
12 x2.5 RM	0.8	1.2	1.6	1.8	29.9	2346
16 x2.5 RM	0.8	1.2	2.0	1.9	33.0	2902
18 x2.5 RM	0.8	1.2	2.0	1.9	34.1	3060
20 x2.5 RM	0.8	1.3	2.0	2.0	35.7	3381
24 x2.5 RM	0.8	1.3	2.0	2.1	38.0	3810
30 x2.5 RM	0.8	1.4	2.0	2.1	40.4	4259
40 x2.5 RM	0.8	1.5	2.0	2.2	44.7	5138
61 x2.5 RM	0.8	1.6	2.5	2.5	53.5	7314

1-Solid or Stranded Circular Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Lead Sheath 5-Extruded PVC Bedding 6-Galvanized Steel Wire Armour 7-PVC Sheathing.

Maximum conductor temperature: 70°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

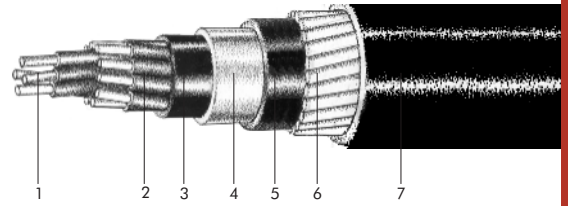
AC resistance : 8.87 (Ohm/km)
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Cu/XLPE/Bd/Lsh/Bd/SWA/PVC

IEC 60502-1

**Description:**

Wire armoured control cable, lead sheathed with copper conductor & XLPE insulation. For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH mm	Lead Thickness mm	Diameter of Armour mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.7	1.2	1.25	1.8	22.8	1439
7 x2.5 RM	0.7	1.2	1.25	1.8	24.0	1566
8 x2.5 RM	0.7	1.2	1.6	1.8	26.3	1885
10 x2.5 RM	0.7	1.2	1.6	1.8	28.2	2107
12 x2.5 RM	0.7	1.2	1.6	1.8	28.8	2217
16 x2.5 RM	0.7	1.2	2.0	1.8	31.7	2719
20 x2.5 RM	0.7	1.2	2.0	1.9	34.3	3091
24 x2.5 RM	0.7	1.3	2.0	2.0	37.3	3577
40 x2.5 RM	0.7	1.4	2.0	2.2	42.8	4706
61 x2.5 RM	0.7	1.6	2.5	2.4	51.5	6846

1-Solid or Stranded Circular Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Lead Sheath 5-Extruded PVC Bedding 6-Galvanized Steel Wire Armour 7-PVC Sheathing.

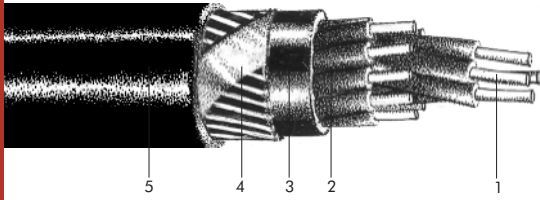
Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 9.45 (Ohm/km)





IEC 60502-1

Cu/PVC/Bd/CWS/PVC

**Description:**

Screened control cable, with copper conductor & PVC insulation.  
For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x 1.5 / 2.5 RE	0.8	1.8	15.7	313
7 x 1.5 / 2.5 RE	0.8	1.8	16.7	350
8 x 1.5 / 2.5 RE	0.8	1.8	18.1	392
10 x 1.5 / 2.5 RE	0.8	1.8	19.8	457
12 x 1.5 / 2.5 RE	0.8	1.8	20.3	505
16 x 1.5 / 4 RE	0.8	1.8	21.9	612
18 x 1.5 / 4 RE	0.8	1.8	22.9	669
20 x 1.5 / 6 RE	0.8	1.8	23.9	737
24 x 1.5 / 6 RE	0.8	1.8	25.9	846
30 x 1.5 / 6 RE	0.8	1.8	27.1	986
40 x 1.5 / 10 RE	0.8	1.8	30.1	1267
61 x 1.5 / 10 RE	0.8	2.0	36.2	1834

1-Solid or Stranded Circular Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Copper Wire Screen 5-PVC Sheathing.

**Maximum conductor temperature: 70°C**

Conductor cross-section of 1 and 2.5 mm<sup>2</sup> are also available.

**Electrical Data**

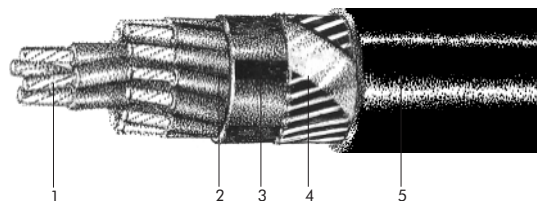
AC resistance : 14.48 (Ohm/km)
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Cu/XLPE/Bd/CWS/PVC

IEC 60502-1

**Description:**

Screened control cable, with copper conductor & XLPE insulation.  
For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 / 2.5 RM	0.7	1.8	17.1	382
7 x2.5 / 2.5 RM	0.7	1.8	18.2	429
8 x2.5 / 4 RM	0.7	1.8	19.9	481
10 x2.5 / 4 RM	0.7	1.8	21.8	567
12 x2.5 / 4 RM	0.7	1.8	22.4	632
16 x2.5 / 6 RM	0.7	1.8	24.3	786
18 x2.5 / 6 RM	0.7	1.8	25.4	858
20 x2.5 / 10 RM	0.7	1.8	26.6	967
24 x2.5 / 10 RM	0.7	1.8	28.9	1112
30 x2.5 / 10 RM	0.7	1.8	30.5	1302
40 x2.5 / 10 RM	0.7	1.9	34.2	1648
61 x2.5 / 10 RM	0.7	2.1	40.9	2401

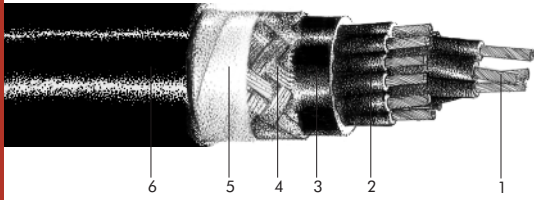
1-Stranded Circular or Solid Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Copper Wire Screen 5-PVC Sheathing.

Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 9.45 (Ohm/km)



IEC 60502-1

Cu/PVC/Bd/CuB/Pet/PVC

**Description:**

Control cable with braided screen, copper conductor & PVC insulation.  
For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.8	1.8	17.3	437
7 x2.5 RM	0.8	1.8	18.5	495
8 x2.5 RM	0.8	1.8	20.3	557
10 x2.5 RM	0.8	1.8	22.6	683
12 x2.5 RM	0.8	1.8	23.3	767
16 x2.5 RM	0.8	1.8	25.3	934
18 x2.5 RM	0.8	1.8	26.4	1013
20 x2.5 RM	0.8	1.8	27.6	1110
24 x2.5 RM	0.8	1.8	30.3	1289
30 x2.5 RM	0.8	1.8	31.8	1503
40 x2.5 RM	0.8	1.9	35.6	1920
61 x2.5 RM	0.8	2.1	42.9	2848

1-Stranded Circular or Solid Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Copper Braided Screen 5-Polyester Tape 6-PVC Sheathing.

Maximum conductor temperature: 70°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

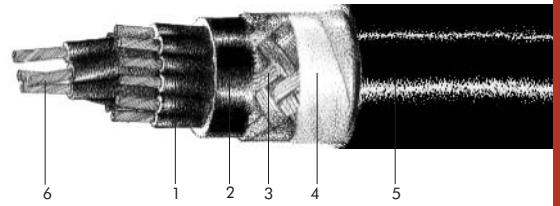
AC resistance : 8.87 (Ohm/km)
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Cu/XLPE/Bd/CuB/Pet/PVC

IEC 60502-1

**Description:**

Control cable with braided screen, copper conductor & XLPE insulation.  
For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.7	1.8	16.8	412
7 x2.5 RM	0.7	1.8	17.9	456
8 x2.5 RM	0.7	1.8	19.6	520
10 x2.5 RM	0.7	1.8	21.5	610
12 x2.5 RM	0.7	1.8	22.1	675
16 x2.5 RM	0.7	1.8	24.3	853
18 x2.5 RM	0.7	1.8	25.4	935
20 x2.5 RM	0.7	1.8	26.6	1009
24 x2.5 RM	0.7	1.8	28.9	1170
30 x2.5 RM	0.7	1.8	30.5	1376
40 x2.5 RM	0.7	1.9	34.2	1739
61 x2.5 RM	0.7	2.1	41.1	2574

1-Stranded Circular or Solid Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Copper Braided Screen

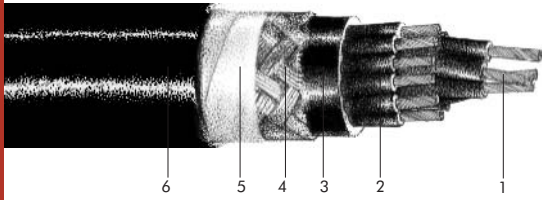
5-Polyester Tape 6-PVC Sheathing.

Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 9.45 (Ohm/km)



IEC 60502-1

TiCu/PVC/Bd/TCB/Pet/PVC

**Description:**

Control cable with tinned copper braided screen, tinned copper conductor & PVC insulation. For controlling, operating and signalling.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.8	1.8	17.3	446
7 x2.5 RM	0.8	1.8	18.5	505
8 x2.5 RM	0.8	1.8	20.3	569
10 x2.5 RM	0.8	1.8	22.6	697
12 x2.5 RM	0.8	1.8	23.3	783
16 x2.5 RM	0.8	1.8	25.3	953
18 x2.5 RM	0.8	1.8	26.4	1034
20 x2.5 RM	0.8	1.8	27.6	1133
24 x2.5 RM	0.8	1.8	30.3	1316
30 x2.5 RM	0.8	1.8	31.8	1533
40 x2.5 RM	0.8	1.9	35.6	1960
61 x2.5 RM	0.8	2.1	42.9	2904

1-Stranded Circular or Solid Conductor 2-PVC Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Tinned Copper Braided Screen

5-Polyester Tape 6-PVC Sheathing.

Maximum conductor temperature: 70°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

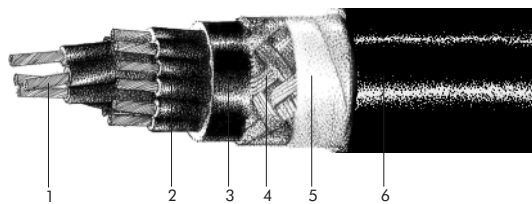
AC resistance : 8.87 (Ohm/km)
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TiCu/XLPE/Bd/TCB/Pet/PVC

IEC 60502-1

**Description:**

Control cable with tinned copper braided screen, tinned copper conductor & XLPE insulation. For controlling, operating and signalling.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x2.5 RM	0.7	1.8	16.8	420
7 x2.5 RM	0.7	1.8	17.9	465
8 x2.5 RM	0.7	1.8	19.6	531
10 x2.5 RM	0.7	1.8	21.5	623
12 x2.5 RM	0.7	1.8	22.1	690
16 x2.5 RM	0.7	1.8	24.3	871
18 x2.5 RM	0.7	1.8	25.4	956
20 x2.5 RM	0.7	1.8	26.6	1031
24 x2.5 RM	0.7	1.8	28.9	1196
30 x2.5 RM	0.7	1.8	20.5	1407
40 x2.5 RM	0.7	1.9	34.2	1778
61 x2.5 RM	0.7	2.1	41.1	2629

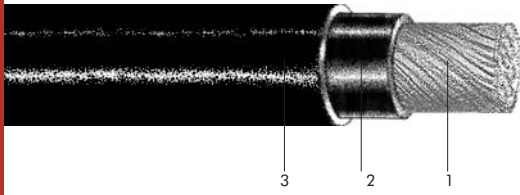
1-Stranded Circular or Solid Conductor 2-XLPE Insulation (Sequentially numbered for identification) 3-Extruded PVC Bedding 4-Tinned Copper Braided Screen 5-Polyester Tape 6-PVC Sheathing.

Maximum conductor temperature: 90°C

Conductor cross-section of 1 and 1.5 mm<sup>2</sup> are also available.

**Electrical Data**

AC resistance : 9.45 (Ohm/km)



IEC 60502-1

Cu/PVC/PVC

**Description:**

Single core flexible cable with copper conductor &amp; PVC insulation.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 1.5 RF	0.8	1.4	6.3	57
1 x 2.5 RF	0.8	1.4	6.8	72
1 x 4 RF	1.0	1.4	7.7	98
1 x 6 RF	1.0	1.4	8.3	124
1 x 10 RF	1.0	1.4	9.3	174
1 x 16 RF	1.0	1.4	10.8	245
1 x 25 RF	1.2	1.4	12.5	353
1 x 35 RF	1.2	1.4	13.8	460
1 x 50 RF	1.4	1.4	15.8	633
1 x 70 RF	1.4	1.4	17.9	862
1 x 95 RF	1.6	1.5	20.5	1122
1 x 120 RF	1.6	1.5	22.3	1392
1 x 150 RF	1.8	1.6	24.7	1730
1 x 185 RF	2.0	1.7	27.1	2099

1-Fine Stranded Conductor 2-PVC Insulation 3-PVC Sheathing

Maximum conductor temperature: 70°C

TPE (NBR/PVC) Insulation and Sheathing are also available.

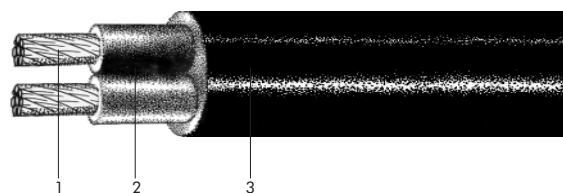
Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (m.V/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 1.5 RF	15.91	15.91	0.13	0.301	22.18	22.36
1 x 2.5 RF	9.55	9.55	0.119	0.286	13.36	13.53
1 x 4 RF	5.92	5.92	0.112	0.272	8.32	8.49
1 x 6 RF	3.95	3.95	0.104	0.259	5.58	5.74
1 x 10 RF	2.29	2.29	0.094	0.243	3.27	3.43
1 x 16 RF	1.45	1.45	0.105	0.246	2.12	2.26
1 x 25 RF	0.933	0.933	0.101	0.234	1.40	1.54
1 x 35 RF	0.663	0.663	0.097	0.224	1.02	1.15
1 x 50 RF	0.462	0.462	0.094	0.215	0.74	0.86
1 x 70 RF	0.326	0.326	0.087	0.201	0.54	0.66
1 x 95 RF	0.247	0.247	0.087	0.195	0.43	0.54
1 x 120 RF	0.194	0.193	0.084	0.188	0.36	0.46
1 x 150 RF	0.156	0.155	0.084	0.183	0.30	0.40
1 x 185 RF	0.1289	0.1275	0.083	0.177	0.26	0.36

**Cu/PVC/PVC****IEC 60502-1****Description:**

2 core flexible cable with copper conductor &amp; PVC insulation.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 1.5 RF	0.8	1.8	12.6	135
2 x 2.5 RF	0.8	1.8	13.6	171
2 x 4 RF	1.0	1.8	15.4	244
2 x 6 RF	1.0	1.8	16.6	310
2 x 10 RF	1.0	1.8	18.6	467
2 x 16 RF	1.0	1.8	21.8	623
2 x 25 RF	1.2	1.8	25.2	917
2 x 35 RF	1.2	1.8	27.8	1190
2 x 50 RF	1.4	1.8	32.1	1678
2 x 70 RF	1.4	1.9	36.6	2257
2 x 95 RF	1.6	2.0	41.7	2930
2 x 120 RF	1.6	2.1	45.5	3757
2 x 150 RF	1.8	2.2	50.2	4624
2 x 185 RF	2.0	2.4	55.6	5513

1-Fine Stranded Conductor 2-PVC Insulation 3-PVC Sheathing

Maximum conductor temperature: 70°C

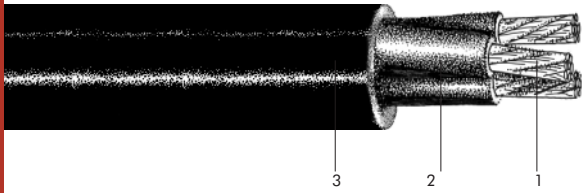
TPE (NBR/PVC) Insulation and Sheathing are also available.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (m.V/m)
2 x 1.5 RF	15.91	0.087	25.56
2 x 2.5 RF	9.55	0.081	15.38
2 x 4 RF	5.92	0.079	9.57
2 x 6 RF	3.95	0.074	6.41
2 x 10 RF	2.29	0.069	3.75
2 x 16 RF	1.45	0.084	2.42
2 x 25 RF	0.933	0.083	1.59
2 x 35 RF	0.663	0.081	1.16
2 x 50 RF	0.462	0.08	0.84
2 x 70 RF	0.326	0.075	0.61
2 x 95 RF	0.247	0.075	0.49
2 x 120 RF	0.194	0.074	0.40
2 x 150 RF	0.156	0.074	0.34
2 x 185 RF	0.1287	0.073	0.29





IEC 60502-1

Cu/PVC/PVC

**Description:**

3 core flexible cable with copper conductor &amp; PVC insulation.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3 x 1.5 RF	0.8	1.8	13.1	231
3 x 2.5 RF	0.8	1.8	14.2	287
3 x 4 RF	1.0	1.8	16.1	387
3 x 6 RF	1.0	1.8	17.4	480
3 x 10 RF	1.0	1.8	19.7	663
3 x 16 RF	1.0	1.8	23.0	933
3 x 25 RF	1.2	1.8	26.7	1331
3 x 35 RF	1.2	1.8	29.7	1712
3 x 50 RF	1.4	1.8	34.1	2346
3 x 70 RF	1.4	1.9	39.4	3223
3 x 95 RF	1.6	2.1	44.5	4177
3 x 120 RF	1.6	2.2	48.7	5161
3 x 150 RF	1.8	2.3	54.2	6431
3 x 185 RF	2.0	2.5	59.7	7772

1-Fine Stranded Conductor 2-PVC Insulation 3-PVC Sheathing

Maximum conductor temperature: 70°C

TPE (NBR/PVC) Insulation and Sheathing are also available.

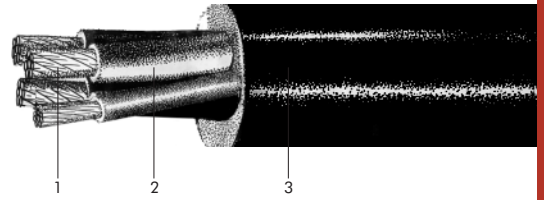
Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores				AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	1, 5	RF	15.91	0.087	22.14
3	x	2, 5	RF	9.55	0.081	13.32
3	x	4	RF	5.92	0.079	8.28
3	x	6	RF	3.95	0.074	5.55
3	x	10	RF	2.29	0.069	3.24
3	x	16	RF	1.45	0.084	2.10
3	x	25	RF	0.934	0.083	1.38
3	x	35	RF	0.663	0.081	1.00
3	x	50	RF	0.463	0.08	0.72
3	x	70	RF	0.326	0.075	0.53
3	x	95	RF	0.248	0.075	0.42
3	x	120	RF	0.194	0.074	0.35
3	x	150	RF	0.156	0.074	0.29
3	x	185	RF	0.1294	0.073	0.26

**Cu/PVC/PVC****IEC 60502-1****Description:**

3½ core flexible cable with copper conductor &amp; PVC insulation.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness PH mm	Insulation Thickness N mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3 x 25 + 16 RF	1.2	1.0	1.8	29.1	1540
3 x 35 + 16 RF	1.2	1.0	1.8	32.5	1930
3 x 50 + 25 RF	1.4	1.2	1.9	38.2	2727
3 x 70 + 35 RF	1.4	1.2	2.1	43.6	3695
3 x 95 + 50 RF	1.6	1.4	2.2	49.2	4804
3 x 120 + 70 RF	1.6	1.4	2.3	54.3	6077
3 x 150 + 70 RF	1.8	1.4	2.5	60.5	7350
3 x 185 + 95 RF	2.0	1.6	2.7	66.8	9028

1-Fine Stranded Conductor 2-PVC Insulation 3-PVC Sheathing

**Maximum conductor temperature: 70°C**

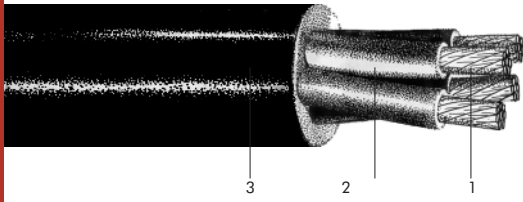
TPE (NBR/PVC) Insulation and Sheathing are also available.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores						AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3	x	25	+	16	RF	0.934	0.09	1.39
3	x	35	+	16	RF	0.663	0.088	1.01
3	x	50	+	25	RF	0.462	0.087	0.73
3	x	70	+	35	RF	0.326	0.082	0.54
3	x	95	+	50	RF	0.248	0.082	0.43
3	x	120	+	70	RF	0.194	0.081	0.35
3	x	150	+	70	RF	0.156	0.081	0.30
3	x	185	+	95	RF	0.129	0.08	0.26

**0.6/1 kV****LOW VOLTAGE CABLES**



IEC 60502-1

Cu/PVC/PVC

**Description:**

4 core flexible cable with copper conductor &amp; PVC insulation.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 1.5 RF	0.8	1.8	13.9	264
4 x 2.5 RF	0.8	1.8	15.1	332
4 x 4 RF	1.0	1.8	17.3	457
4 x 6 RF	1.0	1.8	18.8	576
4 x 10 RF	1.0	1.8	21.3	803
4 x 16 RF	1.0	1.8	25.0	1139
4 x 25 RF	1.2	1.8	29.1	1637
4 x 35 RF	1.2	1.8	32.5	2124
4 x 50 RF	1.4	1.9	38.2	2985
4 x 70 RF	1.4	2.1	43.6	4070
4 x 95 RF	1.6	2.2	49.2	5255
4 x 120 RF	1.6	2.3	54.3	6570
4 x 150 RF	1.8	2.5	60.5	8154
4 x 185 RF	2.0	2.7	66.8	9934

1-Fine Stranded Conductor 2-PVC Insulation 3-PVC Sheathing

**Maximum conductor temperature: 70°C**

TPE (NBR/PVC) Insulation and Sheathing are also available.

Cable could be supplied in Tinned Copper Conductor.

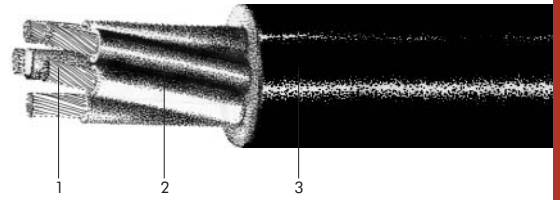
Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4 x 1.5 RF	15.91	0.094	22.14
4 x 2.5 RF	9.55	0.088	13.32
4 x 4 RF	5.92	0.087	8.29
4 x 6 RF	3.95	0.082	5.56
4 x 10 RF	2.29	0.076	3.25
4 x 16 RF	1.45	0.092	2.10
4 x 25 RF	0.934	0.09	1.39
4 x 35 RF	0.663	0.088	1.01
4 x 50 RF	0.462	0.087	0.73
4 x 70 RF	0.326	0.082	0.54
4 x 95 RF	0.248	0.082	0.43
4 x 120 RF	0.194	0.081	0.35
4 x 150 RF	0.156	0.81	1.06
4 x 185 RF	0.129	0.08	0.26

**Cu/PVC/PVC****IEC 60502-1****Description:**

5 core flexible cable with copper conductor &amp; PVC insulation.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
5 x 1.5 RF	0.8	1.8	14.8	300
5 x 2.5 RF	0.8	1.8	16.2	383
5 x 4 RF	1.0	1.8	18.6	530
5 x 6 RF	1.0	1.8	20.3	670
5 x 10 RF	1.0	1.8	23.1	950
5 x 16 RF	1.0	1.8	27.2	1352
5 x 25 RF	1.2	1.8	32.1	1963
5 x 35 RF	1.2	1.9	35.9	2569

1-Fine Stranded Conductor 2-PVC Insulation 3-PVC Sheathing

**Maximum conductor temperature: 70°C**

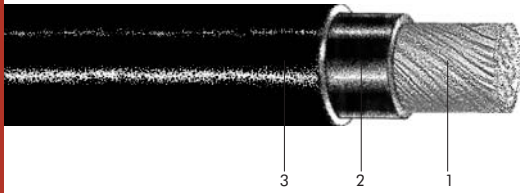
TPE (NBR/PVC) Insulation and Sheathing are also available.

Cable could be supplied in Tinned Copper Conductor.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
5 x 1.5 RF	15.91	0.097	22.15
5 x 2.5 RF	9.55	0.091	13.33
5 x 4 RF	5.92	0.09	8.30
5 x 6 RF	3.95	0.084	5.56
5 x 10 RF	2.29	0.079	3.26
5 x 16 RF	1.45	0.094	2.11
5 x 25 RF	0.933	0.093	1.39
5 x 35 RF	0.663	0.091	1.01



IEC 60502-1

Cu/EPR/EPR

**Description:**

Single core flexible cable with copper conductor, EPR insulation &amp; sheathing.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 1.5 RF	1.0	1.4	6.7	61
1 x 2.5 RF	1.0	1.4	7.2	76
1 x 4 RF	1.0	1.4	7.7	96
1 x 6 RF	1.0	1.4	8.3	120
1 x 10 RF	1.0	1.4	9.3	170
1 x 16 RF	1.0	1.4	10.8	239
1 x 25 RF	1.2	1.4	12.5	344
1 x 35 RF	1.2	1.4	13.8	449
1 x 50 RF	1.4	1.4	15.8	617
1 x 70 RF	1.4	1.4	17.9	843
1 x 95 RF	1.6	1.5	20.5	1097
1 x 120 RF	1.6	1.5	22.3	1363
1 x 150 RF	1.8	1.6	24.7	1694
1 x 185 RF	2.0	1.7	27.1	2053

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

**Maximum conductor temperature: 90°C**

TPE (NBR/PVC) Insulation and Sheathing are also available.

Cable could be supplied in and Tinned Copper Conductor.

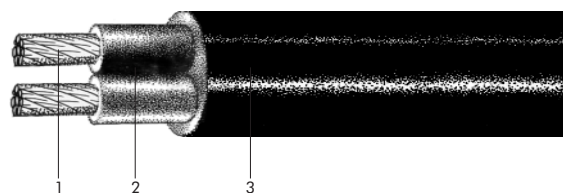
Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mV.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 1.5 RF	16.96	16.96	0.134	0.301	23.64	23.81
1 x 2.5 RF	10.18	10.18	0.122	0.286	14.23	14.40
1 x 4 RF	6.31	6.31	0.112	0.272	8.86	9.03
1 x 6 RF	4.21	4.21	0.104	0.259	5.94	6.10
1 x 10 RF	2.44	2.44	0.094	0.243	3.48	3.63
1 x 16 RF	1.54	1.54	0.105	0.246	2.24	2.39
1 x 25 RF	0.995	0.995	0.101	0.234	1.48	1.62
1 x 35 RF	0.707	0.707	0.097	0.224	1.08	1.21
1 x 50 RF	0.094	0.215	0.094	0.0215	0.23	0.32
1 x 70 RF	0.348	0.347	0.087	0.201	0.57	0.69
1 x 95 RF	0.264	0.263	0.087	0.195	0.46	0.57
1 x 120 RF	0.207	0.206	0.084	0.188	0.37	0.48
1 x 150 RF	0.166	0.165	0.084	0.183	0.32	0.42
1 x 185 RF	0.1371	0.1358	0.083	0.177	0.28	0.37

**Description:**

2 core flexible cable with copper conductor, EPR insulation & sheathing.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 1.5 RF	1.0	1.8	13.4	232
2 x 2.5 RF	1.0	1.8	14.4	278
2 x 4 RF	1.0	1.8	15.4	335
2 x 6 RF	1.0	1.8	16.6	408
2 x 10 RF	1.0	1.8	18.6	549
2 x 16 RF	1.0	1.8	21.8	766
2 x 25 RF	1.2	1.8	25.2	1072
2 x 35 RF	1.2	1.8	27.8	1365
2 x 50 RF	1.4	1.8	32.1	1853
2 x 70 RF	1.4	1.9	36.6	2498
2 x 95 RF	1.6	2.0	41.7	3260
2 x 120 RF	1.6	2.1	45.5	4009
2 x 150 RF	1.8	2.2	50.2	4928
2 x 185 RF	2.0	2.4	55.6	6021

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

**Maximum conductor temperature: 90°C**

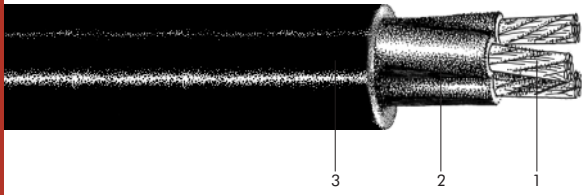
TPE (NBR/PVC) Insulation and Sheathing are also available.

Cable could be supplied in Tinned Copper Conductor.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
2 x 1.5 RF	16.96	0.095	27.25
2 x 2.5 RF	10.18	0.087	16.39
2 x 4 RF	6.31	0.079	10.19
2 x 6 RF	4.21	0.074	6.82
2 x 10 RF	2.44	0.069	3.99
2 x 16 RF	1.54	0.084	2.56
2 x 25 RF	0.995	0.083	1.69
2 x 35 RF	0.707	0.081	1.23
2 x 50 RF	0.493	0.08	0.88
2 x 70 RF	0.348	0.075	0.65
2 x 95 RF	0.264	0.075	0.51
2 x 120 RF	0.206	0.074	0.42
2 x 150 RF	0.166	0.074	0.35
2 x 185 RF	0.1369	0.073	0.31



IEC 60502-1

Cu/EPR/EPR

**Description:**

3 core flexible cable with copper conductor, EPR insulation &amp; sheathing.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3 x 1.5 RF	1.0	1.8	14.0	257
3 x 2.5 RF	1.0	1.8	15.0	311
3 x 4 RF	1.0	1.8	16.1	383
3 x 6 RF	1.0	1.8	17.4	476
3 x 10 RF	1.0	1.8	19.7	657
3 x 16 RF	1.0	1.8	23.0	925
3 x 25 RF	1.2	1.8	26.7	1316
3 x 35 RF	1.2	1.8	29.7	1695
3 x 50 RF	1.4	1.8	34.1	2318
3 x 70 RF	1.4	1.9	39.4	1395
3 x 95 RF	1.6	2.1	44.5	4138
3 x 120 RF	1.6	2.2	48.7	5120
3 x 150 RF	1.8	2.3	54.2	6378
3 x 185 RF	2.0	2.5	59.7	7703

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

**Maximum conductor temperature: 90°C**

TPE (NBR/PVC) Insulation and Sheathing are also available.

Cable could be supplied in Tinned Copper Conductor.

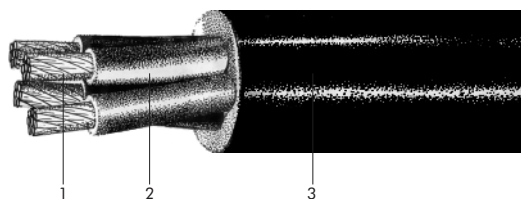
Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop mv.A/m
3 x 1.5 RF	16.96	0.095	23.60
3 x 2.5 RF	10.18	0.087	14.20
3 x 4 RF	6.31	0.079	8.83
3 x 6 RF	4.21	0.074	5.91
3 x 10 RF	2.44	0.069	3.45
3 x 16 RF	1.54	0.084	2.22
3 x 25 RF	0.995	0.083	1.46
3 x 35 RF	0.707	0.081	1.06
3 x 50 RF	0.493	0.08	0.77
3 x 70 RF	0.348	0.075	0.56
3 x 95 RF	0.264	0.075	0.44
3 x 120 RF	0.207	0.074	0.36
3 x 150 RF	0.166	0.074	0.31
3 x 185 RF	0.1376	0.073	0.27

**Cu/EPR/EPR****IEC 60502-1****Description:**

4 core flexible cable with copper conductor, EPR insulation &amp; sheathing.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 1.5 RF	1.0	1.8	14.9	292
4 x 2.5 RF	1.0	1.8	16.1	361
4 x 4 RF	1.0	1.8	17.3	450
4 x 6 RF	1.0	1.8	18.8	567
4 x 10 RF	1.0	1.8	21.3	791
4 x 16 RF	1.0	1.8	25.0	1124
4 x 25 RF	1.2	1.8	29.1	1610
4 x 35 RF	1.2	1.8	32.5	2094
4 x 50 RF	1.4	1.9	38.2	2941
4 x 70 RF	1.4	2.1	43.6	4022
4 x 95 RF	1.6	2.2	49.2	5187
4 x 120 RF	1.6	2.3	54.3	6501
4 x 150 RF	1.8	2.5	60.5	8063
4 x 185 RF	2.0	2.7	66.8	9821

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

**Maximum conductor temperature: 90°C**

TPE (NBR/PVC) Insulation and Sheathing are also available.

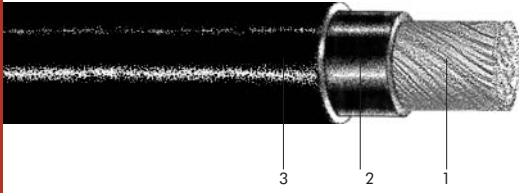
Cable could be supplied in Tinned Copper Conductor.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4 x 1.5 RF	16.96	0.102	23.61
4 x 2.5 RF	10.18	0.094	14.20
4 x 4 RF	6.31	0.087	8.83
4 x 6 RF	4.21	0.082	5.92
4 x 10 RF	2.44	0.076	3.46
4 x 16 RF	1.54	0.092	2.23
4 x 25 RF	0.995	0.09	1.47
4 x 35 RF	0.707	0.088	1.07
4 x 50 RF	0.493	0.087	0.77
4 x 70 RF	0.348	0.082	0.57
4 x 95 RF	0.264	0.082	0.45
4 x 120 RF	0.207	0.081	0.37
4 x 150 RF	0.166	0.081	0.31
4 x 185 RF	0.1372	0.08	0.27





IEC 60502-1

TiCu/EPR/EPR

**Description:**

Single core flexible cable with tinned copper conductor, EPR insulation &amp; sheathing.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 1.5 RF	1.0	1.4	6.7	62
1 x 2.5 RF	1.0	1.4	7.2	77
1 x 4 RF	1.0	1.4	7.7	97
1 x 6 RF	1.0	1.4	8.3	122
1 x 10 RF	1.0	1.4	9.3	172
1 x 16 RF	1.0	1.4	10.8	243
1 x 25 RF	1.2	1.4	12.5	350
1 x 35 RF	1.2	1.4	13.8	457
1 x 50 RF	1.4	1.4	15.8	628
1 x 70 RF	1.4	1.4	17.9	868
1 x 95 RF	1.6	1.5	20.5	1130
1 x 120 RF	1.6	1.5	22.3	1406
1 x 150 RF	1.8	1.6	24.7	1747
1 x 185 RF	2.0	1.7	27.1	2118

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

Maximum conductor temperature: 90°C

TPE (NBR/PVC) Insulation and Sheathing are also available.

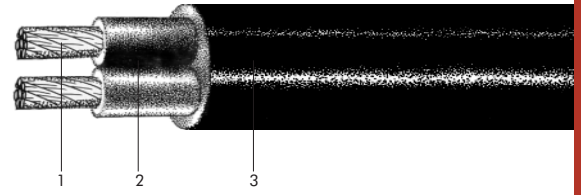
Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)		REACTANCE (Ohm/km)		Voltage Drop (mv.A/m)	
	Trefoil	Flat	Trefoil	Flat	Trefoil	Flat
1 x 1.5 RF	17.47	17.47	0.134	0.301	24.35	24.52
1 x 2.5 RF	10.47	10.47	0.122	0.286	14.63	14.80
1 x 4 RF	6.49	6.49	0.112	0.272	9.11	9.28
1 x 6 RF	4.32	4.32	0.104	0.259	6.09	6.25
1 x 10 RF	2.49	2.49	0.094	0.243	3.55	3.70
1 x 16 RF	1.58	1.58	0.105	0.246	2.30	2.44
1 x 25 RF	1.014	1.014	0.101	0.234	1.51	1.65
1 x 35 RF	0.721	0.721	0.097	0.224	1.10	1.23
1 x 50 RF	0.502	0.501	0.094	0.215	0.79	0.92
1 x 70 RF	0.354	0.353	0.087	0.201	0.58	0.70
1 x 95 RF	0.269	0.268	0.087	0.195	0.46	0.57
1 x 120 RF	0.21	0.21	0.084	0.188	0.38	0.49
1 x 150 RF	0.17	0.169	0.084	0.183	0.32	0.42
1 x 185 RF	0.1396	0.1384	0.083	0.177	0.28	0.38

**TiCu/EPR/EPR****IEC 60502-1****Description:**

2 core flexible cable with tinned copper conductor, EPR insulation &amp; sheathing.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 1.5 RF	1.0	1.8	13.4	233
2 x 2.5 RF	1.0	1.8	14.4	279
2 x 4 RF	1.0	1.8	15.4	337
2 x 6 RF	1.0	1.8	16.6	411
2 x 10 RF	1.0	1.8	18.6	553
2 x 16 RF	1.0	1.8	21.8	773
2 x 25 RF	1.2	1.8	25.2	1083
2 x 35 RF	1.2	1.8	27.8	1380
2 x 50 RF	1.4	1.8	32.1	1875
2 x 70 RF	1.4	1.9	36.6	2548
2 x 95 RF	1.6	2.0	41.7	3327
2 x 120 RF	1.6	2.1	45.5	4095
2 x 150 RF	1.8	2.2	50.2	5035
2 x 185 RF	2.0	2.4	55.6	6151

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

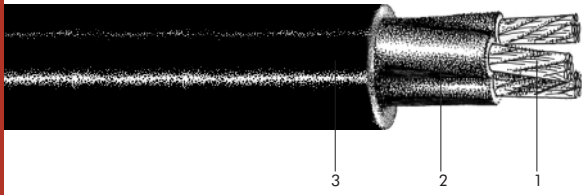
Maximum conductor temperature: 90°C

TPE (NBR/PVC) Insulation and Sheathing are also available.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
2 x 1.5 RF	17.47	0.95	29.09
2 x 2.5 RF	10.47	0.087	16.86
2 x 4 RF	6.49	0.079	10.48
2 x 6 RF	4.32	0.074	7.00
2 x 10 RF	2.49	0.069	4.07
2 x 16 RF	1.58	0.084	2.63
2 x 25 RF	1.014	0.083	1.72
2 x 35 RF	0.721	0.081	1.25
2 x 50 RF	0.502	0.08	0.90
2 x 70 RF	0.354	0.075	0.66
2 x 95 RF	0.269	0.075	0.52
2 x 120 RF	0.21	0.074	0.42
2 x 150 RF	0.17	0.074	0.36
2 x 185 RF	0.1395	0.073	0.31



IEC 60502-1

TiCu/EPR/EPR

**Description:**

3 core flexible cable with tinned copper conductor, EPR insulation &amp; sheathing.

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3 x 1.5 RF	1.0	1.8	14.0	259
3 x 2.5 RF	1.0	1.8	15.0	313
3 x 4 RF	1.0	1.8	16.1	387
3 x 6 RF	1.0	1.8	17.4	481
3 x 10 RF	1.0	1.8	19.7	664
3 x 16 RF	1.0	1.8	23.0	936
3 x 25 RF	1.2	1.8	26.7	1332
3 x 35 RF	1.2	1.8	29.7	1718
3 x 50 RF	1.4	1.8	34.1	2351
3 x 70 RF	1.4	1.9	39.4	3272
3 x 95 RF	1.6	2.1	44.5	4238
3 x 120 RF	1.6	2.2	48.7	5248
3 x 150 RF	1.8	2.3	54.2	6538
3 x 185 RF	2.0	2.5	59.7	7898

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

**Maximum conductor temperature: 90°C**

TPE (NBR/PVC) Insulation and Sheathing are also available.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

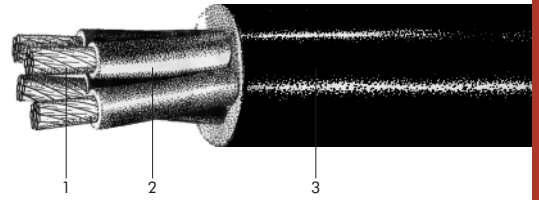
Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
3 x 1.5 RF	17.74	0.095	24.68
3 x 2.5 RF	10.47	0.087	14.60
3 x 4 RF	6.49	0.079	9.07
3 x 6 RF	4.32	0.074	6.06
3 x 10 RF	2.49	0.069	3.52
3 x 16 RF	1.58	0.084	2.28
3 x 25 RF	1.014	0.083	1.49
3 x 35 RF	0.721	0.081	1.08
3 x 50 RF	0.502	0.08	0.78
3 x 70 RF	0.354	0.075	0.57
3 x 95 RF	0.269	0.075	0.45
3 x 120 RF	0.211	0.074	0.37
3 x 150 RF	0.17	0.074	0.31
3 x 185 RF	0.1401	0.073	0.27

TiCu/EPR/EPR

IEC 60502-1

**Description:**

4 core flexible cable with tinned copper conductor, EPR insulation & sheathing.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 1.5 RF	1.0	1.8	14.9	294
4 x 2.5 RF	1.0	1.8	16.1	364
4 x 4 RF	1.0	1.8	17.3	454
4 x 6 RF	1.0	1.8	18.8	574
4 x 10 RF	1.0	1.8	21.3	800
4 x 16 RF	1.0	1.8	25.0	1138
4 x 25 RF	1.2	1.8	29.1	1632
4 x 35 RF	1.2	1.8	32.5	2124
4 x 50 RF	1.4	1.9	38.2	2985
4 x 70 RF	1.4	2.1	43.6	4124
4 x 95 RF	1.6	2.2	49.2	5321
4 x 120 RF	1.6	2.3	54.3	6672
4 x 150 RF	1.8	2.5	60.5	8277
4 x 185 RF	2.0	2.7	66.8	10082

1-Fine Stranded Conductor 2-Ethylene Propylene Rubber (EPR) Insulation 3-EPR Sheathing

Maximum conductor temperature: 90°C

TPE (NBR/PVC) Insulation and Sheathing are also available.

Braided Shield and/or Braided Armour is also available.

**Electrical Data**

Number of cores	AC resistance (Ohm/km)	REACTANCE (Ohm/km)	Voltage Drop (mV.A/m)
4 x 1.5 RF	17.47	0.102	24.31
4 x 2.5 RF	10.47	0.094	14.60
4 x 4 RF	6.49	0.087	9.08
4 x 6 RF	4.32	0.082	6.07
4 x 10 RF	2.49	0.076	3.53
4 x 16 RF	1.58	0.092	2.28
4 x 25 RF	1.014	0.09	1.50
4 x 35 RF	0.721	0.88	1.91
4 x 50 RF	0.502	0.087	0.79
4 x 70 RF	0.354	0.082	0.58
4 x 95 RF	0.269	0.082	0.46
4 x 120 RF	0.21	0.081	0.38
4 x 150 RF	0.17	0.081	0.32
4 x 185 RF	0.1397	0.08	0.28

# **TECHNICAL DATA**

## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Helix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminum Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated

<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)

## VDE Abbreviations

<b>N</b>	DIN VDE standard type
<b>(N)</b>	With reference to DIN VDE standard
<b>A</b>	Aluminium conductor
<b>-</b>	Copper
<b>Y</b>	PVC
<b>2X</b>	Cross-linked PE(VPE)
<b>C</b>	Concentric Cu conductor,in longitudinal twist
<b>CW</b>	Concentric Cu conductor,corrugated
<b>CE</b>	Concentric Cu conductor for individual core
<b>S</b>	Cu shielding
<b>SE</b>	Cu screening per individual core in multi-core cables
<b>H</b>	Conductive layer
<b>(F)</b>	Longitudinally watertight shielding
<b>B</b>	Steel strip reinforcement
<b>F</b>	Flat wire,zinc-plated
<b>G</b>	Counterhelix consisting of zinc-plated steel strip
<b>R</b>	Round-section wire,zinc-plated
<b>A</b>	Protective cover consisting of fiber materials
<b>K</b>	Lead sheath
<b>KL</b>	Aluminium sheath
<b>Y</b>	PVC
<b>2Y</b>	PE
<b>I</b>	With protective conductor
<b>O</b>	Without protective conductor
<b>r...</b>	Round-section conductor
<b>s...</b>	Sector-section conductor
<b>o...</b>	Oval conductor
<b>e...</b>	Single wire conductor
<b>m...</b>	Multi-wire conductor
<b>h...</b>	Hollow conductor
<b>N</b>	Compacted conductor



## FORMULAS

### 1- DC Resistance

$$R_{dc_{\theta}} = R_{dc_{20}} [1 + \alpha (\theta - 20)] \quad (\Omega / km)$$

$R_{dc_{20}}$  : Resistance at 20°C according to IEC 60228 ( $\Omega / km$ )

$\alpha$  : Temperature coefficient of resistance per degree at 20°C  
(Copper =  $3.93 \cdot 10^{-3}$ , Aluminium =  $4.04 \cdot 10^{-3}$ )

$\theta$  : Temperature (°C)

### 2- AC Resistance

$$R_{AC_{\theta}} = R_{dc_{\theta}} (1 + Y_p + Y_s) (1 + \lambda_1 + \lambda_2) \quad (\Omega / km)$$

$Y_p$  : Proximity effect

$Y_s$  : Skin effect

$\lambda_1$  : Sheath loss

$\lambda_2$  : Armour loss

### 3- Inductance

$$L = K + 0.2Ln(2S/d) \quad (mH/km)$$

$K$  : Constant relating to conductor structure

$S$  : Axial cable spacing ( $S = 1.26 \cdot \text{phase spacing}$  for flat and single core cables) (mm)

$d$  : Conductor diameter (mm)

$K$	Strands
0	1
0.078	3
0.0642	7
0.0554	19
0.0528	37
0.0514	61 & over

## FORMULAS

### 4- Reactance

$$X = \omega L 10^{-3} \quad (\Omega / km)$$

$$\omega = 2\pi f$$

$L$  : Inductance (mH/km)

### 5- Impedance

$$Z = \sqrt{R_{ac}^2 + X^2} \quad (\Omega / km)$$

$R_{ac}$  : AC resistance ( $\Omega / km$ )

$X$  : Reactance ( $\Omega / km$ )

### 6- Short-circuit current

$$I_{sc} = \frac{\varepsilon K S}{\sqrt{t}} \sqrt{\ln \left( \frac{\beta + \theta_F}{\beta + \theta_I} \right)} \quad (A)$$

$\varepsilon$  : Will be calculated acc. to IEC 60949

$S$  : Cross sectional area (mm<sup>2</sup>)

$t$  : Duration of short-circuit (Max. 5 sec.)

$\theta_F$  : Max. temperature at the short circuit condition (°C)

$\theta_I$  : Max. temperature at the normal operating (°C)

	Copper	Aluminium	Lead	Steel
$K$	226	148	41	78
$\beta$	234.5	228	230	202

	XLPE	PVC	
		$S \leq 300 \text{ mm}^2$	$S > 300 \text{ mm}^2$
$\theta_F$	250	160	140
$\theta_I$	90	70	70

## FORMULAS

### 7- Voltage drop

$$\% \Delta V = \frac{2LIR100}{U} \quad \text{Direct current}$$

$$\% \Delta V = \frac{2LI(R \cos \phi + X \sin \phi)100}{U} \quad \text{Alternating current\_single phase}$$

$$\% \Delta V = \frac{\sqrt{3}LI(R \cos \phi + X \sin \phi)100}{U} \quad \text{Alternating current\_three phase}$$

$R$  : AC resistance ( $\Omega/km$ )

$X$  : Reactance ( $\Omega/km$ )

$L$  : Length ( $km$ )

$I$  : Current ( $A$ )

$U$  : Voltage ( $V$ )

$\cos \phi$  : Power factor

### 8- Insulation Resistance

$$R = \frac{\rho L n(D/d)10^{-9}}{2\pi} \quad (M\Omega.km)$$

$\rho$  : Volume resistivity at 20°C ( $\Omega.m$ )

$D$  : Insulated diameter (mm)

$d$  : Conductor diameter (mm)

### 9- Maximum Pulling Tension

**Unarmoured :**

$$T = K S \quad (N) \quad \begin{array}{l} K = 50 \text{ for copper} \\ K = 30 \text{ for aluminium} \end{array}$$

**Armoured :**

$$T = K'D^2 \quad (N) \quad \begin{array}{l} K' = 9 \text{ for wire armour} \\ K' = 3 \text{ for tape armour, lead sheath} \end{array}$$

$S$  : Conductor cross section ( $mm^2$ )

$D$  : Cable diameter (mm)

## Conductors DC Resistance:

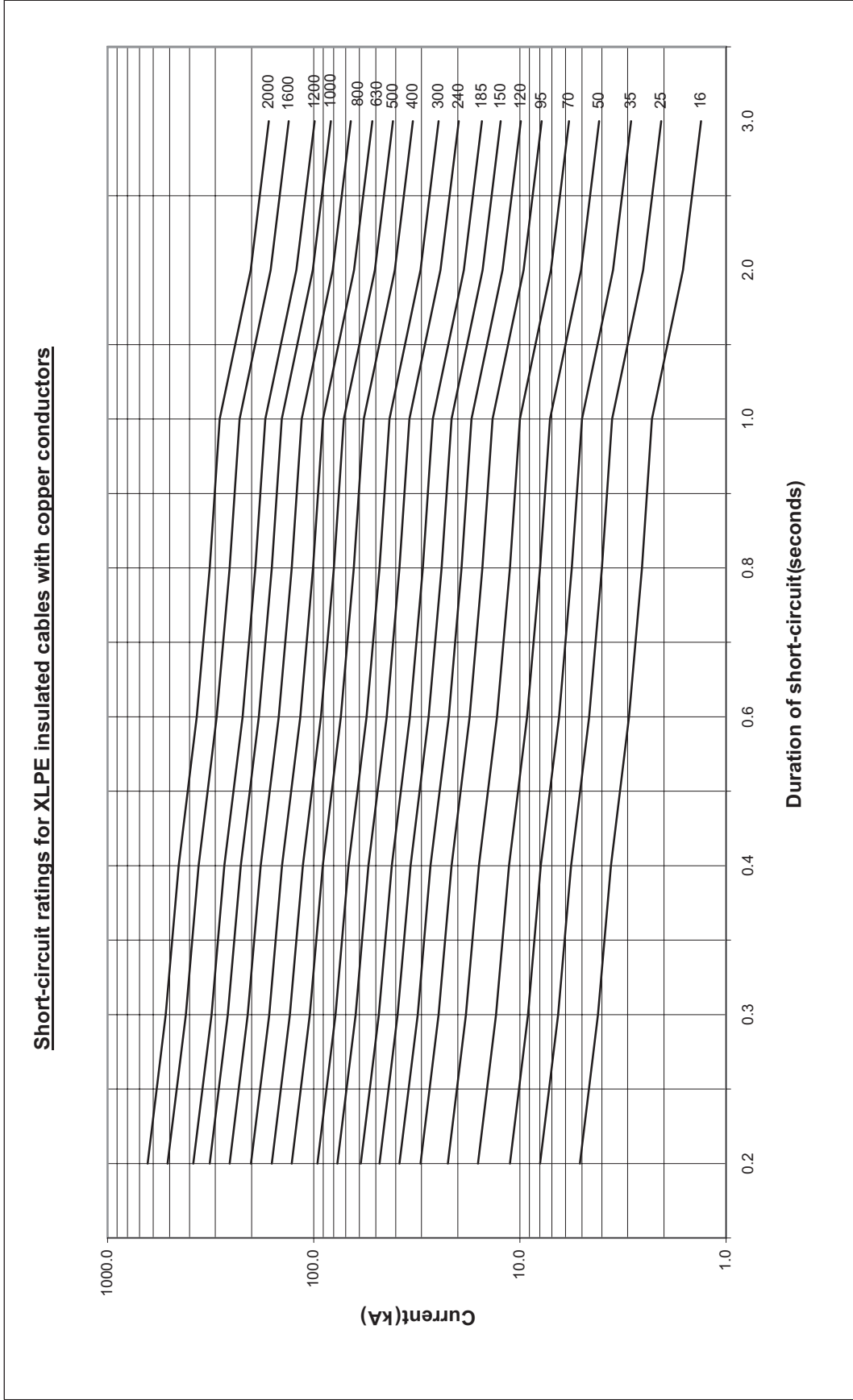
1	2	3	4	5	6	7	8	9	10
Nominal cross-sectional area mm <sup>2</sup>	Minimum number of wires in the conductor						Maximum resistance of conductor at 20°C		
	Circular		Circular compacted		Shaped		Annealed copper conductor		Aluminium or aluminium alloy conductor <sup>c</sup> ?/km
	Cu	Al	Cu	Al	Cu	Al	Plain wires ?/km	Metal-coated wires ?/km	
0.5	7	-	-	-	-	-	3 <sup>4.5</sup> ohm	3 <sup>4.7</sup> ohm	ohm
0.75	7	-	-	-	-	-	24.5	24.8	-
1	7	-	-	-	-	-	18.1	18.2	-
1.5	7	-	6	-	-	-	12.1	12.2	-
2.5	7	-	6	-	-	-	7.41	7.56	-
4	7	-	6	-	-	-	4.61	4.70	-
6	7	-	6	-	-	-	3.08	3.11	-
10	7	7	6	6	-	-	1.83	1.84	3.08
16	7	7	6	6	-	-	1.15	1.16	1.91
25	7	7	6	6	6	6	0.727	0.734	1.20
35	7	7	6	6	6	6	0.524	0.529	0.868
50	19	19	6	6	6	6	0.387	0.391	0.641
70	19	19	12	12	12	12	0.268	0.27	0.443
95	19	19	15	15	15	15	0.193	0.195	0.32
120	37	37	18	15	18	15	0.153	0.154	0.253
150	37	37	18	15	18	15	0.124	0.126	0.206
185	37	37	30	30	30	30	0.0991	0.1	0.164
240	37	37	34	30	34	30	0.0754	0.0762	0.125
300	61	61	34	30	34	30	0.0601	0.0607	0.100
400	61	61	53	53	53	53	0.047	0.0475	0.0778
500	61	61	53	53	53	53	0.0366	0.0369	0.0605
630	91	91	53	53	53	53	0.0283	0.0286	0.0469
800	91	91	53	53	-	-	0.0221	0.0224	0.0367
1 000	91	91	53	53	-	-	0.0176	0.0177	0.0291
1 200	b						0.0151	0.0151	0.0247
1 400 <sup>a</sup>	b						0.0129	0.0129	0.0212
1 600	b						0.0113	0.0113	0.0186
1 800 <sup>a</sup>	b						0.0101	0.0101	0.0165
2 000	b						0.0090	0.0090	0.0149
2 500	b						0.0072	0.0072	0.0127

<sup>a</sup> These sizes are non-preferred. Other non-preferred sizes are recognized for some specialized applications but are not within the scope of this standard .

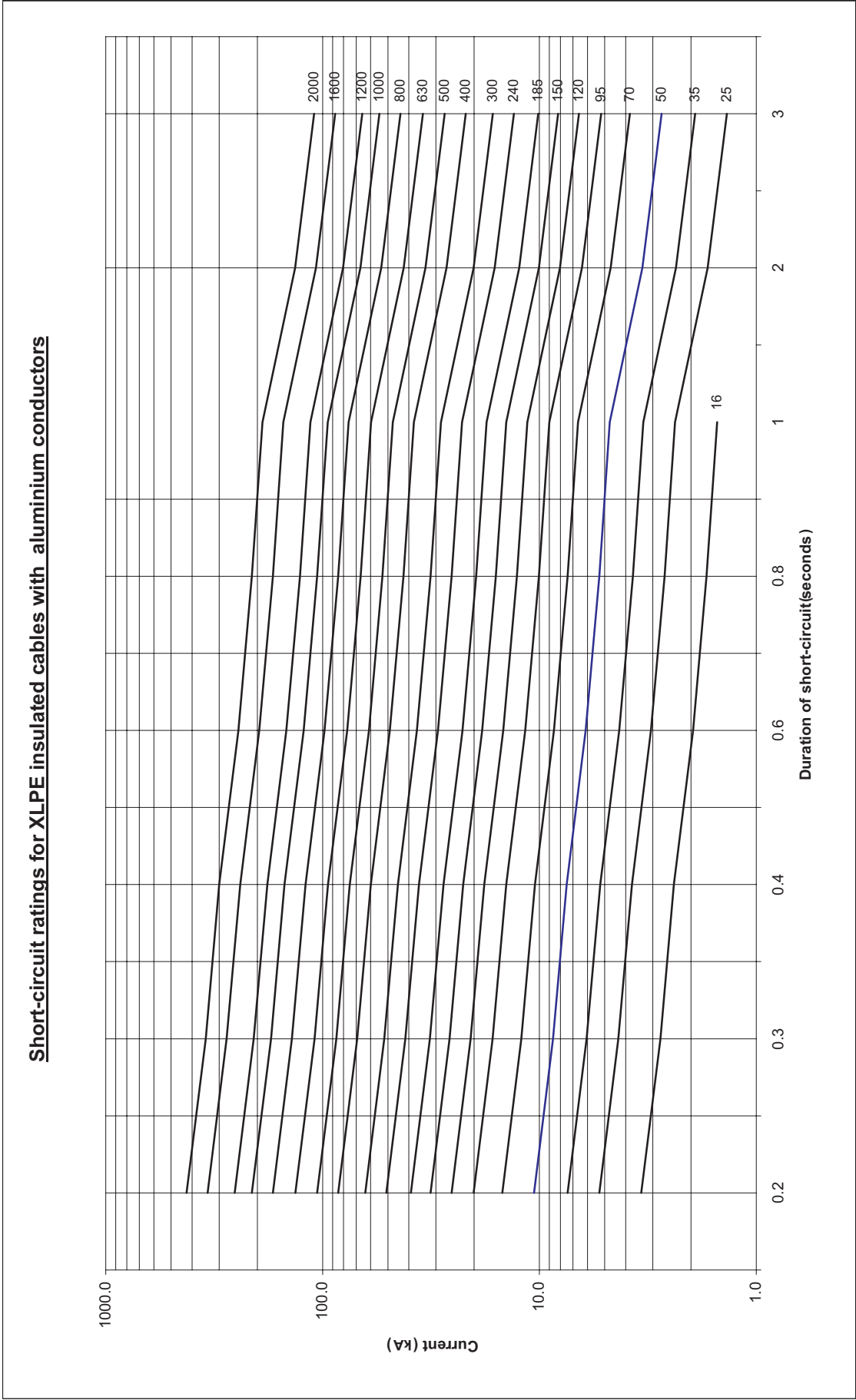
<sup>b</sup> The minimum number of wires for these sizes is not specified. These sizes may be constructed from 4.5 or 6 equal segments (Milliken).

<sup>c</sup> For stranded aluminium alloy conductors having the same nominal cross-sectional area as an aluminium conductor the resistance value should be agreed between the manufacture and the purchaser.

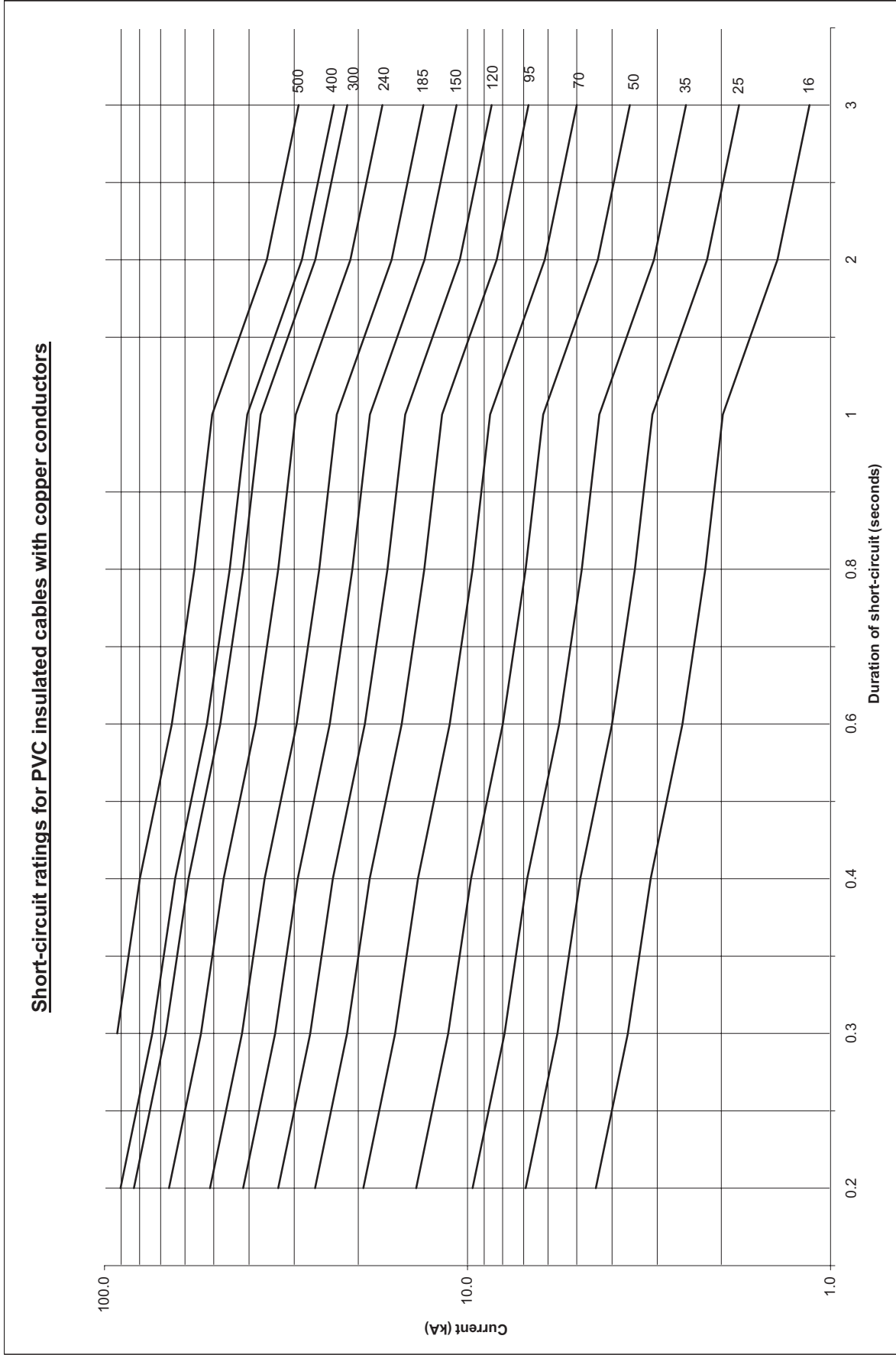
Short-circuit ratings for XLPE insulated cables with copper conductors



Short-circuit ratings for XLPE insulated cables with aluminium conductors



Short-circuit ratings for PVC insulated cables with copper conductors



**Short-circuit ratings for PVC insulated cables with aluminium conductors.**

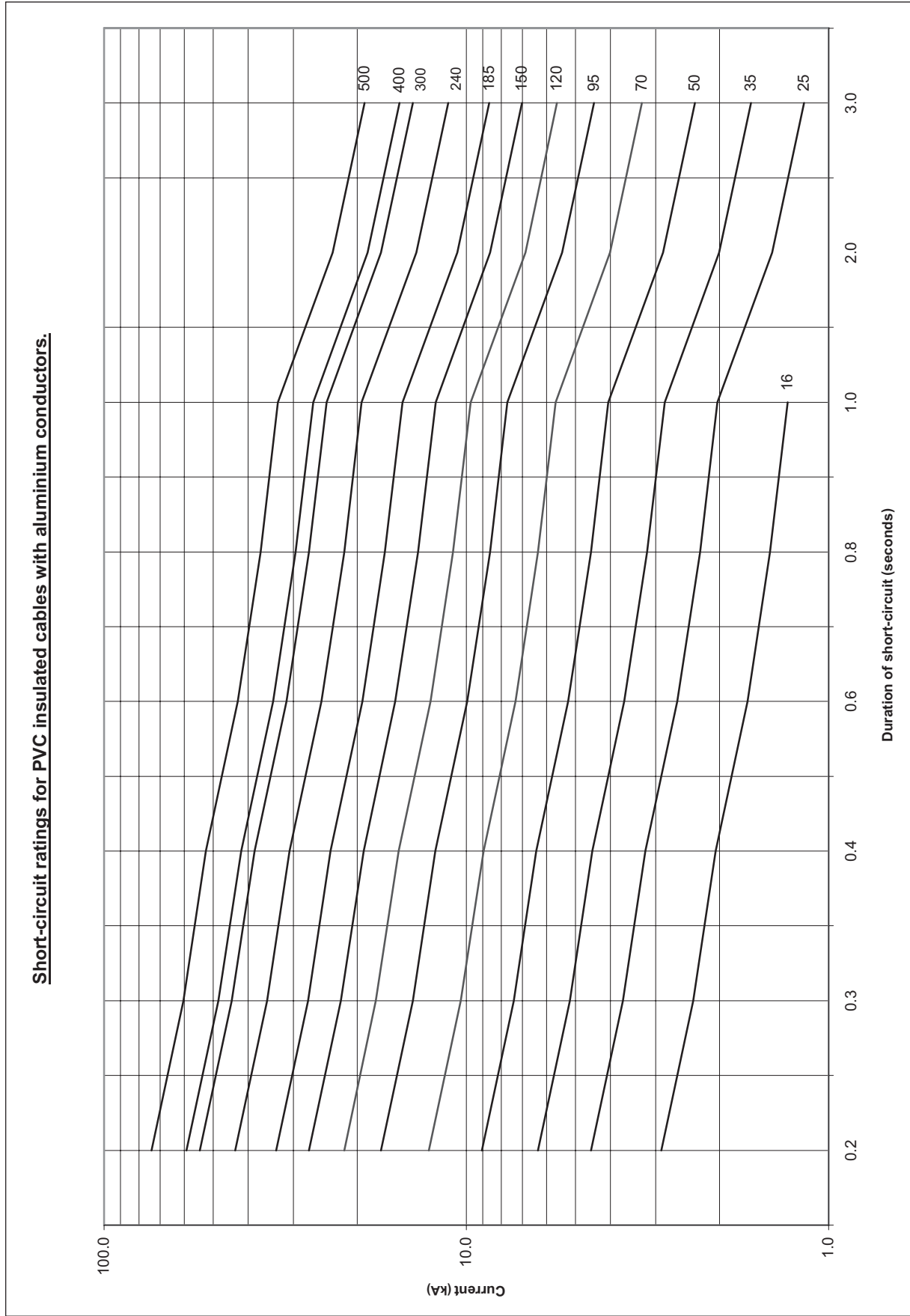
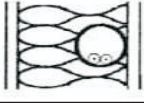
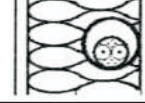

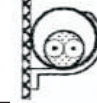






Table 1- Current carrying capacities in amperes


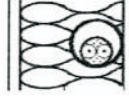




PVC insulation/Two loaded conductors/Copper or aluminium

Conductor temperature: 70 °C/Ambient temperature: 30 °C in air , 20 °C in ground

Nominal cross sectional area of conductor mm <sup>2</sup>	Installation methods						
	A1	A2	B1	B2	C	D	
							
1	2	3	4	5	6	7	
<b>Copper</b>							
1,5	14,5	14	17,5	16,5	19,5	22	
2,5	19,5	18,5	24	23	27	29	
4	26	25	32	30	36	38	
6	34	32	41	38	46	47	
10	46	43	57	52	63	63	
16	61	57	76	69	85	81	
25	80	75	101	90	112	104	
35	99	92	125	111	138	125	
50	119	110	151	133	168	148	
70	151	139	192	168	213	183	
95	182	167	232	201	258	216	
120	210	192	269	232	299	246	
150	240	219	—	—	344	278	
185	273	248	—	—	392	312	
240	321	291	—	—	461	361	
300	367	334	—	—	530	408	
<b>Aluminium</b>							
2,5	15	14,5	18,5	17,5	21	22	
4	20	19,5	25	24	28	29	
6	26	25	32	30	36	36	
10	36	33	44	41	49	48	
16	48	44	60	54	66	62	
25	63	58	79	71	83	80	
35	77	71	97	86	103	96	
50	93	86	118	104	125	113	
70	118	108	150	131	160	140	
95	142	130	181	157	195	166	
120	164	150	210	181	226	189	
150	189	172	—	—	261	213	
185	215	195	—	—	298	240	
240	252	229	—	—	352	277	
300	289	263	—	—	406	313	

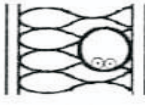
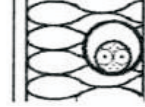



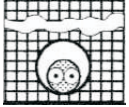
NOTE In columns 3, 5, 6 and 7, circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

Table 2 - Current carrying capacities in amperes  
 XLPE or EPR insulation/Two loaded conductors/Copper or aluminium  
 Conductor temperature: 90 oC/Ambient temperature: 30 oC in air , 20 oC in ground

Nominal cross sectional area of conductor mm <sup>2</sup>	Installation methods						
	A1	A2	B1	B2	C	D	
							
1	2	3	4	5	6	7	
<b>Copper</b>							
1,5	19	18,5	23	22	24	26	
2,5	26	25	31	30	33	34	
4	35	33	42	40	45	44	
6	45	42	54	51	58	56	
10	61	57	75	69	80	73	
16	81	76	100	91	107	95	
25	106	99	133	119	138	121	
35	131	121	164	146	171	146	
50	158	145	198	175	209	173	
70	200	183	253	221	269	213	
95	241	220	306	265	328	252	
120	278	253	354	305	382	287	
150	318	290	—	—	441	324	
185	362	329	—	—	506	363	
240	424	386	—	—	599	419	
300	486	442	—	—	693	474	
<b>Aluminium</b>							
2,5	20	19,5	25	23	26	26	
4	27	26	33	31	35	34	
6	35	33	43	40	45	42	
10	48	45	59	54	62	56	
16	64	60	79	72	84	73	
25	84	78	105	94	101	93	
35	103	96	130	115	126	112	
50	125	115	157	138	154	132	
70	158	145	200	175	198	163	
95	191	175	242	210	241	193	
120	220	201	281	242	280	220	
150	253	230	—	—	324	249	
185	288	262	—	—	371	279	
240	338	307	—	—	439	322	
300	387	352	—	—	508	364	

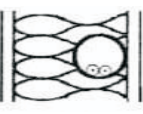
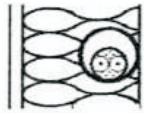
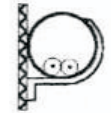


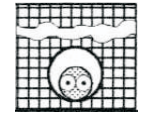
NOTE In columns 3, 5, 6 and 7, circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

Table 3- Current carrying capacities in amperes  
 PVC insulation/Three loaded conductors/Copper or aluminium  
 Conductor temperature: 70 oC/Ambient temperature: 30 oC in air , 20 oC in ground

Nominal cross sectional area of conductor mm <sup>2</sup>	Installation methods					
	A1	A2	B1	B2	C	D
						
1	2	3	4	5	6	7
<b>Copper</b>						
1,5	13,5	13	15,5	15	17,5	18
2,5	18	17,5	21	20	24	24
4	24	23	28	27	32	31
6	31	29	36	34	41	39
10	42	39	50	46	57	52
16	56	52	68	62	76	67
25	73	68	89	80	96	86
35	89	83	110	99	119	103
50	108	99	134	118	144	122
70	136	125	171	149	184	151
95	164	150	207	179	223	179
120	188	172	239	206	259	203
150	216	196	—	—	299	230
185	245	223	—	—	341	258
240	286	261	—	—	403	297
300	328	298	—	—	464	336
<b>Aluminium</b>						
2,5	14	13,5	16,5	15,5	18,5	18,5
4	18,5	17,5	22	21	25	24
6	24	23	28	27	32	30
10	32	31	39	36	44	40
16	43	41	53	48	59	52
25	57	53	70	62	73	66
35	70	65	86	77	90	80
50	84	78	104	92	110	94
70	107	98	133	116	140	117
95	129	118	161	139	170	138
120	149	135	186	160	197	157
150	170	155	—	—	227	178
185	194	176	—	—	259	200
240	227	207	—	—	305	230
300	261	237	—	—	351	260

NOTE In columns 3, 5, 6 and 7, circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

Table 4- Current carrying capacities in amperes  
 XLPE or EPR insulation/Three loaded conductors/Copper or aluminium  
 Conductor temperature: 90 oC/Ambient temperature: 30 oC in air , 20 oC in ground

Nominal cross sectional area of conductor mm <sup>2</sup>	Installation methods					
	A1	A2	B1	B2	C	D
						
1	2	3	4	5	6	7
<b>Copper</b>						
1,5	17	16,5	20	19,5	22	22
2,5	23	22	28	26	30	29
4	31	30	37	35	40	37
6	40	38	48	44	52	46
10	54	51	66	60	71	61
16	73	68	88	80	96	79
25	95	89	117	105	119	101
35	117	109	144	128	147	122
50	141	130	175	154	179	144
70	179	164	222	194	229	178
95	216	197	269	233	278	211
120	249	227	312	268	322	240
150	285	259	—	—	371	271
185	324	295	—	—	424	304
240	380	346	—	—	500	351
300	435	396	—	—	576	396
<b>Aluminium</b>						
2,5	19	18	22	21	24	22
4	25	24	29	28	32	29
6	32	31	38	35	41	36
10	44	41	52	48	57	47
16	58	55	71	64	76	61
25	76	71	93	84	90	78
35	94	87	116	103	112	94
50	113	104	140	124	136	112
70	142	131	179	156	174	138
95	171	157	217	188	211	164
120	197	180	251	216	245	186
150	226	206	—	—	283	210
185	256	233	—	—	323	236
240	300	273	—	—	382	272
300	344	313	—	—	440	308

NOTE In columns 3, 5, 6 and 7, circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

Table 5- Current carrying capacities in amperes  
 PVC insulation/Copper conductors  
 Conductor temperature:70 °C/Reference ambient temperature:30 °C

Nominal cross sectional area of conductor mm <sup>2</sup>	Installation methods						
	Multi core cables		Single core cable				
	Two loaded conductors	Three loaded conductors	Two loaded conductors touching	Three loaded conductors trefoil	Three loaded conductors, flat		
					Touching	Spaced	
				Horizontal		Vertical	
	Method E	Method E	Method F	Method F	Method F	Method G	Method G
1	2	3	4	5	6	7	8
1,5	22	18,5	—	—	—	—	—
2,5	30	25	—	—	—	—	—
4	40	34	—	—	—	—	—
6	51	43	—	—	—	—	—
10	70	60	—	—	—	—	—
16	94	80	—	—	—	—	—
25	119	101	131	110	114	146	130
35	148	126	162	137	143	181	162
50	180	153	196	167	174	219	197
70	232	196	251	216	225	281	254
95	282	238	304	264	275	341	311
120	328	276	352	308	321	396	362
150	379	319	406	356	372	456	419
185	434	364	463	409	427	521	480
240	514	430	546	485	507	615	569
300	593	497	629	561	587	709	659
400	—	—	754	656	689	852	795
500	—	—	868	749	789	982	920
630	—	—	1005	855	905	1138	1070

NOTE Circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes related to shaped conductors and may safely be applied to circular conductors

Table 6- Current carrying capacities in amperes  
PVC insulation/Aluminium conductors  
Conductor temperature:70 °C/Reference ambient temperature:30 °C

Nominal cross sectional area of conductor mm <sup>2</sup>	Insulation methods						
	Multi core cables		Single core cable				
	Two loaded conductors	Three loaded conductors	Two loaded conductors touching	Three loaded conductors trefoil	Three loaded conductors, flat		
					Touching	Spaced	
		Horizontal		Vertical			
	Method E	Method E	Method F	Method F	Method F	Method G	Method G
1	2	3	4	5	6	7	8
2,5	23	19,5	—	—	—	—	—
4	31	26	—	—	—	—	—
6	39	33	—	—	—	—	—
10	54	46	—	—	—	—	—
16	73	61	—	—	—	—	—
25	89	78	98	84	87	112	99
35	111	96	122	105	109	139	124
50	135	117	149	128	133	169	152
70	173	150	192	166	173	217	196
95	210	183	235	203	212	265	241
120	244	212	273	237	247	308	282
150	282	245	316	274	287	356	327
185	322	280	363	315	330	407	376
240	380	330	430	375	392	482	447
300	439	381	497	434	455	557	519
400	—	—	600	526	552	671	629
500	—	—	694	610	640	775	730
630	—	—	808	711	746	900	852

NOTE Circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes related to shaped conductors and may safely be applied to circular conductors

Table 7- Current carrying capacities in amperes  
 XLPE or EPR insulation/Copper conductors  
 Conductor temperature: 90 °C/Reference ambient temperature: 30 °C

Nominal cross sectional area of conductor mm <sup>2</sup>	Insulation methods						
	Multi core cables		Single core cable				
	Two loaded conductors	Three loaded conductors	Two loaded conductors touching	Three loaded conductors trefoil	Three loaded conductors, flat		
					Touching	Spaced	
				Horizontal		Vertical	
	Method E	Method E	Method F	Method F	Method F	Method G	Method G
1	2	3	4	5	6	7	8
1,5	26	23	—	—	—	—	—
2,5	36	32	—	—	—	—	—
4	49	42	—	—	—	—	—
6	63	54					
10	86	75	—	—	—	—	—
16	115	100	—	—	—	—	—
25	149	127	161	135	141	182	161
35	185	158	200	169	176	226	201
50	225	192	242	207	216	275	246
70	289	246	310	268	279	353	318
95	352	298	377	328	342	430	389
120	410	346	437	383	400	500	454
150	473	399	504	444	464	577	527
185	542	456	575	510	533	661	605
240	641	538	679	607	634	781	719
300	741	621	783	703	736	902	833
400	—	—	940	823	868	1085	1008
500	—	—	1083	946	998	1253	1169
630	—	—	1254	1088	1151	1454	1362

NOTE Circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors

Table 8- Current carrying capacities in amperes  
 XLPE or EPR insulation/Aluminium conductors  
 Conductor temperature: 90 °C/Reference ambient temperature: 30 °C

Nominal cross sectional area of conductor mm <sup>2</sup>	Insulation methods						
	Multi core cables		Single core cable				
	Two loaded conductors	Three loaded conductors	Two loaded conductors touching	Three loaded conductors trefoil	Three loaded conductors, flat		
					Touching	Spaced	
			Horizontal			Vertical	
	Method E	Method E	Method F	Method F	Method F	Method G	Method G
1	2	3	4	5	6	7	8
2,5	28	24	—	—	—	—	—
4	38	32	—	—	—	—	—
6	49	42	—	—	—	—	—
10	67	58	—	—	—	—	—
16	91	77	—	—	—	—	—
25	108	97	121	103	107	138	122
35	135	120	150	129	135	172	153
50	164	146	184	159	165	210	188
70	211	187	237	206	215	271	244
95	257	227	289	253	264	332	300
120	300	263	337	296	308	387	351
150	346	304	389	343	358	448	408
185	397	347	447	395	413	515	470
240	470	409	530	471	492	611	561
300	543	471	613	547	571	708	652
400	—	—	740	663	694	856	792
500	—	—	856	770	806	991	921
630	—	—	996	899	942	1154	1077

NOTE Circular conductors are assumed for sizes up to and including 16 mm<sup>2</sup>. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors



Table 9- Correction factor for ambient air temperatures other than 30oC  
to be applied to the current carrying capacities for cables in the air

Ambient temperature °C <sup>a</sup>	Insulation		Mineral <sup>a</sup>	
	PVC	XLPE and EPR	PVC covered or bare and exposed to touch 70o C	Bare not exposed to touch 105 Oc
10	1,22	1,15	1,26	1,14
15	1,17	1,12	1,20	1,11
20	1,12	1,08	1,14	1,07
25	1,06	1,04	1,07	1,04
35	0,94	0,96	0,93	0,96
40	0,87	0,91	0,85	0,92
45	0,79	0,87	0,87	0,88
50	0,71	0,82	0,67	0,84
55	0,61	0,76	0,57	0,80
60	0,50	0,71	0,45	0,75
65	—	0,65	—	0,70
70	—	0,58	—	0,65
75	—	0,50	—	0,60
80	—	0,41	—	0,54
85	—	—	—	0,47
90	—	—	—	0,40
95	—	—	—	0,32

<sup>a</sup> For higher ambient temperatures, consult manufacturer.

Table 10 - Correction factors for ambient ground temperatures other than 20 °C to be applied to the current carrying capacities for cables in ducts in the ground

Ground temperature °C	Insulation	
	PVC	XLPE and EPR
10	1,10	1,07
15	1,05	1,04
25	0,95	0,96
30	0,89	0,93
35	0,84	0,89
40	0,77	0,85
45	0,71	0,80
50	0,63	0,76
55	0,55	0,71
60	0,45	0,65
65	—	0,60
70	—	0,53
75	—	0,46
80	—	0,38

Table 11 - Correction factors for cables in buried ducts for soil thermal resistivities other than 2,5 K.m/W to be applied to the current carrying capacities for reference method D

Thermal resistivity, K.m/W	1	1,5	2	2,5	3
Correction factor	1,18	1,1	1,05	1	0,96
NOTE 1 The correction factors given have been averaged over the range of conductor sizes and types of installation included in tables 1 to 4 . The overall accuracy of correction factors in within $\pm 5\%$ .					
NOTE 2 The correction factors are applicable to cables drawn into buried ducts ; for cables laid direct in the ground the correction factors for thermal resistivities less than 2,5 K.m/W will be higher.Where more precise values are required they may be calculated by methods given in IEC 60287 .					
NOTE 3 The correction factors are applicable to ducts buried at depths of up to 0,8 m.					

Table 12 - Reduction factors for groups of more than one than one circuit or of more than one multi core cable to be used with current carrying capacities of tables 1 to 8

Item	Arrangement (cables touching)	Number of circuits or multi core cables												To be used with current carrying capacities reference
		1	2	3	4	5	6	7	8	9	12	16	20	
1	Bunched in air, on a surface, embedded or, enclosed	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,45	0,41	0,38	1 to 4 Method A-F
2	Single layer on wall, floor or unperforated tray	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	No further reduction factor for more than nine circuits or multicore cables			1 to 8 Method C
3	Single layer fixed directly under a wooden ceiling	0,95	0,81	0,72	0,68	0,66	0,64	0,63	0,62	0,61				5 to 8 Methods E and F
4	Single layer on a perforated horizontal or vertical tray	1,00	0,88	0,82	0,77	0,75	0,73	0,73	0,72	0,72				
5	Single layer on ladder support or cleats etc.	1,00	0,87	0,82	0,80	0,80	0,79	0,79	0,78	0,78	0,70	0,64	0,59	

NOTE 1 These factors are applicable to uniform groups of cables, equally loaded.

NOTE 2 Where horizontal clearances between adjacent cables exceeds twice their overall diameter, no reduction factor need applied.

NOTE 3 The same factors applied to :

groups of two or three single core cables:

multi core cables.

NOTE 4 If a system consists of both two- and three core cables, the total number of cables is taken as the number of circuits, and the corresponding factor is applied to the tables for two loaded conductors for the two core cables and to the tables for three loaded conductors for the three core cables.

NOTE 5 If a group consists of  $n$  single core cables it may either be considered as  $n/2$  circuits of two loaded conductors or  $n/3$  circuits of three loaded conductors.

NOTE 6 The values given have been averaged over the range of conductor sizes and types of installation included in tables 1 to 8 the overall accuracy of tabulated values is within 5%.

NOTE 7 For some installations and for other methods not provided for in the above table, it may be appropriate to use factors calculated for specific cases.

Table 13 - Reduction factors for more than one circuit,  
cables laid directly in the ground  
Installation method D in tables 1 to 4  
Single core or multi core cables

Number of circuits	cable to cable clearance (a) <sup>a</sup>				
	Nil (cables touching)	One cable diameter	0,125 m	0,25 m	0,5 m
2	0,75	0,80	0,85	0,90	0,90
3	0,65	0,70	0,75	0,80	0,85
4	0,60	0,60	0,70	0,75	0,80
5	0,55	0,55	0,65	0,70	0,80
6	0,50	0,55	0,60	0,70	0,80

<sup>a</sup> Multi core cables



<sup>a</sup> Single core cables



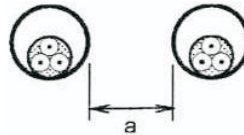
NOTE Values given apply to an installation depth of 0,7 m and a soil thermal resistivity of 2,5 K.m/W. They are average values for the range of cable sizes and types quoted for tables 1 to 4. The process of averaging, together with rounding off, can result in some cases in errors up to  $\pm 10\%$ . (Where more precise values are required they may be calculated by methods given in IEC 60287-2-1).

Table 14 - Reduction factors for more than one circuit,  
cables laid in ducts in the ground  
Installation method D in tables 1 to 4

A) Multi core cables in single way ducts

Number of cables	Duct to duct clearance (a) <sup>o</sup>			
	Nil (cables touching)	0,25 m	0,5 m	1,0 m
2	0,85	0,90	0,95	0,95
3	0,75	0,85	0,90	0,95
4	0,70	0,80	0,85	0,90
5	0,65	0,80	0,85	0,90
6	0,60	0,80	0,80	0,90

<sup>o</sup> Multi core cables

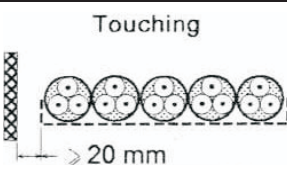
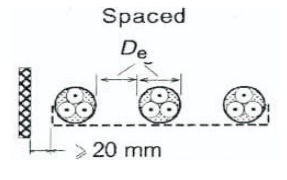
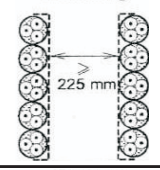
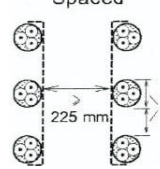
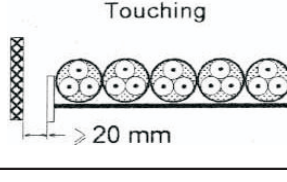
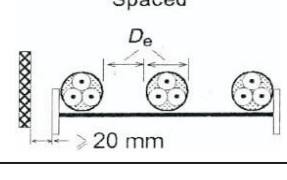


NOTE Values given apply to an installation depth of 0,7 m and a soil thermal resistivity of 2,5 K.m/W. They are average values for the range of cable sizes and types quoted for tables 1 to 4. The process of averaging, together with rounding off, can result in some cases in errors up to  $\pm 10\%$ . Where more precise values are required they may be calculated by methods given in IEC 60287

B) Single core cables in single way ducts

Number of core circuits of two or three cables	Duct to duct clearance (a) <sup>o</sup>			
	Nil (cables touching)	0,25 m	0,5 m	1,0 m
2	0,80	0,90	0,90	0,95
3	0,70	0,80	0,85	0,90
4	0,65	0,75	0,80	0,90
5	0,60	0,70	0,80	0,90
6	0,60	0,70	0,80	0,90

Table 15 - Reduction factors for group of more than one multi core cable  
to be applied to reference ratings for multi core cables in free air  
Method of installation E in tables 5 to 8

Methods of installation			Number of trays	Number of cables					
				1	2	3	4	6	9
Perforated trays (note 3)	31	 <p>Touching</p>	1	1,00	0,88	0,82	0,79	0,76	0,73
			2	1,00	0,87	0,80	0,77	0,73	0,68
			3	1,00	0,86	0,79	0,76	0,71	0,66
		 <p>Spaced</p>	1	1,00	1,00	0,98	0,95	0,91	
			2	1,00	0,99	0,96	0,92	0,87	
			3	1,00	0,98	0,95	0,91	0,85	
Vertical perforated trays (note4)	31	 <p>Touching</p>	1	1,00	0,88	0,82	0,78	0,73	0,72
			2	1,00	0,88	0,81	0,76	0,71	0,70
		 <p>Spaced</p>	1	1,00	0,91	0,89	0,88	0,87	
			2	1,00	0,91	0,88	0,87	0,85	
			3	1,00	0,91	0,88	0,87	0,85	
			4	1,00	0,91	0,88	0,87	0,85	
Ladder supports cleats, etc. (note 3)	32 33 34	 <p>Touching</p>	1	1,00	0,87	0,82	0,80	0,79	0,78
			2	1,00	0,86	0,80	0,78	0,76	0,73
			3	1,00	0,85	0,79	0,76	0,73	0,70
		 <p>Spaced</p>	1	1,00	1,00	1,00	1,00	1,00	
			2	1,00	0,99	0,98	0,97	0,96	
			3	1,00	0,98	0,97	0,96	0,93	

NOTE 1 Values given are averages for the cables types and range of conductor sizes considered in tables 5 to 8. The spread of values is generally less than 5 %

NOTE 2 Factors apply to single layer groups of cables as shown above and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and must be determined by an appropriate method.

NOTE 3 Values are given for vertical spacings between trays of 300 mm and at least 20 mm between trays and wall. For closer spacing the factors should be reduced.

NOTE 4 Values are given for horizontal spacing between trays of 225 mm with trays mounted back to back. For closer spacing the factors should be reduced.

Table 16 - Reduction factors for group of more than one circuit  
of single core cables (note 2) to be applied to reference rating for one circuit  
of single core cables in free air  
Method of installation F in tables. 5 to 8

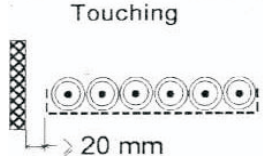
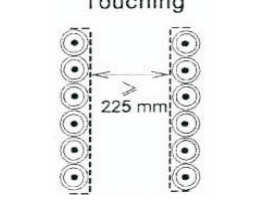
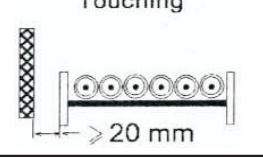
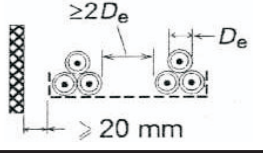
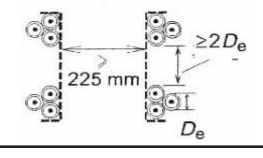
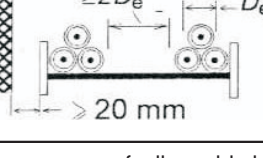
Method of installation			Number of trays	Number of three phase circuits (note 5)			Use as a multiplier to rating for
				1	2	3	
Perforated trays (note 3)	31		1	0,98	0,91	0,87	Three cables in horizontal formation
			2	0,96	0,87	0,81	
			3	0,95	0,86	0,78	
Vertical perforated trays (note 4)	31		1	0,96	0,86	Three cables in vertical formation	
			2	0,95	0,84		
Ladder supports cleats, etc (note 3)	32 33 34		1	1,00	0,97	0,96	Three cables in horizontal formation
			2	0,98	0,93	0,89	
			3	0,97	0,92	0,86	
Perforated trays (note 3)	31		1	1,00	0,98	0,96	Three cables in trefoil formation
			2	0,97	0,93	0,89	
			3	0,96	0,92	0,86	
Vertical perforated trays (note 4)	31		1	1,00	0,91	0,89	
			2	1,00	0,90	0,86	
Ladder supports cleats, etc (note 3)	32 33 34		1	1,00	1,00	1,00	
			2	0,97	0,95	0,93	
			3	0,96	0,94	0,90	
<p>NOTE 1 Values given are averages for the cable types and range of conductor sizes considered in table 5 to 8. The spread of values is generally less than 5%</p> <p>NOTE 2 Factors are given for single layers of cables (or trefoil groups) as shown in the table and do not apply when cables are installed in more than one layer of touching each other. Values for such installations may be significantly lower and must be determined by an appropriate method.</p> <p>NOTE 3 Values are given for vertical spacings between trays of 300 m. For closer spacing the factors should be reduced.</p> <p>NOTE 4 Values are given for horizontal spacing between trays of 225 m with trays mounted back to back and at least 20mm between the trays and any wall. For closer spacing the factors should be reduced.</p> <p>NOTE 5 For circuits having more than one cable in parallel per phase, each three phase set of conductors should be considered as a circuit for the purpose of this table.</p>							

Table 17 - Reduction factors for groups of several circuits or of several multi core cables

Item	Arrangement	Number of circuits or multi core cables								
		1	2	3	4	6	9	12	16	20
1	Embedded or enclosed	1,00	0,80	0,70	0,70	0,55	0,50	0,45	0,40	0,40
2	Single layer on walls, floors or on unperforated trays	1,00	0,85	0,80	0,75	0,70	0,70			
3	Single layer fixed directly under a ceiling	0,95	0,80	0,70	0,70	0,65	0,60			
4	Single layer on perforated horizontal trays or on vertical trays	1,00	0,90	0,80	0,75	0,75	0,70			
5	Single layer on cable ladder supports or caeats, etc	1,00	0,85	0,80	0,80	0,80	0,80			

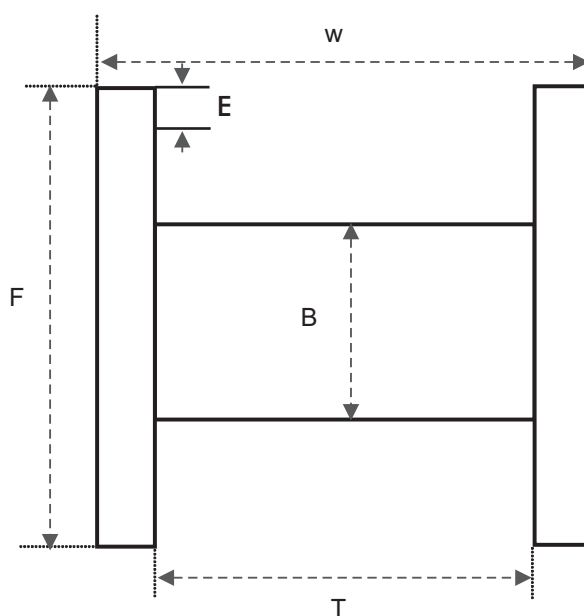


Max Cable length in meters on standard drums

Drum Sizes													
Cable Dia.mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia.mm
6	1326	3961											6
7	975	2910											7
8	746	2228	4391										8
9	590	1760	3470										9
10	478	1426	2810	4566									10
11	395	1178	2323	3774									11
12	332	990	1952	3171	4912								12
13	283	844	1663	2702	4185								13
14		727	1434	2330	3609	4934							14
15		634	1249	2029	3144	4298							15
16		557	1098	1784	2763	3777							16
17		493	972	1580	2448	3346	4858						17
18		440	867	1409	2183	2985	4333	4643					18
19		395	778	1265	1959	2679	3889	4167	4722				19
20		356	703	1142	1768	2417	3510	3760	4262				20
21		323	637	1035	1604	2193	3183	3411	3866				21
22		295	581	943	1461	1998	2901	3108	3522	4815			22
23		270	531	863	1337	1828	2654	2843	3223	4406			23
24			488	793	1228	1679	2437	2611	2960	4046			24
25			450	731	1132	1547	2246	2407	2728	3729			25
26			416	675	1046	1430	2077	2225	2522	3448			26
27			386	626	970	1326	1926	2063	2338	3197			27
28			358	582	902	1233	1791	1919	2174	2973			28
29			334	543	841	1150	1669	1789	2027	2771	4826		29
30			312	507	786	1074	1560	1671	1894	2590	4510		30
31			292	475	736	1006	1461	1565	1774	2425	4224		31
32			274	446	691	944	1371	1469	1665	2276	3964		32
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33
34				395	612	836	1214	1301	1475	2016	3511	4709	34
35				373	577	789	1146	1228	1392	1903	3313	4444	35
36				352	546	746	1083	1161	1315	1798	3132	4200	36
37				334	517	706	1026	1099	1245	1702	2965	3976	37
38				316	490	670	972	1042	1181	1614	2811	3770	38
39				300	465	636	923	989	1121	1532	2669	3579	39
40				285	442	604	877	940	1065	1457	2537	3402	40
41				272	421	575	835	895	1014	1386	2415	3238	41
42				259	401	548	796	853	966	1321	2301	3086	42
43					383	523	759	814	922	1260	2195	2944	43
44					365	499	725	777	881	1204	2097	2812	44
45					349	478	693	743	842	1151	2004	2688	45
46					334	457	663	711	806	1101	1918	2573	46
47					320	438	636	681	772	1055	1837	2464	47
48					307	420	609	653	740	1012	1762	2363	48
49					295	403	585	626	710	971	1691	2267	49
50					283	387	562	602	682	932	1624	2178	50
51					272	372	540	578	655	896	1561	2093	51
52					262	358	519	556	630	862	1501	2013	52
53					252	344	500	535	607	830	1445	1938	53
54						332	481	516	585	799	1392	1867	54
55						320	464	497	564	770	1342	1800	55
56						308	448	480	544	743	1294	1736	56
57						298	432	463	525	717	1249	1676	57
58						287	417	447	507	693	1207	1618	58
59						278	403	432	490	670	1166	1564	59
60						269	390	418	474	647	1127	1512	60
61						260	377	404	458	626	1091	1463	61
62						252	365	391	443	606	1056	1416	62
63							354	379	430	587	1023	1372	63
64							343	367	416	569	991	1329	64
65							332	356	403	552	961	1288	65
66							322	345	391	535	932	1250	66
67							313	335	380	519	904	1213	67
68							304	325	369	504	878	1177	68
69							295	316	358	490	853	1143	69
70							287	307	348	476	828	1111	70
71							278	298	338	462	805	1080	71
72							271	290	329	450	783	1050	72
73							263	282	320	437	762	1022	73
74							256	275	311	426	741	994	74
75							250	267	303	414	722	968	75
76								260	295	403	703	942	76
77								254	288	393	685	918	77
78									280	383	667	895	78
79									273	373	650	872	79
80									266	364	634	851	80
81									260	355	619	830	81
82									254	347	604	810	82
83										338	589	790	83
84										330	575	772	84
85										323	562	753	85
86										315	549	736	86
87										308	536	719	87
88										301	524	703	88
89										294	512	687	89
90										288	501	672	90
91										281	490	657	91
92										275	480	643	92
93										269	469	629	93
94										264	459	616	94
95										258	450	603	95
96										253	440	591	96
97											431	579	97
98											423	567	98
99											414	555	99
100											406	544	100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





# ABHAR WIRE + CABLE CO.



ISO 9002  
Certificate No.  
QS-1147HH



Accredited by the  
Dutch Council for  
Accreditation







## Overhaed cables

Overhead cables are used in rural or semi-urban areas with low housing density. They can be placed on poles, stretched or laid on outer walls.

Overhead cables are insulated conductors and applicable for voltage levels between 1KV to 36KV.

 produces a wide variety of overhead cables as single core and bunched, with aluminum conductor and XLPE insulation according to international standards.

All  products are designed to meet the strict standards of quality, performance, and functionality, with the ultimate objective of customer s satisfaction.



# CONTENTS

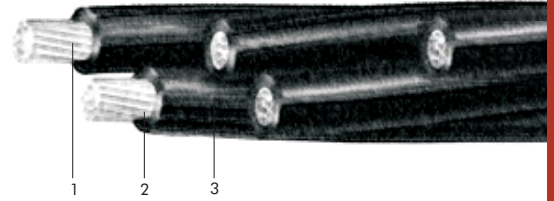
	DESIGNATION	Voltage	PAGE
<b>AERIAL BUNDLED CONDUCTOR (ABC)</b>	Al,AA/XLPE	0.6/1(1.2)	1
	(Al/SC/XLPE/SC/SCT/CWS/Pet/HDPE) + Messenger	12/20(24)	2
	(Al/SC/XLPE/SC/SCT/CWS/Pet/HDPE) + Messenger	18/30(36)	3
<b>Covered Conductors (CC)</b>	Covered Conductors (CC)	12/20(24)	4



Al,AA/XLPE \*

NFC 33-209

Aluminium conductor,  
weather resistant XLPE Insulation



## 0.6/1(1.2) KV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness		Street Lighting mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
	Phases mm	Nule (Messenger) mm			
3x 35+54.6+16 RM	1.6	1.6	1.2	27.5	672
3x 50+54.6+16 RM	1.6	1.6	1.2	30.5	782
3x 70+54.6+16 RM	1.8	1.6	1.2	36.2	996
3x 95+70 +16 RM	1.8	1.5	1.2	40.8	1,263
3x120+70 +16 RM	1.8	1.5	1.2	44.6	1,488
3x150+70 +16 RM	1.7	1.5	1.2	47.5	1,716

1-Stranded circular Aluminum Conductor (Phases) 2-Stranded circular Aluminum- Alloy Conductor (Neutral, Messenger) 3-XLPE Insulation

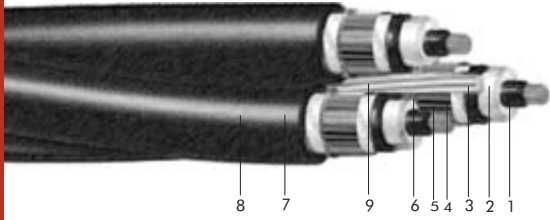
Maximum conductor temperature: 90°C

\* Aerial Bundled conductor cables.

0.6/1(1.2) KV

OVERHEAD CABLES





**IEC 60502-1 [Al/SC/XLPE/SC/SCT/CWS/Pet/HDPE]+ Messenger\***

Wire screened, Three single core,  
Medium voltage power cable with  
Aluminum conductor and XLPE insulation.

**12/20(24) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50/16+50 RM	5.5	1.8	67.2	2,908
3x 70/16+50 RM	5.5	1.9	71.3	3,249
3x 95/16+50 RM	5.5	1.9	75.0	3,605
3x120/16+70 RM	5.5	2.0	78.4	4,055
3x150/25+70 RM	5.5	2.0	81.2	4,650
3x185/25+70 RM	5.5	2.1	85.5	5,146

1-Stranded circular Aluminum Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive tape 6-Copper wire Screen 7-Polyester tape 8-HDPE sheath 9-High tensile galvanized steel (Messenger)

Maximum conductor temperature: 90°C

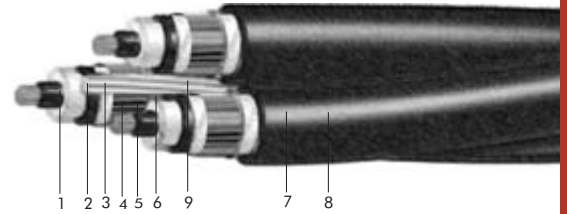
\* Aerial Bundled conductor cables.





[Al/SC/XLPE/SC/SCT/CWS/Pet/HDPE]+Messenger\* IEC 60502-1

Wire screened, Three single core,  
Medium voltage power cable with  
Aluminum conductor and XLPE insulation.



## 18/30(36) kV

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 50/16+50 RM	8.0	2.0	79.1	3,633
3x 70/16+50 RM	8.0	2.0	82.5	3,982
3x 95/16+50 RM	8.0	2.1	86.6	4,412
3x120/16+70 RM	8.0	2.1	89.6	4,861
3x150/25+70 RM	8.0	2.2	93.1	5,525
3x185/25+70 RM	8.0	2.2	97.0	6,027

1-Stranded circular Aluminium Conductor 2-Semi-conductive Conductor Screen 3-XLPE Insulation 4-Semi-conductive Insulation Screen 5-Semi-conductive tape 6-Copper wire Screen 7-Polyester tape 8-HDPE sheath 9-High tensile galvanized steel (Messenger)

Maximum conductor temperature: 90°C

\* Aerial Bundled conductor cables.

Other related voltage upon request



**EN 50397-1**

AA/XLPE

**Description:**

Aluminium alloy conductor, weather resistant  
XLPE insulation,  
Covered Conductors (CC)

**12/20(24) kV**

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Cable Diameter mm	Total Weight kg/km
1x35	2.3	12.3	164
1x50	2.3	13.6	214
1x70	2.3	15.7	282
1x95	2.3	17.4	363
1x120	2.3	19.0	443
1x150	2.3	20.6	536
1x185	2.3	22.4	645

1-Stranded circular aluminium alloy 2-XLPE insulation

**Electrical Data**

Number of cores & Cross section		Resistance at 20 °C (Ohm/km)	Current rating (A)	Circuit Current (A)
1x35	RM	0.986	195	3.2
1x50	RM	0.72	245	4.4
1x70	RM	0.493	300	6.9
1x95	RM	0.363	370	8.9
1x120	RM	0.288	425	11.7
1x150	RM	0.236	495	14.5
1x185	RM	0.187	570	18.0



# TECHNICAL DATA



## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Helix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminium Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated



<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)



Table -1  
Permissible current of cable for networks

Number of conductors × section mm <sup>2</sup>	Maximum Current carrying Capacity (Core temperature :90°C) (A)		Voltage Drop (mV*A/m)
	in the air at 30°C. held between posts	Public lighting In the air at 30°C	
3 * 25 + 54,6	112	---	2,20
<u>3 * 35 + 54,6 + 16</u>	138	83	1,65
3 * 50 + 54,6 + 16	168	83	1,27
3 * 70 + 54,6 + 16	213	83	0,87
3 * 70 + 54,6 + 16	213	111	0,87
<u>3 * 70 + 70 + 16</u>	213	83	0,87
3 * 95 + 70 + 16	253	83	0,67
3 * 120 + 70 + 16	300	83	0,55
3 * 120 + 95 + 16	300	83	0,55
<u>3* 150 + 70 + 16</u>	344	83	0,46
3* 150 + 95 + 16	344	83	0,46

NOTE : 54,6 mm<sup>2</sup>, 70mm<sup>2</sup>, and 95mm<sup>2</sup>are messenger in aluminium alloy



Table -2  
Permissible current of connection cables

Number of conductors × section  mm <sup>2</sup>	Maximum Current carrying Capacity (Core temperature: 90°C)  (A)			Voltage drop with cosφ=0,8 (mV*A/m)
	Under use in the wall conduit at hottest point	In the air	On the wall	
<u>2 * 16</u> (SP)	72	93	83	3,98
<u>2 * 25</u> (SP)	95	122	111	2,54
<u>4 * 16</u> (TP)	63	83	75	3,44
<u>4 * 25</u> (TP)	83	111	99	2,20
<u>2 * 16 + 2 * 1,5</u> (SP)	72	93	83	3,98
<u>2 * 25 + 2 * 1,5</u> (SP)	95	122	111	2,54
<u>4 * 16 + 2 * 1,5</u> (TP)	63	83	75	3,44
<u>4 * 25 + 2 * 1,5</u> (TP)	83	111	99	2,20

(SP) Single phased Network.

(TP) Triple phased Network.

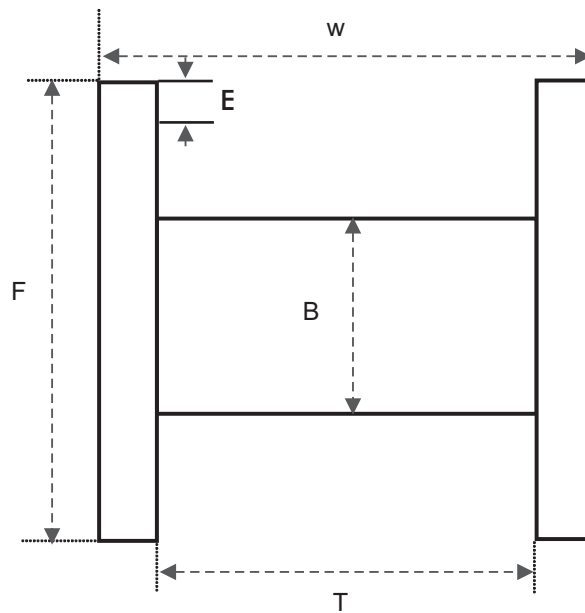


Max Cable length in meters on standard drums															
Drum Sizes															
Cable Dia. mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia. mm		
6	1326	3961											6		
7	975	2910											7		
8	746	2228	4391										8		
9	590	1760	3470										9		
10	478	1426	2810	4566									10		
11	395	1178	2323	3774									11		
12	332	990	1952	3171	4912								12		
13	283	844	1663	2702	4185								13		
14		727	1434	2330	3609	4934							14		
15		634	1249	2029	3144	4298							15		
16		557	1098	1784	2763	3777							16		
17		493	972	1580	2448	3346	4858						17		
18		440	867	1409	2183	2985	4333	4643					18		
19		395	778	1265	1959	2679	3889	4167	4722				19		
20		356	703	1142	1768	2417	3510	3760	4262				20		
21		323	637	1035	1604	2193	3183	3411	3866				21		
22		295	581	943	1461	1998	2901	3108	3522	4815			22		
23		270	531	863	1337	1828	2654	2843	3223	4406			23		
24			488	793	1228	1679	2437	2611	2960	4046			24		
25			450	731	1132	1547	2246	2407	2728	3729			25		
26			416	675	1046	1430	2077	2225	2522	3448			26		
27			386	626	970	1326	1926	2063	2338	3197			27		
28			358	582	902	1233	1791	1919	2174	2973			28		
29			334	543	841	1150	1669	1789	2027	2771	4826		29		
30			312	507	786	1074	1560	1671	1894	2590	4510		30		
31			292	475	736	1006	1461	1565	1774	2425	4224		31		
32			274	446	691	944	1371	1469	1665	2276	3964		32		
33				419	650	888	1289	1381	1565	2140	3727	4999	33		
34				395	612	836	1214	1301	1475	2016	3511	4709	34		
35				373	577	789	1146	1228	1392	1903	3313	4444	35		
36				352	546	746	1083	1161	1315	1798	3132	4200	36		
37				334	517	706	1026	1099	1245	1702	2965	3976	37		
38				316	490	670	972	1042	1181	1614	2811	3770	38		
39				300	465	636	923	989	1121	1532	2669	3579	39		
40				285	442	604	877	940	1065	1457	2537	3402	40		
41				272	421	575	835	895	1014	1386	2415	3238	41		
42				259	401	548	796	853	966	1321	2301	3086	42		
43					383	523	759	814	922	1260	2195	2944	43		
44					365	499	725	777	881	1204	2097	2812	44		
45					349	478	693	743	842	1151	2004	2688	45		
46					334	457	663	711	806	1101	1918	2573	46		
47					320	438	636	681	772	1055	1837	2464	47		
48					307	420	609	653	740	1012	1762	2363	48		
49					295	403	585	626	710	971	1691	2267	49		
50					283	387	562	602	682	932	1624	2178	50		
51					272	372	540	578	655	896	1561	2093	51		
52					262	358	519	556	630	862	1501	2013	52		
53					252	344	500	535	607	830	1445	1938	53		
54						332	481	516	585	799	1392	1867	54		
55						320	464	497	564	770	1342	1800	55		
56						308	448	480	544	743	1294	1736	56		
57						298	432	463	525	717	1249	1676	57		
58						287	417	447	507	693	1207	1618	58		
59						278	403	432	490	670	1166	1564	59		
60						269	390	418	474	647	1127	1512	60		
61						260	377	404	458	626	1091	1463	61		
62							252	365	391	443	606	1056	1416	62	
63								354	379	430	587	1023	1372	63	
64								343	367	416	569	991	1329	64	
65								332	356	403	552	961	1288	65	
66								322	345	391	535	932	1250	66	
67								313	335	380	519	904	1213	67	
68								304	325	369	504	878	1177	68	
69								295	316	358	490	853	1143	69	
70								287	307	348	476	828	1111	70	
71								278	298	338	462	805	1080	71	
72								271	290	329	450	783	1050	72	
73								263	282	320	437	762	1022	73	
74								256	275	311	426	741	994	74	
75								250	267	303	414	722	968	75	
76									260	295	403	703	942	76	
77									254	288	393	685	918	77	
78										280	383	667	895	78	
79										273	373	650	872	79	
80										266	364	634	851	80	
81										260	355	619	830	81	
82											254	347	810	82	
83												338	589	790	83
84												330	575	772	84
85												323	562	753	85
86												315	549	736	86
87												308	536	719	87
88												301	524	703	88
89												294	512	687	89
90												288	501	672	90
91												281	490	657	91
92												275	480	643	92
93												269	469	629	93
94												264	459	616	94
95												258	450	603	95
96												253	440	591	96
97													431	579	97
98													423	567	98
99													414	555	99
100													406	544	100





Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





# **ABHAR WIRE + CABLE CO.**



ISO 9002  
Certificate No.  
QS-1147HH




Accredited by the  
Dutch Council for  
Accreditation



## Building Wire & Cables

Building wire & cable provides power distribution within a building.

 manufactures these cables with different construction. Flexible cables constitute a major group of these cables. They use flexible conductors. The insulation used for these cables can either be made of Rubber or PVC. The PVC itself may withstand up to 70 or 90 degrees of temperature in Celsius scale, called PVC 70 or PVC 90. They are usually made with braided copper shield or tinned copper.

Heat resistant cables are another group of these cables, which use flexible conductors and EVA or SIR as insulation material. These insulations withstands 110° C up to 180° C operating temperature resp. By use of Glass Fiber Braid sheathing over SIR the maximum temperature is increased and also the insulation layer is better protected against mechanical damages.

These wires and cables are mainly meant for indoor applications and hence they should have a small bending radius and weight. Therefore, they do not have any special mechanical protection, and they are usually laid inside conduits in order to protect them from mechanical damages.



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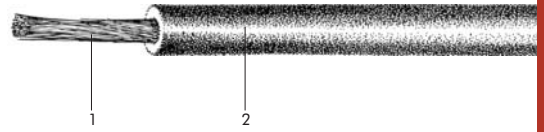


Cu/PVC

IEC 60227-3

**Description:**

Single core wire with fine stranded copper conductor & PVC insulation.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Diameter Approx. mm	Total Weight Approx. kg/km
1 x 0.5 RF	0.6	2.1	9
1 x 0.75 RF	0.6	2.3	12
1 x 1 RF	0.6	2.5	15
1 x 1.5 RF	0.7	3.1	21
1 x 2.5 RF	0.8	3.7	33
1 x 4 RF	0.8	4.3	49
1 x 6 RF	0.8	4.7	69
1 x 10 RF	1.0	6.1	115
1 x 16 RF	1.0	7.2	168
1 x 25 RF	1.2	8.9	263
1 x 35 RF	1.2	10.1	355

1-Fine Stranded Conductor 2-PVC Insulation.





**IEC 60227-3**

**Cu/PVC**

**Description:**

Single core wire with copper conductor & PVC insulation.

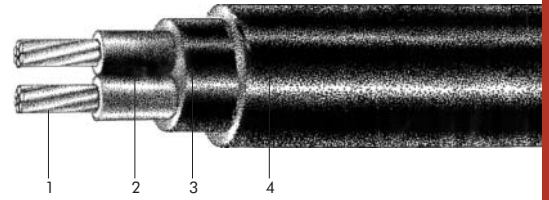
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Wire Diameter Approx. mm	Total Weight Approx. kg/km
1 x 0.5 RE	0.6	2.0	8
1 x 0.75 RE	0.6	2.2	11
1 x 1 RE	0.6	2.4	14
1 x 1.5 RE	0.7	2.8	20
1 x 1.5 RM	0.7	3.1	21
1 x 2.5 RE	0.8	3.4	32
1 x 2.5 RM	0.8	3.7	33
1 x 4 RE	0.8	3.9	47
1 x 4 RM	0.8	4.3	49
1 x 6 RE	0.8	4.4	67
1 x 6 RM	0.8	4.7	69
1 x 10 RE	1.0	5.6	111
1 x 10 RM	1.0	6.1	115
1 x 16 RM	1.0	7.2	168
1 x 25 RM	1.2	8.9	263
1 x 35 RM	1.2	10.1	355

1-Solid or Stranded Circular Conductor 2-PVC Insulation.



**Cu/PVC/PVC****IEC 60227-4****Description:**

2 Core construction cable with copper conductor & PVC insulation.

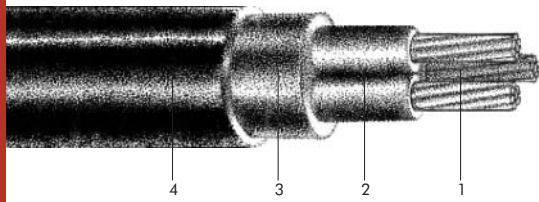


Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 1.5 RE	0.7	1.2	9.1	119
2 x 1.5 RM	0.7	1.2	9.7	131
2 x 2.5 RE	0.8	1.2	10.3	162
2 x 2.5 RM	0.8	1.2	10.9	176
2 x 4 RE	0.8	1.2	11.3	211
2 x 4 RM	0.8	1.2	12.1	230
2 x 6 RE	0.8	1.2	12.3	269
2 x 6 RM	0.8	1.2	12.9	285
2 x 10 RE	1.0	1.4	15.6	440
2 x 10 RM	1.0	1.4	16.6	474
2 x 16 RM	1.0	1.4	18.0	615
2 x 25 RM	1.2	1.4	21.8	930
2 x 35 RM	1.2	1.6	24.8	1235

1-Solid or Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing.







IEC 60227-4

Cu/PVC/PVC

**Description:**

3 Core construction cable with copper conductor & PVC insulation.

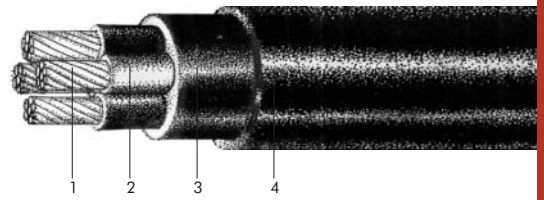
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3 x 1.5 RE	0.7	1.2	9.5	138
3 x 1.5 RM	0.7	1.2	10.2	152
3 x 2.5 RE	0.8	1.2	10.8	192
3 x 2.5 RM	0.8	1.2	11.5	207
3 x 4 RE	0.8	1.2	11.9	255
3 x 4 RM	0.8	1.2	12.8	276
3 x 6 RE	0.8	1.4	13.5	345
3 x 6 RM	0.8	1.4	14.1	360
3 x 10 RE	1.0	1.4	16.5	545
3 x 10 RM	1.0	1.4	17.5	578
3 x 16 RM	1.0	1.4	19.7	792
3 x 25 RM	1.2	1.6	23.6	1191
3 x 35 RM	1.2	1.6	26.3	1564

1-Solid or Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing.



**Cu/PVC/PVC****IEC 60227-4****Description:**

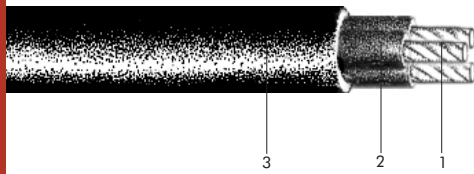
4 Core construction cable with copper conductor & PVC insulation.



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 1.5 RE	0.7	1.2	10.3	166
4 x 1.5 RM	0.7	1.2	11.0	180
4 x 2.5 RE	0.8	1.2	11.7	231
4 x 2.5 RM	0.8	1.2	12.4	246
4 x 4 RE	1.8	1.4	13.4	323
4 x 4 RM	1.8	1.4	14.4	347
4 x 6 RE	0.8	1.4	15.0	436
4 x 6 RM	0.8	1.4	15.7	456
4 x 10 RE	1.0	1.4	17.9	668
4 x 10 RM	1.0	1.4	19.2	709
4 x 16 RM	1.0	1.4	21.4	979
4 x 25 RM	1.2	1.6	26.3	1511
4 x 35 RM	1.2	1.6	28.7	1946

1-Solid or Stranded Circular Conductor 2-PVC Insulation 3-Extruded PVC Filler 4-PVC Sheathing.





**IEC 60245-7**

**Cu/EVA/EVA**

**Description:**

Heat resistant, EVA insulated, EVA sheathed control cable

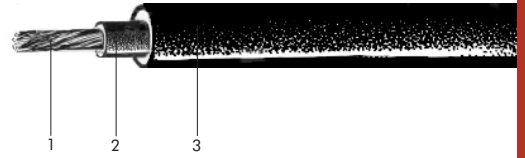
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3 x 0.75	0.6	0.9	6.9	72
5 x 0.75	0.6	1.0	8.4	105
7 x 0.75	0.6	1.0	9.1	140
8 x 0.75	0.6	1.1	10.3	164
10x 0.75	0.6	1.1	11.6	199
12x 0.75	0.6	1.2	12.2	231
3 x 1.0	0.6	0.9	7.3	84
5 x 1.0	0.6	1.0	8.8	123
7 x 1.0	0.6	1.1	9.8	169
8 x 1.0	0.6	1.2	11.1	198
10x 1.0	0.6	1.2	12.5	240
12x 1.0	0.6	1.2	12.9	273
3 x 1.5	0.8	1.0	8.9	125
5 x 1.5	0.8	1.1	10.8	184
7 x 1.5	0.8	1.2	12.0	253
8 x 1.5	0.8	1.2	13.4	290
10x 1.5	0.8	1.2	15.2	352
12x 1.5	0.8	1.2	16.1	417
3 x 2.5	0.9	1.1	10.5	184
5 x 2.5	0.9	1.3	13.0	278
7 x 2.5	0.9	1.4	14.4	383
8 x 2.5	0.9	1.4	16.1	437
10x 2.5	0.9	1.6	18.6	549
12x 2.5	0.9	1.6	18.9	610

1-Stranded Flexible Copper Conductor 2-EVA Insulation 3-EVA Sheathing  
 Maximum conductor Temperature 110 C



**Cu/EVA/EVA****IEC 60245-7****Description:**

Heat resistant, EVA insulated (double insulated) wire



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Outer Diameter Approx. mm	Total Weight Approx. kg/km
0.5	0.6+0.6	3.3	17
0.75	0.6+0.6	3.5	20
1.0	0.6+0.6	3.7	23
1.5	0.6+0.6	4.0	29
2.5	0.6+0.6	4.5	41

1-Stranded Flexible Copper Conductor 2-EVA Insulation  
Maximum conductor Temperature 110 C



IEC 60245-7

Cu/EVA

**Description:**

Heat resistant, EVA insulated wire



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Outer Diameter Approx. mm	Total Weight Approx. kg/km
0.5	0.8	2.5	11
0.75	0.8	2.7	14
1.0	0.8	2.9	17
1.5	0.8	3.2	22
2.5	0.9	3.9	35
4.0	1.0	4.8	54
6	1.0	5.4	75
10	1.2	6.9	123

1-Stranded Flexible Copper Conductor 2-Heat Resistant EVA Insulation  
 Maximum conductor Temperature 110 C

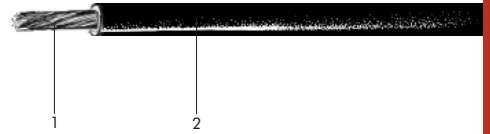


TiCu/SIR

IEC 60245-3

**Description:**

Heat resistant, Silicon Rubber insulated wire



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Outer Diameter Approx. mm	Total Weight Approx. kg/km
0.5	0.6	2.1	9
0.75	0.6	2.3	12
1.0	0.6	2.5	14
1.5	0.7	3.0	21
2.5	0.8	3.7	33
4	0.8	4.2	50
6	0.8	4.8	71
10	1.0	6.5	125
16	1.0	7.6	181

1-Tinned Stranded Flexible Copper Conductor 2-Silicon Rubber Insulation

Maximum conductor Temperature 180 C

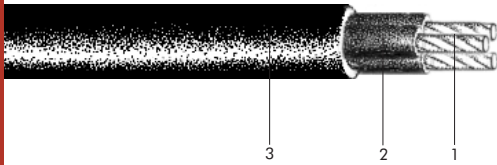


**IEC 60245-3**

**TiCu/SIR/EVA**

**Description:**

Heat resistant, Silicon Rubber insulated, EVA sheathed control cable



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3 x 0.75	0.6	1.0	6.9	80
5 x 0.75	0.6	1.2	8.4	110
7 x 0.75	0.6	1.2	9.1	144
8 x 0.75	0.6	1.2	10.3	164
10x 0.75	0.6	1.2	11.6	197
12x 0.75	0.6	1.4	12.2	235
3 x 1.0	0.6	1.0	7.5	85
5 x 1.0	0.6	1.2	9.2	128
7 x 1.0	0.6	1.2	10.0	169
8 x 1.0	0.6	1.3	11.1	193
10x 1.0	0.6	1.4	12.5	233
12x 1.0	0.6	1.4	13.3	276
3 x 1.5	0.6	1.1	8.2	109
5 x 1.5	0.6	1.2	10.0	160
7 x 1.5	0.6	1.2	10.8	213
8 x 1.5	0.6	1.4	12.4	255
10x 1.5	0.6	1.4	14.0	308
12x 1.5	0.6	1.6	14.8	364
3 x 2.5	0.6	1.2	9.5	155
5 x 2.5	0.6	1.3	11.4	229
7 x 2.5	0.6	1.4	12.6	314
8 x 2.5	0.6	1.4	14.1	359
10x 2.5	0.6	1.6	16.2	451
12x 2.5	0.6	1.6	16.8	516

1-Tinned Stranded Flexible Copper Conductor 2-Silicon Rubber Insulation 3-EVA Sheathing  
 Maximum conductor Temperature 110 C

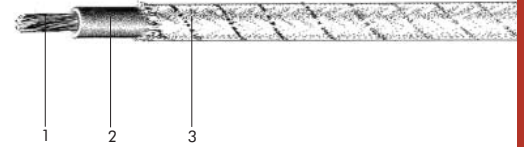


TiCu/SIR/GFB

IEC 60245-3

**Description:**

Heat resistant, Silicon Rubber insulated cord with impregnated glass fiber braiding



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness	Outer Diameter Approx. mm	Total Weight Approx. kg/km
0.5	0.6	3.1	22
0.75	0.6	3.3	27
1.0	0.6	3.5	30
1.5	0.7	4.0	39
2.5	0.8	4.7	55
4.0	0.8	5.2	75
6	0.8	5.8	98
10	1.0	7.5	161
16	1.0	8.6	222

1-Tinned Stranded Flexible Copper Conductor 2- Silicon Rubber Insulation 3-Impregnated Glass Fiber  
Maximum conductor Temperature 180 C





# **TECHNICAL DATA**



## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Helix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminum Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated



<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)

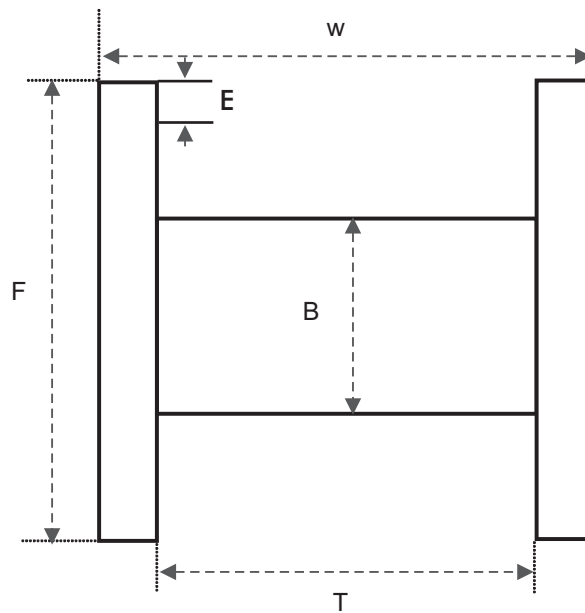


Max Cable length in meters on standard drums

Drum Sizes													
Cable Dia. mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia. mm
6	1326	3961											6
7	975	2910											7
8	746	2228	4391										8
9	590	1760	3470										9
10	478	1426	2810	4566									10
11	395	1178	2323	3774									11
12	332	990	1952	3171	4912								12
13	283	844	1663	2702	4185								13
14		727	1434	2330	3609	4934							14
15		634	1249	2029	3144	4298							15
16		557	1098	1784	2763	3777							16
17		493	972	1580	2448	3346	4858						17
18		440	867	1409	2183	2985	4333	4643					18
19		395	778	1265	1959	2679	3889	4167	4722				19
20		356	703	1142	1768	2417	3510	3760	4262				20
21		323	637	1035	1604	2193	3183	3411	3866				21
22		295	581	943	1461	1998	2901	3108	3522	4815			22
23		270	531	863	1337	1828	2654	2843	3223	4406			23
24			488	793	1228	1679	2437	2611	2960	4046			24
25			450	731	1132	1547	2246	2407	2728	3729			25
26			416	675	1046	1430	2077	2225	2522	3448			26
27			386	626	970	1326	1926	2063	2338	3197			27
28			358	582	902	1233	1791	1919	2174	2973			28
29			334	543	841	1150	1669	1789	2027	2771	4826		29
30			312	507	786	1074	1560	1671	1894	2590	4510		30
31			292	475	736	1006	1461	1565	1774	2425	4224		31
32			274	446	691	944	1371	1469	1665	2276	3964		32
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33
34				395	612	836	1214	1301	1475	2016	3511	4709	34
35				373	577	789	1146	1228	1392	1903	3313	4444	35
36				352	546	746	1083	1161	1315	1798	3132	4200	36
37				334	517	706	1026	1099	1245	1702	2965	3976	37
38				316	490	670	972	1042	1181	1614	2811	3770	38
39				300	465	636	923	989	1121	1532	2669	3579	39
40				285	442	604	877	940	1065	1457	2537	3402	40
41				272	421	575	835	895	1014	1386	2415	3238	41
42				259	401	548	796	853	966	1321	2301	3086	42
43					383	523	759	814	922	1260	2195	2944	43
44					365	499	725	777	881	1204	2097	2812	44
45					349	478	693	743	842	1151	2004	2688	45
46					334	457	663	711	806	1101	1918	2573	46
47					320	438	636	681	772	1055	1837	2464	47
48					307	420	609	653	740	1012	1762	2363	48
49					295	403	585	626	710	971	1691	2267	49
50					283	387	562	602	682	932	1624	2178	50
51					272	372	540	578	655	896	1561	2093	51
52					262	358	519	556	630	862	1501	2013	52
53					252	344	500	535	607	830	1445	1938	53
54						332	481	516	585	799	1392	1867	54
55						320	464	497	564	770	1342	1800	55
56						308	448	480	544	743	1294	1736	56
57						298	432	463	525	717	1249	1676	57
58						287	417	447	507	693	1207	1618	58
59						278	403	432	490	670	1166	1564	59
60						269	390	418	474	647	1127	1512	60
61						260	377	404	458	626	1091	1463	61
62						252	365	391	443	606	1056	1416	62
63							354	379	430	587	1023	1372	63
64							343	367	416	569	991	1329	64
65							332	356	403	552	961	1288	65
66							322	345	391	535	932	1250	66
67							313	335	380	519	904	1213	67
68							304	325	369	504	878	1177	68
69							295	316	358	490	853	1143	69
70							287	307	348	476	828	1111	70
71							278	298	338	462	805	1080	71
72							271	290	329	450	783	1050	72
73							263	282	320	437	762	1022	73
74							256	275	311	426	741	994	74
75							250	267	303	414	722	968	75
76								260	295	403	703	942	76
77								254	288	393	685	918	77
78									280	383	667	895	78
79									273	373	650	872	79
80									266	364	634	851	80
81									260	355	619	830	81
82									254	347	604	810	82
83										338	589	790	83
84										330	575	772	84
85										323	562	753	85
86										315	549	736	86
87										308	536	719	87
88										301	524	703	88
89										294	512	687	89
90										288	501	672	90
91										281	490	657	91
92										275	480	643	92
93										269	469	629	93
94										264	459	616	94
95										258	450	603	95
96										253	440	591	96
97											431	579	97
98											423	567	98
99											414	555	99
100											406	544	100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





# ABHAR WIRE + CABLE CO.



ISO 9002  
Certificate No.  
QS-1147HH



Accredited by the  
Dutch Council for  
Accreditation






## Instrumentation cables

Instrumentation cables are used to transmit and receive control system, analogue and digital signals to and from sensors and equipments.

These cables mostly operate at voltage levels of 24 to 110 v and/ or at 4-20 mA current rating. Instrumentation cables should be isolated from external electrical interferences.

 manufactures a wide variety of instrumentation cables suitable for use in different types of industries, especially power generation and distribution plants and the petrochemical industries.





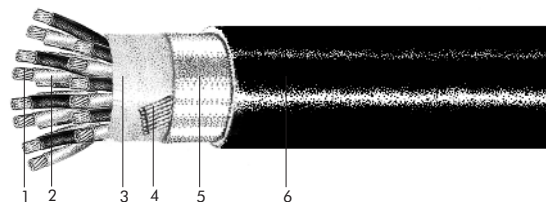
# CONTENTS

	CABLE TYPE	DESIGNATION	PAGE
<b>INSTRUMENTATION</b>	UNARMoured	Cu/PVC/OSCR/PVC	1
		Cu/XLPE/OSCR/PVC	2
	WIRE ARMoured	Cu/PVC/OSCR/Bd/SWA/PVC	3
		Cu/XLPE/OSCR/Bd/SWA/PVC	4
	LEAD SHEATHED (PAIR)	Cu/PVC/OSCR/Bd/Lsh/Bd/SWA/PVC	5
		Cu/XLPE/OSCR/Bd/Lsh/Bd/SWA/PVC	6
	LEAD SHEATHED (TRIPLE)	Cu/PVC/OSCR/Bd/Lsh/Bd/SWA/PVC	7
		Cu/XLPE/OSCR/Bd/Lsh/Bd/SWA/PVC	8
	TAPE ARMoured	Cu/PVC/ISCR/OSCR/Bd/DTA/PVC	9
		Cu/XLPE/ISCR/OSCR/Bd/DTA/PVC	10
	LEAD SHEATHED	Cu/PVC/ISCR/OSCR/Bd/Lsh/Bd/SWA/PVC	11
		Cu/XLPE/ISCR/OSCR/Bd/Lsh/Bd/SWA/PVC	12
	WIRE ARMoured	Cu/XLPE/ISCR/OSCR/Bd/SWA/LSPVC	13
		Cu/XLPE/ISCR/OSCR/Bd/SWA/LSPVC	14
UNARMoured	Cu/PVC/ISCR/OSCR/OPVC	15	
TINNED COPPER CONDUCTOR	TiCu/XLPE/ISCR/OSCR/PVC	16	
	TiCu/XLPE/ISCR/OSCR/Bd/DTA/PVC	17	
	TiCu/XLPE/ISCR/OSCR/Bd/SWA/PVC	18	
	TiCu/XLPE/ISCR/OSCR/Bd/Lsh/Bd/SWA/PVC	19	
<b>CONTROL</b>	UNARMoured	Cu/PVC/OSCR/PVC	20
		Cu/PVC/OSCR/PVC	21
	WIRE ARMoured	Cu/PVC/OSCR/Bd/SWA/PVC	22
		Cu/PVC/OSCR/Bd/SWA/PVC	23



**Description:**

Unarmoured instrumentation cable with copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1 + 1 x 0.5 RM	0.6	0.8	7.8	65
2 x 2 x 1 + 1 x 0.5 RM	0.6	0.9	12.0	119
4 x 2 x 1 + 1 x 0.5 RM	0.6	1.1	14.3	203
6 x 2 x 1 + 1 x 0.5 RM	0.6	1.2	17.4	288
12 x 2 x 1 + 1 x 0.5 RM	0.6	1.3	22.2	504
16 x 2 x 1 + 1 x 0.5 RM	0.6	1.5	25.5	669
24 x 2 x 1 + 1 x 0.5 RM	0.6	1.7	30.8	975
37 x 2 x 1 + 1 x 0.5 RM	0.6	2.0	37.8	1474
1 x 2 x 1.5 + 1 x 0.5 RM	0.6	0.8	8.3	78
2 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.1	13.3	159
4 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.2	15.8	259
6 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.3	19.0	369
12 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.5	24.4	668
16 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.5	27.6	851
24 x 2 x 1.5 + 1 x 0.5 RM	0.6	1.7	33.5	1246
37 x 2 x 1.5 + 1 x 0.5 RM	0.6	2.0	41.1	1889

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-PVC Sheathing

(Colour: Black, for intrinsically Safe Systems Blue).

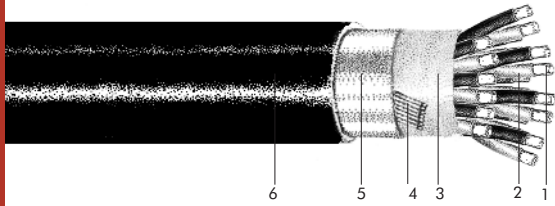
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage $U_{rms}$ core:core		V	1000			
$U_{rms}$ core:screen		V	1000			
Rated voltage $U_0/U$	max.	V	300/500			





**BS 5308-1**

Cu/XLPE/OSCR/PVC

**Description:**

Unarmoured instrumentation cable with copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.8	7.8	71
2 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	12.1	132
4 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.2	14.7	235
6 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.2	17.5	325
12 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.3	22.4	577
16 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.5	25.7	766
24 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.7	31.1	1120
37 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	38.2	1696

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

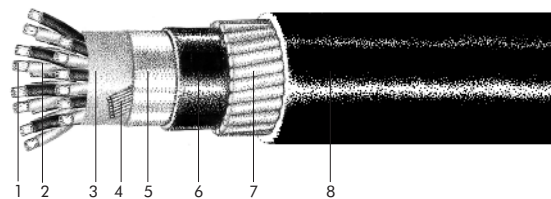
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	Mohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage	U <sub>rms</sub> core:core	V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage	U <sub>0</sub> /U	max.	300/500			



**Description:**

Wire armoured instrumentation cable with copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1 + 1 x 0.5 RE	0.6	0.9	1.4	12.6	264
2 x 2 x 1 + 1 x 0.5 RE	0.6	0.9	1.5	16.7	416
4 x 2 x 1 + 1 x 0.5 RE	0.6	1.25	1.5	19.6	647
6 x 2 x 1 + 1 x 0.5 RE	0.6	1.25	1.6	22.8	822
12 x 2 x 1 + 1 x 0.5 RE	0.6	1.6	1.8	28.3	1348
16 x 2 x 1 + 1 x 0.5 RE	0.6	1.6	1.8	30.9	1577
24 x 2 x 1 + 1 x 0.5 RE	0.6	2.0	2.0	37.0	2333
37 x 2 x 1 + 1 x 0.5 RE	0.6	2.0	2.1	43.6	3067
1 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.4	13.1	290
2 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.5	17.6	457
4 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.25	1.5	20.9	739
6 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.7	24.9	1085
12 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.8	30.0	1545
16 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.9	33.5	1877
24 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.1	40.1	2772
37 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.2	47.4	3732

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Galvanized Steel Wire Armour 8-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

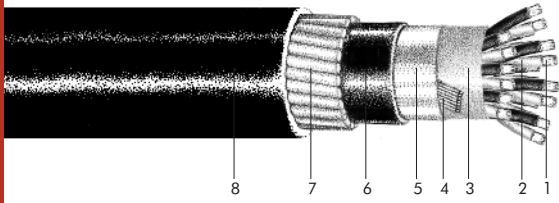
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	pF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
U <sub>rms</sub> core:screen		V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			





**BS 5308-1**

Cu/XLPE/OSCR/Bd/SWA/PVC

**Description:**

Wire armoured instrumentation cable with copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.4	13.1	288
2 x 2 x 1.5 + 1 x 0.5 RE	0.6	0.9	1.5	17.6	453
4 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.25	1.5	20.9	730
6 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.7	24.9	1071
12 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.8	30.0	1515
16 x 2 x 1.5 + 1 x 0.5 RE	0.6	1.6	1.9	33.5	1836
24 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.1	40.1	2710
37 x 2 x 1.5 + 1 x 0.5 RE	0.6	2.0	2.2	47.4	3635

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Galvanized Steel Wire Armour 8-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

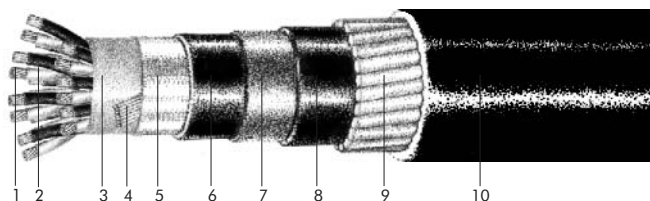
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core U <sub>rms</sub> core:screen		V	1000			
		V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			



**Description:**

Wire armoured instrumentation cable with lead sheath, copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1 + 1x0.5 RM	0.6	1.1	1.25	1.5	18.9	895
2 x 2 x 1 + 1x0.5 RM	0.6	1.1	1.25	1.6	23.4	1275
4 x 2 x 1 + 1x0.5 RM	0.6	1.1	1.6	1.7	26.7	1705
6 x 2 x 1 + 1x0.5 RM	0.6	1.2	1.6	1.8	30.4	2148
12 x 2 x 1 + 1x0.5 RM	0.6	1.4	2.0	2.0	37.2	3272
16 x 2 x 1 + 1x0.5 RM	0.6	1.4	2.0	2.1	40.8	3816
24 x 2 x 1 + 1x0.5 RM	0.6	1.6	2.0	2.2	47.1	4963
37 x 2 x 1 + 1x0.5 RM	0.6	1.8	2.5	2.5	56.5	7166
1 x 2 x 1.5 + 1x0.5 RM	0.6	1.1	1.25	1.5	19.4	955
2 x 2 x 1.5 + 1x0.5 RM	0.6	1.1	1.6	1.7	25.7	1578
4 x 2 x 1.5 + 1x0.5 RM	0.6	1.2	1.6	1.8	28.8	1981
6 x 2 x 1.5 + 1x0.5 RM	0.6	1.3	1.6	1.8	32.4	2464
12 x 2 x 1.5 + 1x0.5 RM	0.6	1.4	2.0	2.0	39.5	3681
16 x 2 x 1.5 + 1x0.5 RM	0.6	1.5	2.0	2.1	43.3	4354
24 x 2 x 1.5 + 1x0.5 RM	0.6	1.6	2.5	2.4	51.2	6059
37 x 2 x 1.5 + 1x0.5 RM	0.6	1.9	2.5	2.6	60.4	8243

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

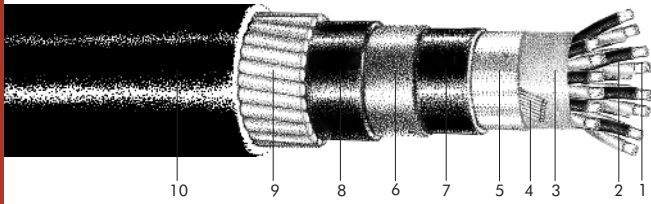
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage $U_{rms}$ core:core		V	1000			
$U_{rms}$ core:screen		V	1000			
Rated voltage $U_0/U$	max.	V	300/500			





**BS 5308-1**

Cu/XLPE/OSCR/Bd/Lsh/Bd/SWA/PVC

**Description:**

Wire armoured instrumentation cable with lead sheath, copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 2 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.5	18.9	915
2 x 2 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.6	23.5	1294
4 x 2 x 1.5 + 1x0.5 RE	0.6	1.1	1.6	1.7	27.1	1776
6 x 2 x 1.5 + 1x0.5 RE	0.6	1.2	1.6	1.8	30.5	2194
12 x 2 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.0	37.4	3360
16 x 2 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.1	41.0	3930
24 x 2 x 1.5 + 1x0.5 RE	0.6	1.6	2.0	2.2	47.4	5156
37 x 2 x 1.5 + 1x0.5 RE	0.6	1.8	2.5	2.5	56.9	7459

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

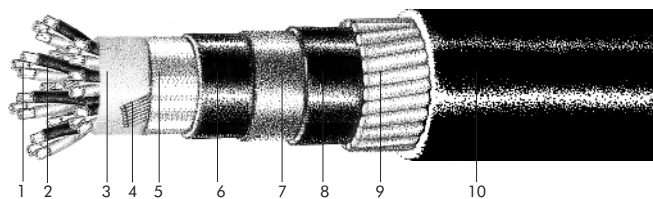
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			



**Description:**

Wire armoured instrumentation cable with lead sheath, copper conductor & PVC insulation, cores form triples, triples twisted in concentric layers, overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 3 x 1 + 1x0.5 RE	0.6	1.1	1.25	1.5	18.8	906
2 x 3 x 1 + 1x0.5 RE	0.6	1.1	1.6	1.7	25.2	1524
4 x 3 x 1 + 1x0.5 RE	0.6	1.1	1.6	1.7	27.4	1892
6 x 3 x 1 + 1x0.5 RE	0.6	1.3	1.6	1.8	32.2	2440
12 x 3 x 1 + 1x0.5 RE	0.6	1.4	2.0	2.0	38.4	3575
16 x 3 x 1 + 1x0.5 RE	0.6	1.5	2.0	2.1	42.5	4291
24 x 3 x 1 + 1x0.5 RE	0.6	1.6	2.5	2.3	50.0	5914
37 x 3 x 1 + 1x0.5 RE	0.6	1.8	2.5	2.6	58.8	7938
1 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.5	19.4	968
2 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.6	1.7	26.3	1660
4 x 3 x 1.5 + 1x0.5 RE	0.6	1.2	1.6	1.8	29.1	2088
6 x 3 x 1.5 + 1x0.5 RE	0.6	1.3	1.6	1.9	33.8	2695
12 x 3 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.1	41.0	4041
16 x 3 x 1.5 + 1x0.5 RE	0.6	1.6	2.0	2.2	45.8	5012
24 x 3 x 1.5 + 1x0.5 RE	0.6	1.8	2.5	2.4	54.3	7152
37 x 3 x 1.5 + 1x0.5 RE	0.6	2.0	2.5	2.7	63.2	9445

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC

7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 70°C

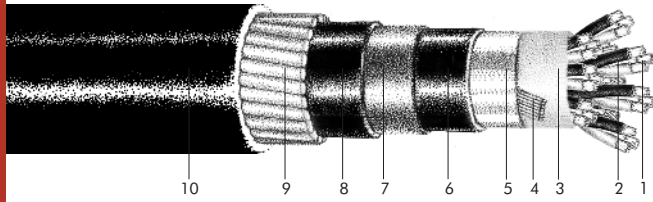
Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
U <sub>rms</sub> core:screen		V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			







**BS 5308-1**

Cu/XLPE/OSCR/Bd/Lsh/Bd/SWA/PVC

**Description:**

Wire armoured instrumentation cable with lead sheath, copper conductor & XLPE insulation, cores form triples, triples twisted in concentric layers, overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.25	1.5	19.4	965
2 x 3 x 1.5 + 1x0.5 RE	0.6	1.1	1.6	1.7	26.3	1654
4 x 3 x 1.5 + 1x0.5 RE	0.6	1.2	1.6	1.8	29.1	2074
6 x 3 x 1.5 + 1x0.5 RE	0.6	1.3	1.6	1.9	33.8	2673
12 x 3 x 1.5 + 1x0.5 RE	0.6	1.4	2.0	2.1	41.0	3996
16 x 3 x 1.5 + 1x0.5 RE	0.6	1.6	2.0	2.2	45.8	4951
24 x 3 x 1.5 + 1x0.5 RE	0.6	1.8	2.5	2.4	54.3	7060
37 x 3 x 1.5 + 1x0.5 RE	0.6	2.0	2.5	2.7	63.2	9306

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Extruded Bedding PVC 7-Lead Sheath 8-Extruded Bedding PVC 9-Galvanized Steel Wire Armour 10-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

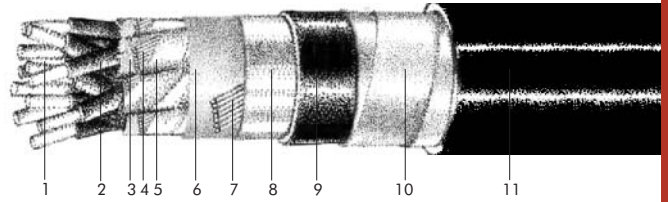
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	75	75	75	85
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			



**Description:**

Tape armoured instrumentation cable with copper conductor & PVC insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
6 x 2 x 1 + 7 x 0.5 RE	0.6	0.2	1.6	22.3	621
12 x 2 x 1 + 13 x 0.5 RE	0.6	0.2	1.7	27.1	962
16 x 2 x 1 + 17 x 0.5 RE	0.6	0.2	1.8	30.5	1214
24 x 2 x 1 + 25 x 0.5 RE	0.6	0.2	2.0	36.0	1686
37 x 2 x 1 + 38 x 0.5 RE	0.6	0.5	2.1	43.9	2644
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	0.2	1.5	20.4	545
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	0.2	1.6	23.6	715
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	0.2	1.8	29.0	1143
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	0.5	2.0	39.4	2225
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	0.5	2.2	47.1	3165

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire

8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Tape Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

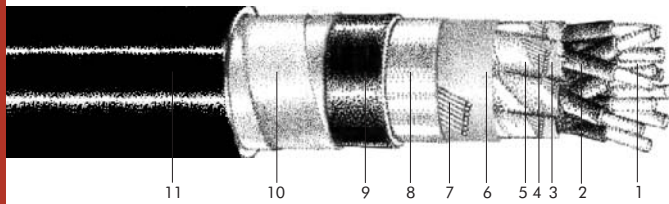
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage U <sub>rms</sub>	core:core	V	1000			
	core:screen	V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			





**BS 5308-1**

Cu/XLPE/ISCR/OSCR/Bd/DTA/PVC

**Description:**

Tape armoured instrumentation cable with copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	0.2	1.5	20.4	536
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	0.2	1.6	23.6	700
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	0.2	1.8	29.0	1113
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	0.2	1.8	32.4	1393
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	0.5	2.0	39.4	2163
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	0.5	2.2	47.1	3069

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Tape Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

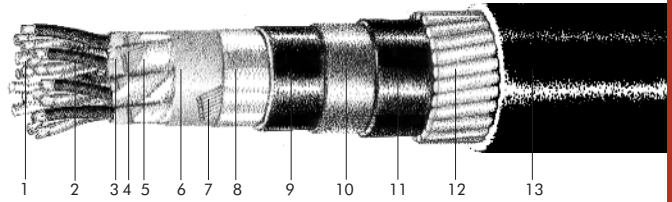
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U <sub>rms</sub>	core:core	V	1000			
	core:screen	V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			



**Description:**

Wire armoured instrumentation cable with lead sheath, copper conductor & PVC insulation, cores form triples, triples twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 3 x 1 + 3x0.5 RE	0.6	1.1	1.6	1.7	25.6	1580
4 x 3 x 1 + 5x0.5 RE	0.6	1.2	1.6	1.8	28.4	1987
6 x 3 x 1 + 7x0.5 RE	0.6	1.3	1.6	1.9	32.9	2563
12 x 3 x 1 + 13x0.5 RE	0.6	1.4	2.0	2.0	39.6	3808
16 x 3 x 1 + 17x0.5 RE	0.6	1.5	2.0	2.1	43.4	4524
24 x 3 x 1 + 25x0.5 RE	0.6	1.7	2.5	2.4	51.7	6491
37 x 3 x 1 + 38x0.5 RE	0.6	1.9	2.5	2.6	60.5	8633
2 x 3 x 1.5 + 3x0.5 RE	0.6	1.1	1.6	1.7	26.6	1716
4 x 3 x 1.5 + 5x0.5 RE	0.6	1.2	1.6	1.8	29.6	2152
6 x 3 x 1.5 + 7x0.5 RE	0.6	1.3	1.6	1.9	34.4	2804
12 x 3 x 1.5 + 13x0.5 RE	0.6	1.4	2.0	2.1	41.7	4232
16 x 3 x 1.5 + 17x0.5 RE	0.6	1.6	2.0	2.2	46.7	5281
24 x 3 x 1.5 + 25x0.5 RE	0.6	1.8	2.5	2.5	55.6	7537
37 x 3 x 1.5 + 38x0.5 RE	0.6	2.0	2.5	2.7	65.0	10077

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium

Polyester Tape 9-Extruded Bedding PVC 10-Lead Sheath 11-Extrude Bedding PVC 12-Galvanized Steel Wire Armour 13-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

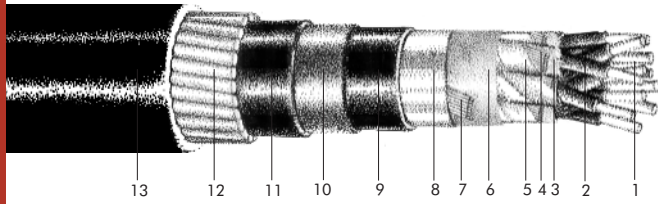
Maximum conductor temperature: 70°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage	U <sub>rms</sub> core:core	V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage	U <sub>0</sub> /U	max.	300/500			





**BS 5308-1**

Cu/XLPE/ISCR/OSCR/Bd/Lsh/Bd/SWA/PVC

**Description:**

Wire armoured instrumentation cable with lead sheath, copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3x0.5 RE	0.6	1.1	1.6	1.7	25.1	1528
4 x 2 x 1.5 + 5x0.5 RE	0.6	1.2	1.6	1.8	28.2	1948
6 x 2 x 1.5 + 7x0.5 RE	0.6	1.2	1.6	1.8	31.1	2297
12 x 2 x 1.5 + 13x0.5 RE	0.6	1.4	2.0	2.0	38.2	3569
16 x 2 x 1.5 + 17x0.5 RE	0.6	1.4	2.0	2.1	41.8	4182
24 x 2 x 1.5 + 25x0.5 RE	0.6	1.6	2.5	2.3	49.6	5918
37 x 2 x 1.5 + 38x0.5 RE	0.6	1.8	2.5	2.5	58.1	7942

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Lead Sheath 11-Extrude Bedding PVC 12-Galvanized Steel Wire Armour 13-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

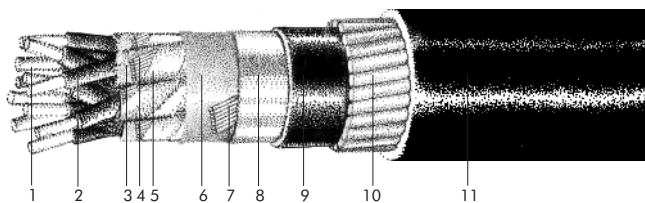
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage	U <sub>rms</sub> core:core	V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage	U <sub>0</sub> /U	max.	300/500			



**Description:**

Wire armoured instrumentation cable with copper conductor, XLPE insulation & low smoke PVC sheathing, cores form pairs, pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3 x 0.5 RE	0.6	1.25	1.5	19.0	620
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	1.25	1.6	21.7	803
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	1.6	1.7	25.5	1164
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	1.6	1.8	30.7	1669
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	1.6	1.9	34.3	2050
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	2.0	2.1	41.1	3002
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	2.5	2.3	49.8	4545

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire  
8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Wire Armour 11-LSPVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

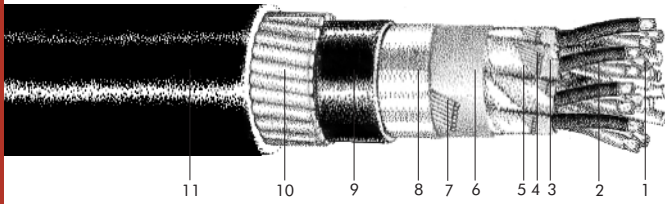
Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage	U <sub>rms</sub> core:core	V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			





**BS 5308-1**

Cu/XLPE/ISCR/OSCR/Bd/SWA/LSPVC

**Description:**

Wire armoured instrumentation cable with copper conductor, XLPE insulation & low smoke PVC sheathing, cores form triples, triples twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 3 x 1.5 + 3 x 0.5 RE	0.6	1.25	1.5	20.4	704
4 x 3 x 1.5 + 5 x 0.5 RE	0.6	1.25	1.6	23.1	933
6 x 3 x 1.5 + 7 x 0.5 RE	0.6	1.6	1.8	28.4	1414
12 x 3 x 1.5 + 13 x 0.5 RE	0.6	1.6	1.9	34.2	2086
16 x 3 x 1.5 + 17 x 0.5 RE	0.6	2.0	2.0	39.2	2833
24 x 3 x 1.5 + 25 x 0.5 RE	0.6	2.0	2.2	46.1	3789
37 x 3 x 1.5 + 38 x 0.5 RE	0.6	2.5	2.5	55.8	5648

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire  
8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Wire Armour 11-LSPVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

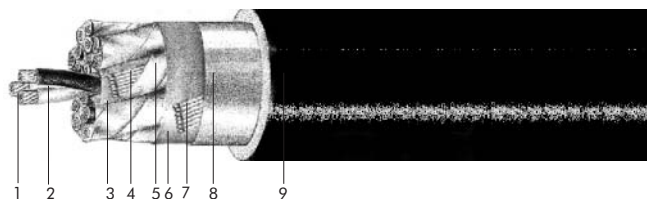
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage	U <sub>rms</sub> core:core	V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage	U <sub>0</sub> /U	max.	300/500			



**Description:**

Unarmoured instrumentation cable with copper conductor, PVC insulation & oil resistant PVC sheathing, cores form triples, triples twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 3 x 1 + 3 x 0.5 RM	0.6	1.1	14.1	188
4 x 3 x 1 + 5 x 0.5 RM	0.6	1.2	16.4	314
6 x 3 x 1 + 7 x 0.5 RM	0.6	1.3	20.7	457
12 x 3 x 1 + 13 x 0.5 RM	0.6	1.5	26.2	836
16 x 3 x 1 + 17 x 0.5 RM	0.6	1.7	30.2	1106
24 x 3 x 1 + 25 x 0.5 RM	0.6	2.0	36.6	1636
37 x 3 x 1 + 38 x 0.5 RM	0.6	2.0	44.2	2400
2 x 3 x 1.5 + 3 x 0.5 RM	0.6	1.2	15.5	235
4 x 3 x 1.5 + 5 x 0.5 RM	0.6	1.2	17.7	386
6 x 3 x 1.5 + 7 x 0.5 RM	0.6	1.3	22.3	564
12 x 3 x 1.5 + 13 x 0.5 RM	0.6	1.5	28.4	1043
16 x 3 x 1.5 + 17 x 0.5 RM	0.6	1.7	32.7	1381
24 x 3 x 1.5 + 25 x 0.5 RM	0.6	2.0	39.6	2048
37 x 3 x 1.5 + 38 x 0.5 RM	0.6	2.2	45.0	2927

1-Stranded Circular or Solid Conductor 2-PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire

8-Aluminium Polyester Tape 9-OPVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

**Maximum conductor temperature: 70°C**

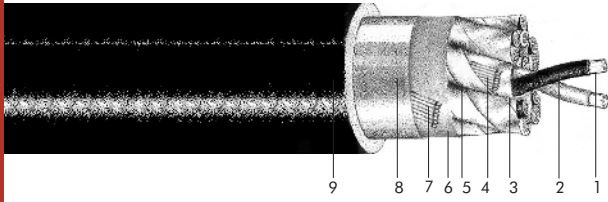
Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
U <sub>rms</sub> core:screen		V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			







**BS 5308-1**

TiCu/XLPE/ISCR/OSCR/PVC

**Description:**

Unarmoured instrumentation cable with tinned copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section + No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3 x 0.5 RE	0.6	1.1	12.8	166
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	1.2	15.2	275
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	1.2	18.1	384
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	1.3	23.1	693
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	1.5	26.5	921
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	1.7	32.1	1351
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	2.0	39.4	2052

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire

8-Aluminium Polyester Tape 9-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

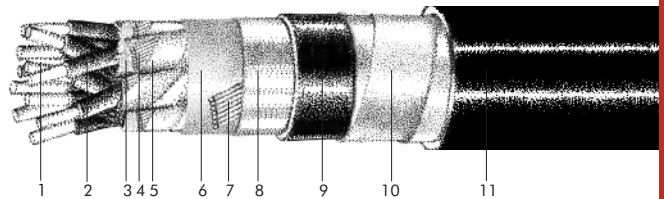
**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			



**Description:**

Tape armoured instrumentation cable with tinned copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Tape Armour Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	0.2	1.5	20.4	537
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	0.2	1.6	23.6	702
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	0.2	1.8	29.0	1117
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	0.2	1.8	32.4	1399
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	0.5	2.0	39.4	2172
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	0.5	2.2	47.1	3083

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire  
8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Tape Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

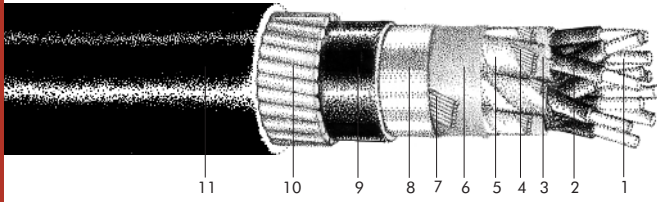
Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage	U <sub>rms</sub> core:core	V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			





**BS 5308-1**

TiCu/XLPE/ISCR/OSCR/Bd/SWA/PVC

**Description:**

Wire armoured instrumentation cable with tinned copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3 x 0.5 RE	0.6	1.25	1.5	19.0	611
4 x 2 x 1.5 + 5 x 0.5 RE	0.6	1.25	1.6	21.7	792
6 x 2 x 1.5 + 7 x 0.5 RE	0.6	1.6	1.7	25.5	1150
12 x 2 x 1.5 + 13 x 0.5 RE	0.6	1.6	1.8	30.7	1653
16 x 2 x 1.5 + 17 x 0.5 RE	0.6	1.6	1.9	34.3	2030
24 x 2 x 1.5 + 25 x 0.5 RE	0.6	2.0	2.1	41.1	2975
37 x 2 x 1.5 + 38 x 0.5 RE	0.6	2.5	2.3	49.8	4510

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Galvanized Steel Wire Armour 11-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core U <sub>rms</sub> core:screen		V	1000			
		V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			

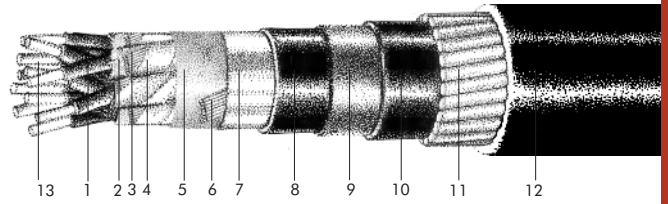


TiCu/XLPE/ISCR/OSCR/Bd/Lsh/Bd/SWA/PVC

**BS 5308-1**

**Description:**

Wire armoured instrumentation cable with lead sheath, tinned copper conductor & XLPE insulation, cores form pairs, pairs twisted in concentric layers, individual & overall screen.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Lead Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2 x 2 x 1.5 + 3x0.5 RE	0.6	1.1	1.6	1.7	25.1	1529
4 x 2 x 1.5 + 5x0.5 RE	0.6	1.2	1.6	1.8	28.2	1950
6 x 2 x 1.5 + 7x0.5 RE	0.6	1.2	1.6	1.8	31.1	2300
12 x 2 x 1.5 + 13x0.5 RE	0.6	1.4	2.0	2.0	38.2	3573
16 x 2 x 1.5 + 17x0.5 RE	0.6	1.4	2.0	2.1	41.8	4188
24 x 2 x 1.5 + 25x0.5 RE	0.6	1.6	2.5	2.3	49.6	5927
37 x 2 x 1.5 + 38x0.5 RE	0.6	1.8	2.5	2.5	58.1	7956

1-Stranded Circular or Solid Conductor 2-XLPE Insulation 3-Polyester Tape 4-Tinned Drain Wire 5-Aluminium Polyester Tape 6-Polyester Tape 7-Tinned Drain Wire 8-Aluminium Polyester Tape 9-Extruded Bedding PVC 10-Lead Sheath 11-Extrude Bedding PVC 12-Galvanized Steel Wire Armour 13-PVC Sheathing (Colour: Black, for intrinsically Safe Systems Blue).

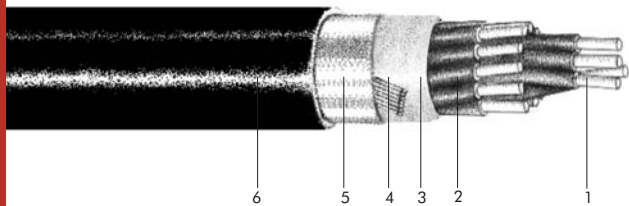
Maximum conductor temperature: 90°C

Drain wire identical to conductor cross-section is also available.

**Electrical Data**

Electrical Properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	36.8	26.5	18.4	12.3
Insulation resistance	min.	M ohm.km	5000			
Mutual capacitance 1KHz	max.	nF/km	115	115	115	120
Capacitance between any core or screen at 1 kHz	max.	pF/250m	250			
L/R(ratio)	max.	µH/ohm	25	25	25	40
Test voltage	U <sub>rms</sub> core:core	V	1000			
	U <sub>rms</sub> core:screen	V	1000			
Rated voltage	U <sub>0</sub> /U	max.	300/500			





Cu/PVC/OSCR/PVC

**BS 5308-1**

**Description:**

Unarmoured control cable with copper conductor and PVC insulation.

No. of Cores & Cross Section + No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight kg/km
2 x 0.5 RM + 1x 0.5	0.6	1.0	6.8	60
3 x 0.5 RM + 1x 0.5	0.6	1.0	7.1	70
4 x 0.5 RM + 1x 0.5	0.6	1.0	7.7	80
6 x 0.5 RM + 1x 0.5	0.6	1.0	9.0	100
10 x 0.5 RM + 1x 0.5	0.6	1.0	11.2	150
20 x 0.5 RM + 1x 0.5	0.6	1.0	14.5	260
40 x 0.5 RM + 1x 0.5	0.6	1.0	19.3	470
80 x 0.5 RM + 1x 0.5	0.6	1.0	26.6	880
2 x 0.75 RM + 1x 0.5	0.6	1.0	7.2	60
3 x 0.75 RM + 1x 0.5	0.6	1.0	7.6	80
4 x 0.75 RM + 1x 0.5	0.6	1.0	8.2	90
6 x 0.75 RM + 1x 0.5	0.6	1.0	9.6	120
10 x 0.75 RM + 1x 0.5	0.6	1.0	12.0	180
20 x 0.75 RM + 1x 0.5	0.6	1.0	15.6	320
40 x 0.75 RM + 1x 0.5	0.6	1.0	20.8	590
80 x 0.75 RM + 1x 0.5	0.6	1.0	29.3	1140

1-Copper Conductor 2- PVC Insulation 3- Polyester Tape 4-Tinned Drain Wire  
5- Aluminium Polyester Tape 6- PVC Overall Sheath

**Electrical Data**

Electrical properties	Character	Unit	Values			
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
U <sub>rms</sub> core:screen		V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			

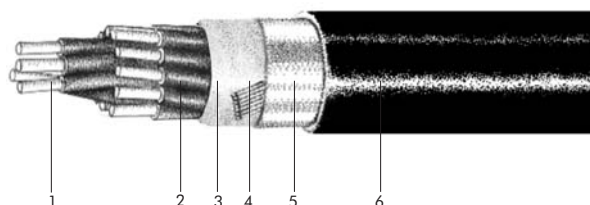


Cu/PVC/OSCR/PVC

**BS 5308-2**

**Description:**

Unarmoured control cable with copper conductor and PVC insulation.



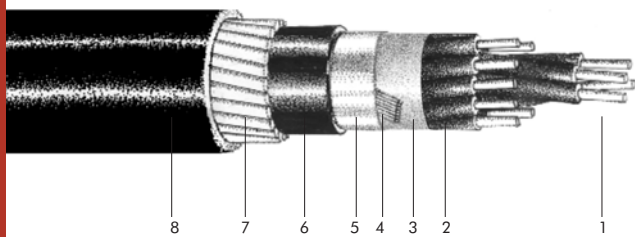
No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter mm	Total Weight kg/km
2 x 1 RM +1x 0.5	0.6	1.0	7.6	70
3 x 1 RM +1x 0.5	0.6	1.0	8.0	90
4 x 1 RM +1x 0.5	0.6	1.0	8.7	110
6 x 1 RM +1x 0.5	0.6	1.0	10.2	140
10 x 1 RM +1x 0.5	0.6	1.0	13.0	220
20 x 1 RM +1x 0.5	0.6	1.0	16.7	390
40 x 1 RM +1x 0.5	0.6	1.0	22.3	720
80 x 1 RM +1x 0.5	0.6	1.0	31.4	1400
2 x 1.5 RM +1x 0.5	0.6	1.0	8.2	80
3 x 1.5 RM +1x 0.5	0.6	1.0	8.6	110
4 x 1.5 RM +1x 0.5	0.6	1.0	9.4	130
6 x 1.5 RM +1x 0.5	0.6	1.0	11.1	180
10 x 1.5 RM +1x 0.5	0.6	1.0	14.4	280
20 x 1.5 RM +1x 0.5	0.6	1.0	18.7	510
40 x 1.5 RM +1x 0.5	0.6	1.0	25.0	960
80 x 1.5 RM +1x 0.5	0.6	1.0	34.5	1830

1- Copper Conductor 2- PVC Insulation 3- PolyesterTape 4- Tinned Drain Wire  
5- Aluminium Polyester Tape 6- PVC Overall Sheath

**Electrical Data**

Electrical properties :	Character	Unit	Values			
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage $U_{rms}$ core:core		V	1000			
$U_{rms}$ core:screen		V	1000			
Rated voltage $U_0/U$	max.	V	300/500			





**BS 5308-2**

Cu/PVC/OSCR/Bd/SWA/PVC

**Description:**

Wire armoured control cable with copper conductor and PVC insulation.

No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter. mm	Total Weight kg/km
2 x 0.5 RM +1x 0.5	0.6	0.80	1.3	11.5	250
3 x 0.5 RM +1x 0.5	0.6	0.80	1.3	11.8	260
4 x 0.5 RM +1x 0.5	0.6	0.80	1.4	12.6	290
6 x 0.5 RM +1x 0.5	0.6	0.80	1.4	13.9	330
10 x 0.5 RM +1x 0.5	0.6	0.80	1.4	16.1	420
20 x 0.5 RM +1x 0.5	0.6	1.25	1.5	20.8	770
40 x 0.5 RM +1x 0.5	0.6	1.60	1.7	26.7	1290
80 x 0.5 RM +1x 0.5	0.6	1.60	1.9	34.7	2020
2 x 0.75 RM +1x 0.5	0.6	0.80	1.3	11.9	270
3 x 0.75 RM +1x 0.5	0.6	0.80	1.4	12.5	290
4 x 0.75 RM +1x 0.5	0.6	0.80	1.4	13.1	320
6 x 0.75 RM +1x 0.5	0.6	0.80	1.4	14.5	360
10 x 0.75 RM +1x 0.5	0.6	0.80	1.5	17.1	480
20 x 0.75 RM +1x 0.5	0.6	1.25	1.6	22.1	880
40 x 0.75 RM +1x 0.5	0.6	1.60	1.8	28.4	1490
80 x 0.75 RM +1x 0.5	0.6	2.00	2.0	38.5	2670

- 1- Copper Conductor 2- PVC Insulation 3- Polyester Tape 4- Tinned Drain Wire  
5- Aluminium Polyester Tape 6- Bedding 7- Galvanized Steel Wire Armour 8- PVC Overall Sheath

**Electrical Data**

Electrical properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	μH/ohm	25	25	25	40
Test voltage $U_{rms}$ core:core		V	1000			
$U_{rms}$ core:screen		V	1000			
Rated voltage $U_0/U$	max.	V	300/500			

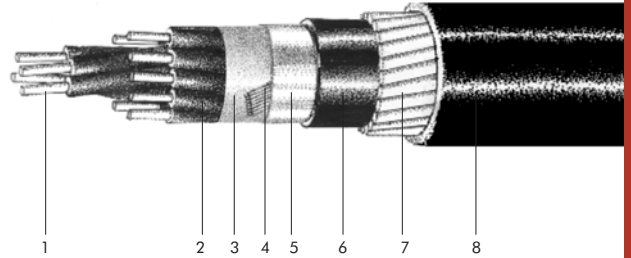


Cu/PVC/OSCR/Bd/SWA/PVC

**BS 5308-2**

**Description:**

Wire armoured cable with copper conductor and PVC insulation.



No. of Cores & Cross Section +No. of Drain Wires & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter. mm	Total Weight kg/km
2 x 1 RM +1x 0.5	0.6	0.80	1.4	12.5	290
3 x 1 RM +1x 0.5	0.6	0.80	1.4	12.9	310
4 x 1 RM +1x 0.5	0.6	0.80	1.4	13.6	350
6 x 1 RM +1x 0.5	0.6	0.80	1.4	15.1	400
10 x 1 RM +1x 0.5	0.6	1.25	1.5	19.3	680
20 x 1 RM +1x 0.5	0.6	1.25	1.6	23.2	970
40 x 1 RM +1 x 0.5	0.6	1.60	1.8	30.1	1680
80 x 1 RM +1x 0.5	0.6	2.00	2.1	40.8	3040
2 x 1.5 RM +1x 0.5	0.6	0.80	1.0	13.1	320
3 x 1.5 RM +1x 0.5	0.6	0.80	1.4	13.5	350
4 x 1.5 RM +1x 0.5	0.6	0.80	1.4	14.3	390
6 x 1.5 RM +1x 0.5	0.6	0.80	1.4	16	450
10 x 1.5 RM +1x 0.5	0.6	1.25	1.5	20.7	790
20 x 1.5 RM +1x 0.5	0.6	1.60	1.7	26.1	1320
40 x 1.5 RM +1x 0.5	0.6	1.60	1.9	33.1	2040
80 x 1.5 RM +1x 0.5	0.6	2.00	2.1	43.9	3630

1-Copper Conductor 2- PVC Insulation 3-Polyester Tape 4-Tinned Drain Wire  
5- Aluminium Polyester Tape 6- Bedding 7- Galvanized Steel Wire Armour 8- PVC Overall Sheath

**Electrical Data**

Electrical properties	Character	Unit	Values			
			0.5	0.75	1	1.5
Conductor size	nom.	mm <sup>2</sup>	0.5	0.75	1	1.5
Conductor resistance	max.	ohm/km	39.0	26.0	18.4	12.1
Insulation resistance	min.	M ohm.km	25			
Mutual capacitance 1KHz	max.	nF/km	250			
Capacitance between any core or screen at 1 kHz	max.	nF/km	450			
L/R(ratio)	max.	H/ohm	25	25	25	40
Test voltage U <sub>rms</sub> core:core		V	1000			
U <sub>rms</sub> core:screen		V	1000			
Rated voltage U <sub>0</sub> /U	max.	V	300/500			





# **TECHNICAL DATA**



## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Helix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminum Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated



<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)



## FORMULAS

### 1- Inductance

$$L = K + 0.2Ln(2D/d) \quad (mH/km)$$

- $K$  : Constant relating to conductor structure  
 $D$  : Axial cable spacing (mm)  
 $d$  : Conductor diameter (mm)

$K$	Strands
0	1
0.078	3
0.0642	7
0.0554	19
0.0528	37
0.0514	61 & over

### 2- Maximum Pulling Tension

#### Unarmoured :

$$T = K S \quad (N)$$

$K = 50$  for copper  
 $K = 30$  for aluminium

#### Armoured :

$$T = K'D^2 \quad (N)$$

$K' = 9$  for wire armour  
 $K' = 3$  for tape armour, lead sheath

- $S$  : Conductor cross section (mm<sup>2</sup>)  
 $D$  : Cable diameter (mm)



## FORMULAS

### 3-Capacitance

2 conductors: 
$$C_m = \frac{12.10\varepsilon}{\log\left(\frac{D_m}{kd_m} + \sqrt{\left(\frac{D_m}{kd_m}\right)^2 - 1}\right)}$$

Twisted Pair in Air: 
$$C_m = \frac{7.25\varepsilon}{\log\frac{1.3D_m}{kd_m}}$$

Shielded Twisted Pair: 
$$C_m = \frac{12.10\varepsilon}{\log\frac{1.2D_m}{kd_m}}$$

Cabled Twisted Pair 
$$C_m = \frac{9.61\varepsilon}{\log\frac{1.5Dm}{kdm}}$$

### 4-Characteristic Impedance

$$Z_o = \frac{3334.5\sqrt{\varepsilon}}{C_m}$$

$\varepsilon$  = dielectric constant

$D_m$  = insulated diameter (mm)

$d_m$  = conductor diameter (mm)

$k$  = stranding factor:

1.000 For 1 strand  
0.939 For 7 strands  
0.970 For 19 strands  
0.980 For 37 strands

$Z_o$  = characteristic impedance ( $\Omega$ )

$C_m$  = capacitance in (pF/m or nF/Km)

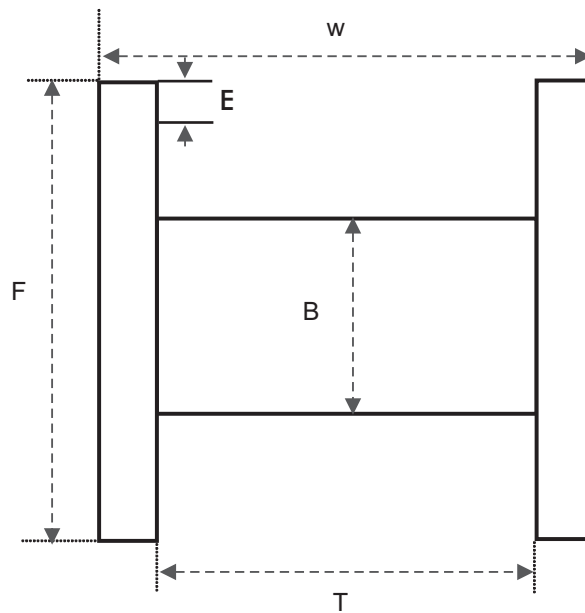


Max Cable length in meters on standard drums

Drum Sizes													
Cable Dia.mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia.mm
6	1326	3961											6
7	975	2910											7
8	746	2228	4391										8
9	590	1760	3470										9
10	478	1426	2810	4566									10
11	395	1178	2323	3774									11
12	332	990	1952	3171	4912								12
13	283	844	1663	2702	4185								13
14		727	1434	2330	3609	4934							14
15		634	1249	2029	3144	4298							15
16		557	1098	1784	2763	3777							16
17		493	972	1580	2448	3346	4858						17
18		440	867	1409	2183	2985	4333	4643					18
19		395	778	1265	1959	2679	3889	4167	4722				19
20		356	703	1142	1768	2417	3510	3760	4262				20
21		323	637	1035	1604	2193	3183	3411	3866				21
22		295	581	943	1461	1998	2901	3108	3522	4815			22
23		270	531	863	1337	1828	2654	2843	3223	4406			23
24			488	793	1228	1679	2437	2611	2960	4046			24
25			450	731	1132	1547	2246	2407	2728	3729			25
26			416	675	1046	1430	2077	2225	2522	3448			26
27			386	626	970	1326	1926	2063	2338	3197			27
28			358	582	902	1233	1791	1919	2174	2973			28
29			334	543	841	1150	1669	1789	2027	2771	4826		29
30			312	507	786	1074	1560	1671	1894	2590	4510		30
31			292	475	736	1006	1461	1565	1774	2425	4224		31
32			274	446	691	944	1371	1469	1665	2276	3964		32
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33
34				395	612	836	1214	1301	1475	2016	3511	4709	34
35				373	577	789	1146	1228	1392	1903	3313	4444	35
36				352	546	746	1083	1161	1315	1798	3132	4200	36
37				334	517	706	1026	1099	1245	1702	2965	3976	37
38				316	490	670	972	1042	1181	1614	2811	3770	38
39				300	465	636	923	989	1121	1532	2669	3579	39
40				285	442	604	877	940	1065	1457	2537	3402	40
41				272	421	575	835	895	1014	1386	2415	3238	41
42				259	401	548	796	853	966	1321	2301	3086	42
43					383	523	759	814	922	1260	2195	2944	43
44					365	499	725	777	881	1204	2097	2812	44
45					349	478	693	743	842	1151	2004	2688	45
46					334	457	663	711	806	1101	1918	2573	46
47					320	438	636	681	772	1055	1837	2464	47
48					307	420	609	653	740	1012	1762	2363	48
49					295	403	585	626	710	971	1691	2267	49
50					283	387	562	602	682	932	1624	2178	50
51					272	372	540	578	655	896	1561	2093	51
52					262	358	519	556	630	862	1501	2013	52
53					252	344	500	535	607	830	1445	1938	53
54						332	481	516	585	799	1392	1867	54
55						320	464	497	564	770	1342	1800	55
56						308	448	480	544	743	1294	1736	56
57						298	432	463	525	717	1249	1676	57
58						287	417	447	507	693	1207	1618	58
59						278	403	432	490	670	1166	1564	59
60						269	390	418	474	647	1127	1512	60
61						260	377	404	458	626	1091	1463	61
62						252	365	391	443	606	1056	1416	62
63							354	379	430	587	1023	1372	63
64							343	367	416	569	991	1329	64
65							332	356	403	552	961	1288	65
66							322	345	391	535	932	1250	66
67							313	335	380	519	904	1213	67
68							304	325	369	504	878	1177	68
69							295	316	358	490	853	1143	69
70							287	307	348	476	828	1111	70
71							278	298	338	462	805	1080	71
72							271	290	329	450	783	1050	72
73							263	282	320	437	762	1022	73
74							256	275	311	426	741	994	74
75							250	267	303	414	722	968	75
76								260	295	403	703	942	76
77								254	288	393	685	918	77
78									280	383	667	895	78
79									273	373	650	872	79
80									266	364	634	851	80
81									260	355	619	830	81
82									254	347	604	810	82
83										338	589	790	83
84										330	575	772	84
85										323	562	753	85
86										315	549	736	86
87										308	536	719	87
88										301	524	703	88
89										294	512	687	89
90										288	501	672	90
91										281	490	657	91
92										275	480	643	92
93										269	469	629	93
94										264	459	616	94
95										258	450	603	95
96										253	440	591	96
97											431	579	97
98											423	567	98
99											414	555	99
100											406	544	100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





# ABHAR WIRE + CABLE CO.



ISO 9002  
Certificate No.  
QS-1147HH



Accredited by the  
Dutch Council for  
Accreditation







## Telecommunication cables

Telecommunication cables are used in the low frequency systems, and are produced as pair or quad cables, using copper conductor.

These cables are for local networks and for transmission of signal and designed and manufactured by  according to the specific requirements of the customers and international standards.

 offers consultancy and solutions for the problems raised in the projects.



# CONTENTS

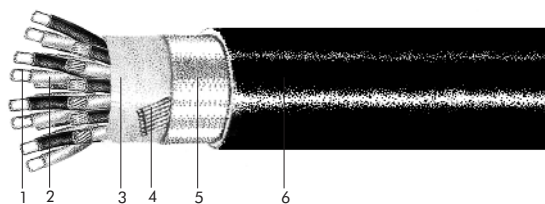
	CABLE TYPE	DESIGNATION	PAGE
<b>TELECOMMUNICATION</b>	UNARMoured	Cu/PVC/OSCR/PVC	1
		Cu/PE/OSCR/PVC	2
	WIRE ARMoured	Cu/PE/OSCR/Bd/SWA/PVC	3
<b>SIGNALLING</b>	WIRE ARMoured	Cu/PE/Bd/CTS/Bd/SWA/PVC	4
	TAPE ARMoured	Cu/PE/Pet/Bd/CTS/Bd/STA/PVC	5
		Cu/PE/Pet/Bd/CTS/Bd/STA/PVC	6

Cu/PE/OSCR/PVC

VDE0815

**Description:**

Twisted pair telecommunication cable with copper conductor and PVC insulation.



Number of Cores & Cross Section mm	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter mm	Total Weight kg/km
1 x 2x0.8+1x 0.5 RE	0.4	1.4	7.8	70
2 x 2x0.8+1x 0.5 RE	0.4	1.4	10.8	100
5 x 2x0.8+1x 0.5 RE	0.4	1.4	13.3	180
7 x 2x0.8+1x 0.5 RE	0.4	1.4	14.4	220
10 x 2x0.8+1x 0.5 RE	0.4	1.4	17.1	290
15 x 2x0.8+1x 0.5 RE	0.4	1.6	20.0	410
20 x 2x0.8+1x 0.5 RE	0.4	1.6	22.5	520
25 x 2x0.8+1x 0.5 RE	0.4	1.8	25.0	650
30 x 2x0.8+1x 0.5 RE	0.4	1.8	27.0	750
40 x 2x0.8+1x 0.5 RE	0.4	2.0	30.8	980
50 x 2x0.8+1x 0.5 RE	0.4	2.0	33.9	1190

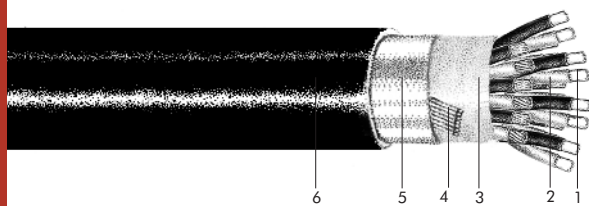
1-Copper Conductor 2-Polyvinylchloride Insulation 3-Polyester Tape

4-Tinned Drain Wire 5- Aluminium Polyester Tape 6-PVC Overall Sheath

**Electrical Data**

Electrical properties:	Unit	Values
Max. conductor DC resistance (Loop)	ohm/km	73.2
Min. insulation resistance	Mohm.km	100
Mutual capacitance	nF/km	120
Capacitance unbalance at 800Hz	pF/100m	200
Test voltage(wire to wire/core to screen)	V	500/2000
Operating voltage	V	225



**VDE0815**

Cu/PE/OSCR/PVC

**Description:**

Twisted pair telecommunication cable with copper conductor and PE insulation.

Number of Cores & Cross Section mm	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter mm	Total Weight kg/km
1 x 2x0.9+1x 0.5 RE	0.4	1.4	7.4	60
2 x 2x0.9+1x 0.5 RE	0.4	1.4	10.1	90
5 x 2x0.9+1x 0.5 RE	0.4	1.4	12.4	160
7 x 2x0.9+1x 0.5 RE	0.4	1.4	13.3	190
10 x 2x0.9+1x 0.5 RE	0.4	1.4	15.8	250
15 x 2x0.9+1x 0.5 RE	0.4	1.4	18.0	340
20 x 2x0.9+1x 0.5 RE	0.4	1.4	20.2	430
25 x 2x0.9+1x 0.5 RE	0.4	1.4	22.2	520
30 x 2x0.9+1x 0.5 RE	0.4	1.8	24.8	650
40 x 2x0.9+1x 0.5 RE	0.4	1.8	28.0	830
50 x 2x0.9+1x 0.5 RE	0.4	1.8	30.7	1000

1-Copper Conductor 2-Polyethylene Insulation 3-Polyester Tape

4-Tinned Drain Wire 5-Aluminium Polyester Tape 6- PVC Overall Sheath

**Electrical Data**

Electrical properties:	Unit	Values
Max. conductor DC resistance	ohm/km	56.6
Min. insulation resistance	Mohm.km	10000
Mutual capacitance	nF/km	34±3.5
Test voltage(wire to wire/ wire to screen)	V	500/2000
Operating voltage	V	225

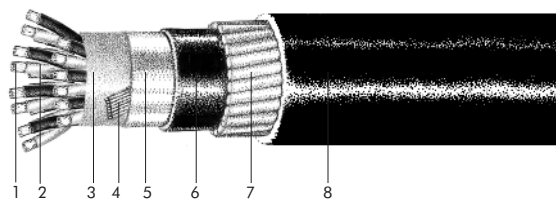


Cu/PE/OSCR/Bd/SWA/PVC

**VDE0816-1**

**Description:**

Wire armoured twisted pair telecommunication cable with copper conductor and PE insulation.



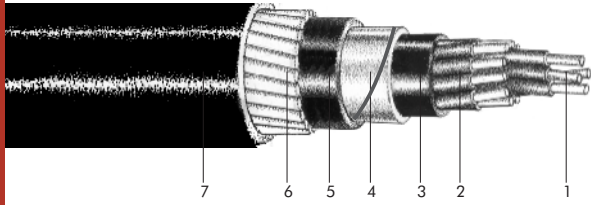
Number of Cores & Cross Section	Insulation Thickness	Wire armour Diameter	Sheath Thickness	Cable Diameter	Total Weight
mm	mm	mm	mm	mm	kg/km
1 x 2x0.9+1x 0.5 RE	0.4	0.8	1.8	17.7	240
2 x 2x0.9+1x 0.5 RE	0.4	0.8	1.8	15.4	340
5 x 2x0.9+1x 0.5 RE	0.4	0.8	1.8	17.6	450
7 x 2x0.9+1x 0.5 RE	0.4	0.8	1.8	18.6	510
10 x 2x0.9+1x 0.5 RE	0.4	1.25	1.8	22.1	780
15 x 2x0.9+1x 0.5 RE	0.4	1.25	1.8	24.2	930
20 x 2x0.9+1x 0.5 RE	0.4	1.6	1.8	27.2	1240
25 x 2x0.9+1x 0.5 RE	0.4	1.6	1.8	29.2	1400
30 x 2x0.9+1x 0.5 RE	0.4	1.6	1.8	31	1550
40 x 2x0.9+1x 0.5 RE	0.4	2	1.9	35.2	2080
50 x 2x0.9+1x 0.5 RE	0.4	2	2	38.1	2420

1-Copper Conductor 2-Polyethylene Insulation 3-Polyester Tape 4- Tinned Drain Wire  
5- Aluminium Polyester Tape 6-Bedding 7-Galvanized Steel Wire Armour 8-PVC Overall Sheath

**Electrical Data**

Electrical properties:	Unit	Values
Max. conductor DC resistance	ohm/km	56.6
Min. insulation resistance	Mohm.km	10000
Max. Mutual capacitance	nF/km	34±3.5
Test voltage(wire to wire/ wire to screen)	V	500/2000
Operating voltage	V	225



**VDE0816-2**

Cu/PE/OSCR/Bd/SWA/PVC

**Description:**

Wire armoured signalling cable with copper conductor and PE insulation.

Number of Cores & Cross Section mm	Insulation Thickness mm	Armour Thickness mm	Sheath Thickness mm	Cable Diameter mm	Total Weight kg/km
2 x 0.9	0.5	1.25	1.4	15.0	250
4 x 0.9	0.5	1.25	1.4	15.8	290
6 x 0.9	0.5	1.25	1.4	16.9	340
8 x 0.9	0.5	1.25	1.4	18.9	390
10 x 0.9	0.5	1.25	1.4	19.9	440
12 x 0.9	0.5	1.25	1.4	20.2	460

1-Copper Conductor 2-Polyethylene Insulation 3-Bedding 4-Copper Tape Screen  
5-Bedding 6- Galvanized Steel Wire Armour 7-PVC Overall Sheath

**Electrical Data**

Electrical properties:	Unit	Values
Max. conductor DC resistance	ohm/km	28.9
Min. insulation resistance	Mohm.km	5000
Max. Mutual capacitance	nF/km	100
Test voltage	V	2500
Operating voltage	V	600

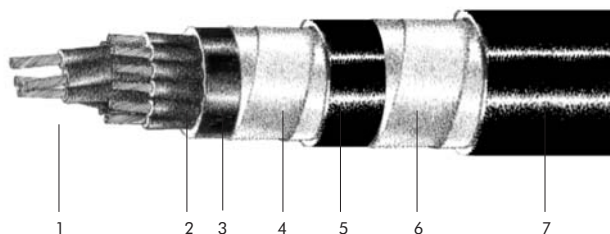


Cu/PE/Bd/CTS/Bd/STA/PVC

**VDE0816-2**

**Description:**

Tape armoured signalling cable with copper conductor and PE insulation.



Number of Cores & Cross Section mm	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter mm	Total Weight kg/km
8 x 1.4	0.6	0.5	1.4	21.0	770
10 x 1.4	0.6	0.5	1.4	22.4	870
20 x 1.4	0.6	0.5	1.8	26.9	1260
30 x 1.4	0.6	0.5	1.8	31.0	1660
40 x 1.4	0.6	0.5	1.8	33.4	1960
50 x 1.4	0.6	0.8	2.2	39.8	2790
60 x 1.4	0.6	0.8	2.2	41.3	3050

1-Copper Conductor 2-Polyethylene Insulation 3-Bedding

4-Copper Tape Screen 5-Bedding 6-Double Galvanized Steel Tape Armour 7-PVC Overall Sheath

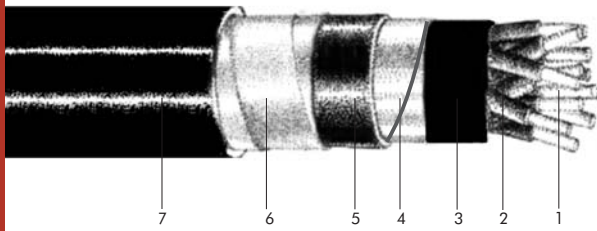
Also available for 2,4,6 core.

**Electrical Data**

Electrical properties:	Unit	Values
Max. conductor DC resistance	ohm/km	11.9
Min. insulation resistance	Mohm.km	5000
Max. Mutual capacitance	nF/km	120
Test voltage	V	2500
Operating voltage	V	600





**VDE0816-2**

Cu/PE/Bd/CTS/Bd/STA/PVC

**Description:**

Tape armoured signalling cable with copper conductor and PE insulation.

Number of Cores & Cross Section mm	Insulation Thickness mm	Armour Diameter mm	Sheath Thickness mm	Cable Diameter mm	Total Weight kg/km
3 x 4 x 1.4	0.7	0.5	1.8	26.3	1050
5 x 4 x 1.4	0.7	0.5	1.8	30.3	1420
7 x 4 x 1.4	0.7	0.5	1.8	33.3	1740
8 x 4 x 1.4	0.7	0.5	2.2	36.2	1970
10 x 4 x 1.4	0.7	0.8	2.2	41.3	2690

1-Copper Conductor 2-Polyethylene Insulation 3-Bedding

4-Copper Tape Screen 5-Bedding 6-Double Galvanized Steel Tape Armour 7-PVC Overall Sheath

Also available with single quad cable.

**Electrical Data**

Electrical properties:	Unit	Values
Max. conductor DC resistance	ohm/km	11.9
Min. insulation resistance	Mohm.km	5000
Max. Mutual capacitance	nF/km	50
Test voltage	V	2500
Operating voltage	V	600



# TECHNICAL DATA



## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Helix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminium Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated



<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)



## FORMULAS

### 1- Inductance

$$L = K + 0.2Ln(2D/d) \quad (mH/km)$$

$K$  : Constant relating to conductor structure

$D$  : Axial cable spacing (mm)

$d$  : Conductor diameter (mm)

$K$	Strands
0	1
0.078	3
0.0642	7
0.0554	19
0.0528	37
0.0514	61 & over

### 2- Maximum Pulling Tension

#### Unarmoured :

$$T = K S \quad (N) \quad \begin{array}{l} K = 50 \text{ for copper} \\ K = 30 \text{ for aluminium} \end{array}$$

#### Armoured :

$$T = K'D^2 \quad (N) \quad \begin{array}{l} K' = 9 \text{ for wire armour} \\ K' = 3 \text{ for tape armour, lead sheath} \end{array}$$

$S$  : Conductor cross section (mm<sup>2</sup>)

$D$  : Cable diameter (mm)



## FORMULAS

### 3-Capacitance

2 conductors: 
$$C_m = \frac{12.10\epsilon}{\log\left(\frac{D_m}{kd_m} + \sqrt{\left(\frac{D_m}{kd_m}\right)^2 - 1}\right)}$$

Twisted Pair in Air: 
$$C_m = \frac{7.25\epsilon}{\log\frac{1.3D_m}{kd_m}}$$

Shielded Twisted Pair: 
$$C_m = \frac{12.10\epsilon}{\log\frac{1.2D_m}{kd_m}}$$

Cabled Twisted Pair 
$$C_m = \frac{9.61\epsilon}{\log\frac{1.5D_m}{kdm}}$$

### 4-Characteristic Impedance

$$Z_o = \frac{3334.5\sqrt{\epsilon}}{C_m}$$

$\epsilon$  = dielectric constant

$D_m$  = insulated diameter (mm)

$d_m$  = conductor diameter (mm)

k = stranding factor:

1.000 For 1 strand  
0.939 For 7 strands  
0.970 For 19 strands  
0.980 For 37 strands

$Z_o$  = characteristic impedance ( $\Omega$ )

$C_m$  = capacitance in (pF/m or nF/Km)

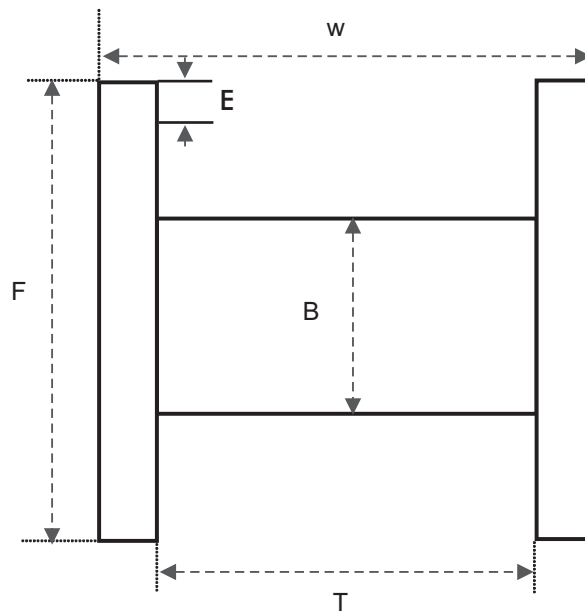


Max Cable length in meters on standard drums

Drum Sizes													
Cable Dia.mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia.mm
6	1326	3961											6
7	975	2910											7
8	746	2228	4391										8
9	590	1760	3470										9
10	478	1426	2810	4566									10
11	395	1178	2323	3774									11
12	332	990	1952	3171	4912								12
13	283	844	1663	2702	4185								13
14		727	1434	2330	3609	4934							14
15		634	1249	2029	3144	4298							15
16		557	1098	1784	2763	3777							16
17		493	972	1580	2448	3346	4858						17
18		440	867	1409	2183	2985	4333	4643					18
19		395	778	1265	1959	2679	3889	4167	4722				19
20		356	703	1142	1768	2417	3510	3760	4262				20
21		323	637	1035	1604	2193	3183	3411	3866				21
22		295	581	943	1461	1998	2901	3108	3522	4815			22
23		270	531	863	1337	1828	2654	2843	3223	4406			23
24			488	793	1228	1679	2437	2611	2960	4046			24
25			450	731	1132	1547	2246	2407	2728	3729			25
26			416	675	1046	1430	2077	2225	2522	3448			26
27			386	626	970	1326	1926	2063	2338	3197			27
28			358	582	902	1233	1791	1919	2174	2973			28
29			334	543	841	1150	1669	1789	2027	2771	4826		29
30			312	507	786	1074	1560	1671	1894	2590	4510		30
31			292	475	736	1006	1461	1565	1774	2425	4224		31
32			274	446	691	944	1371	1469	1665	2276	3964		32
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33
34				395	612	836	1214	1301	1475	2016	3511	4709	34
35				373	577	789	1146	1228	1392	1903	3313	4444	35
36				352	546	746	1083	1161	1315	1798	3132	4200	36
37				334	517	706	1026	1099	1245	1702	2965	3976	37
38				316	490	670	972	1042	1181	1614	2811	3770	38
39				300	465	636	923	989	1121	1532	2669	3579	39
40				285	442	604	877	940	1065	1457	2537	3402	40
41				272	421	575	835	895	1014	1386	2415	3238	41
42				259	401	548	796	853	966	1321	2301	3086	42
43					383	523	759	814	922	1260	2195	2944	43
44					365	499	725	777	881	1204	2097	2812	44
45					349	478	693	743	842	1151	2004	2688	45
46					334	457	663	711	806	1101	1918	2573	46
47					320	438	636	681	772	1055	1837	2464	47
48					307	420	609	653	740	1012	1762	2363	48
49					295	403	585	626	710	971	1691	2267	49
50					283	387	562	602	682	932	1624	2178	50
51					272	372	540	578	655	896	1561	2093	51
52					262	358	519	556	630	862	1501	2013	52
53					252	344	500	535	607	830	1445	1938	53
54						332	481	516	585	799	1392	1867	54
55						320	464	497	564	770	1342	1800	55
56						308	448	480	544	743	1294	1736	56
57						298	432	463	525	717	1249	1676	57
58						287	417	447	507	693	1207	1618	58
59						278	403	432	490	670	1166	1564	59
60						269	390	418	474	647	1127	1512	60
61						260	377	404	458	626	1091	1463	61
62						252	365	391	443	606	1056	1416	62
63							354	379	430	587	1023	1372	63
64							343	367	416	569	991	1329	64
65							332	356	403	552	961	1288	65
66							322	345	391	535	932	1250	66
67							313	335	380	519	904	1213	67
68							304	325	369	504	878	1177	68
69							295	316	358	490	853	1143	69
70							287	307	348	476	828	1111	70
71							278	298	338	462	805	1080	71
72							271	290	329	450	783	1050	72
73							263	282	320	437	762	1022	73
74							256	275	311	426	741	994	74
75							250	267	303	414	722	968	75
76								260	295	403	703	942	76
77								254	288	393	685	918	77
78									280	383	667	895	78
79									273	373	650	872	79
80									266	364	634	851	80
81									260	355	619	830	81
82									254	347	604	810	82
83										338	589	790	83
84										330	575	772	84
85										323	562	753	85
86										315	549	736	86
87										308	536	719	87
88										301	524	703	88
89										294	512	687	89
90										288	501	672	90
91										281	490	657	91
92										275	480	643	92
93										269	469	629	93
94										264	459	616	94
95										258	450	603	95
96										253	440	591	96
97											431	579	97
98											423	567	98
99											414	555	99
100											406	544	100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)







# ABHAR WIRE + CABLE CO.



ISO 9002  
Certificate No.  
QS-1147HH




Accredited by the  
Dutch Council for  
Accreditation





## Data transmission cables

Data transmission cables are used in high frequency systems. The general transmission characteristics in these cables include attenuation, cross talk, characteristic impedance and velocity of wave propagation.

 produces a wide variety of these cables according to international standards.



# CONTENTS

PROFIBVS COAXIAL

CABLE TYPE	DESIGNATION	PAGE
Coaxial Cables (50 ohms)	50 ohms	1
Coaxial Cables (75 ohms)	75 ohms	2
Coaxial Cables (RG)	RG	3

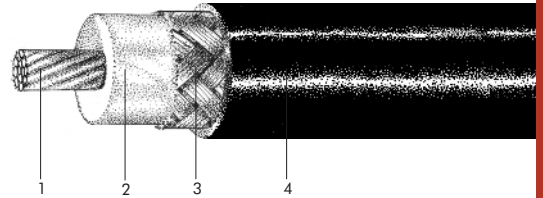


## Coaxial Cables (50 ohms)

**JIS C-3501**

### Description:

High frequency Coaxial cable, copper or tinned copper conductor, PE or Foam PE insulation and copper or tinned copper braided shield.



Coaxial Cable Type	Number & Diameter of wire mm	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km	Attenuation 10 MHz dB/Km	Impedance ohms
1.5 D- 2 V	7 x 0.18	0.55	0.4	3.0	14	85	50
2.5 D- 2 V	1 x 0.8	0.95	0.5	4.3	35	45	50
3 D- 2 V	7 x 0.32	1.05	0.8	5.3	44	47	50
5 D- 2 V	1 x 1.4	1.7	0.9	7.3	80	27	50
5 D- 2 W	1 x 1.4	1.7	0.9	8.0	110	27	50
8 D- 2 V	7 x 0.8	2.7	1.2	11.1	180	20	50
10 D- 2 V	1 x 2.9	3.4	1.2	13.1	260	14	50

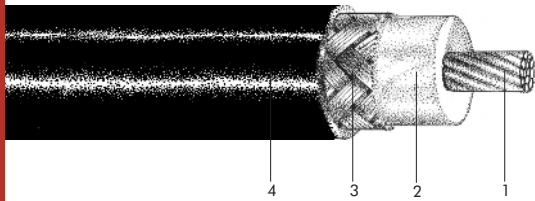
1-Stranded Circular or Solid Conductor 2-PE or Foam PE Insulation 3-Copper or Tinned Copper Shield 4-PVC Sheathing.

Coaxial cables are used in high frequency transmission, specially for transmitters and receivers, computers, radio and TV transmissions. The varied mechanical, thermal and electronic properties of coaxial cables mean that they can be used up into the GHz levels.

### Electrical Data

Coaxial cable Type	Impedance ohms	Capacitance pF/m	Attenuation		Velocity of Propagation
			MHz	dB/Km	
1.5D-2V	50±2	104±5	1	27	66
			10	85	
			50	190	
			100	269	
			200	380	
2.5D-2V	50±2	100±5	1	14	66
			10	45	
			50	101	
			100	142	
			200	201	
3D-2V	50±2	100±4	1	14	66
			10	47	
			50	105	
			100	149	
			200	210	
5D-2V	50±2	100±4	1	9	66
			10	27	
			50	60	
			100	85	
			200	121	
5D-2W	50±2	100±4	1	9	66
			10	27	
			50	60	
			100	85	
			200	121	
8D-2V	50±2	100±4	1	6	66
			10	20	
			50	45	
			100	63	
			200	90	
10D-2V	50±2	102±4	1	4	66
			10	14	
			50	31	
			100	44	
			200	63	





**JIS C-3501**

**Coaxial Cables (75 ohms)**

**Description:**

High frequency Coaxial cable, copper or tinned copper conductor, PE or Foam PE insulation and copper or tinned copper braided shield.

Coaxial Cable Type	Number & Diameter of wire mm	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km	Attenuation 10 MHz dB/Km	Impedance ohms
3 C- 2 V	1 x 0.5	1.3	0.8	5.4	42	42	75
★4.5 C- 2 V	1 x 1.0	1.75	0.6	6.4	47	22	75
5 C- 2 V	1 x 0.8	2.05	0.9	7.4	74	27	75
5 C- 2 W	1 x 0.8	2.05	1.0	8.3	120	27	75
7 C- 2 V	7 x 0.4	3.05	1.1	10.4	140	22	75
10 C- 2 V	7 x 0.5	3.95	1.3	13.1	220	18	75

1-Stranded Circular or Solid Conductor 2-PE or Foam PE Insulation 3-Copper or Tinned Copper Shield 4-PVC Sheathing.

★: With Foamed PE Insulation

Coaxial cables are used in high frequency transmission, specially for transmitters and receivers, computers, radio and TV transmissions. The varied mechanical, thermal and electronic properties of coaxial cables mean that they can be used up into the GHz levels.

**Electrical Data**

Coaxial cable Type	Impedance ohms	Capacitance pF/m(f,10Mhz)	Attenuation		Velocity of Propagation
			MHz	dB/Km	
2.5C-2V	75±2	69±4	1	16	66
			10	52	
			50	116	
			100	164	
			200	233	
3C-2V	75±2	67±3	1	13	66
			10	42	
			50	94	
			100	133	
			200	188	
4.5C-2V	75±2	54±3	1	7	80
			10	22	
			50	50	
			100	70	
			200	98	
5C-2V	75±2	67±3	1	9	66
			10	27	
			50	60	
			100	85	
			200	121	
5C-2W	75±2	67±3	1	9	66
			10	27	
			50	60	
			100	85	
			200	121	
7C-2v	75±2	67±3	1	7	66
			10	22	
			50	16	
			100	158	
			200	224	
10C-2v	75±2	67±3	1	6	66
			10	18	
			50	40	
			100	57	
			200	80	

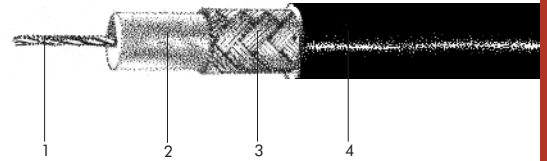


## Coaxial Cables (RG)

**MIL-C-17**

### Description:

High frequency Coaxial cable, copper or tinned copper conductor, PE or Foam PE insulation and copper or tinned copper braided shield.



Coaxial Cable Type	Number & Diameter of wire mm	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km	Attenuation 10 MHz dB/Km	Impedance ohms
RG- 11 /U	7 x 0.40	3.05	1.0	10.0	135	22	75
RG- 58 /U	19 x 0.18	1.05	0.7	4.95	35	44	50
RG- 213 /U	7 x 0.75	2.5	1.3	13.0	160	17	50
RG- 214 /U	7 x 0.75	2.5	0.95	11.0	220	17	50
RG- 216 /U	7 x 0.40	3.0	1.3	13.0	185	22	75

1-Stranded Circular or Solid Conductor 2-PE or Foam PE Insulation 3-Copper or Tinned Copper Shield 4-PVC Sheathing.

Coaxial cables are used in high frequency transmission, specially for transmitters and receivers, computers, radio and TV transmissions. The varied mechanical, thermal and electronic properties of coaxial cables mean that they can be used up into the GHz levels.

### RG-58/U Cables Could be Supplied in Multi Cores.

#### Electrical Data

Coaxial cable Type	Impedance ohms	Capacitance pF/m	Attenuation		Velocity of Propagation(%)
			MHz	dB/Km	
RG-11/U	75±3	67±5	10	7.0	66
			50	17.5	
			100	65.0	
			200	101.0	
			400	171.0	
			1000	308.0	
RG-58/U	50±2	100±5	10	17.0	66
			50	131.0	
			100	213.0	
			200	222.0	
			400	557.0	
			1000	918.0	
RG-213/U	50±3	100±5	10	7.0	66
			50	39.3	
			100	75.0	
			200	108.0	
			400	157.0	
			1000	295.0	
RG-214/U	50±3	97±5	10	7.0	66
			50	54.0	
			100	76.0	
			200	105.0	
			400	164.0	
			1000	289.0	
RG-216/U	75±3	72±5	10	7.5	66
			50	88.8	
			100	106.5	
			200	152.1	
			400	213.0	
			1000	355.0	



# TECHNICAL DATA





## FORMULAS

### 1-Characteristic Impedance

$$z_o = \frac{138.2}{\sqrt{\epsilon}} \log \frac{D + 1.5a_m}{kd_m} = \sqrt{(L_m/C_m)}$$

### 2-Capacitance

$$C_m = \frac{24.13\epsilon}{\log \frac{D_m + 1.5a_m}{kd_m}} = \frac{3334.5\sqrt{\epsilon}}{Z_o}$$

### 3-Attenuation

$$A_m = \frac{36.25}{Z_o} \left( \frac{1}{D_m} + \frac{1}{d_m} \right) \sqrt{f} + 9.12P\sqrt{\epsilon} f$$

### 4-Velocity of propagation

$$v_p = \frac{100}{\sqrt{\epsilon}} \%$$

$\epsilon$  = dielectric constant

$D_m$  = insulated conductor diameter (mm)

$d_m$  = conductor diameter (mm)

$a_m$  = single-end braid wire diameter (mm)

$k$  = stranding factor:

1.000 For 1 strand  
0.939 For 7 strands  
0.970 For 19 strands  
0.980 For 37 strands

$L_m$  = inductance in (pH/m)

$Z_o$  = characteristic impedance ( $\Omega$ )

$C_m$  = capacitance in (pF/m)

$f$  = frequency in (MHZ)

$A_m$  = attenuation in (dB/100m)

$v_p$  = velocity of propagation in percent

$P$  = power factor ( $\text{tg } \delta$ )

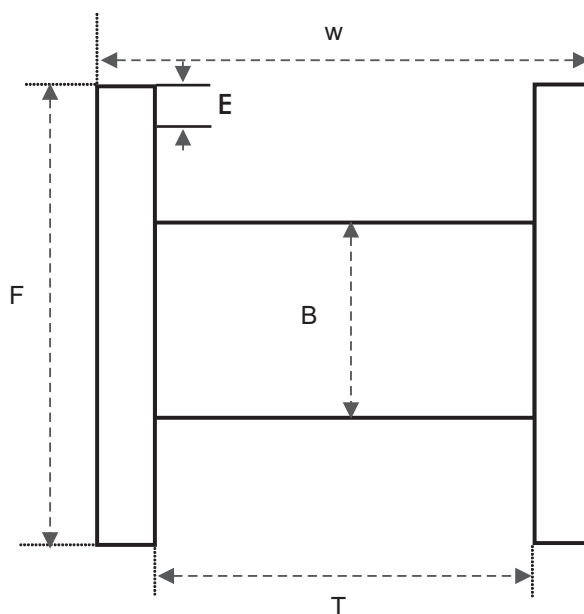


Max Cable length in meters on standard drums

Cable Dia.mm	Drum Sizes												Cable Dia.mm	
	6	8	10	12	14	16	18	20	22	24	26	30		
6	1326	3961												6
7	975	2910												7
8	746	2228	4391											8
9	590	1760	3470											9
10	478	1426	2810	4566										10
11	395	1178	2323	3774										11
12	332	990	1952	3171	4912									12
13	283	844	1663	2702	4185									13
14		727	1434	2330	3609	4934								14
15		634	1249	2029	3144	4298								15
16		557	1098	1784	2763	3777								16
17		493	972	1580	2448	3346	4858							17
18		440	867	1409	2183	2985	4333	4643						18
19		395	778	1265	1959	2679	3889	4167	4722					19
20		356	703	1142	1768	2417	3510	3760	4262					20
21		323	637	1035	1604	2193	3183	3411	3866					21
22		295	581	943	1461	1998	2901	3108	3522	4815				22
23		270	531	863	1337	1828	2654	2843	3223	4406				23
24			488	793	1228	1679	2437	2611	2960	4046				24
25			450	731	1132	1547	2246	2407	2728	3729				25
26			416	675	1046	1430	2077	2225	2522	3448				26
27			386	626	970	1326	1926	2063	2338	3197				27
28			358	582	902	1233	1791	1919	2174	2973				28
29			334	543	841	1150	1669	1789	2027	2771	4826			29
30			312	507	786	1074	1560	1671	1894	2590	4510			30
31			292	475	736	1006	1461	1565	1774	2425	4224			31
32			274	446	691	944	1371	1469	1665	2276	3964			32
33			258	419	650	888	1289	1381	1565	2140	3727	4999		33
34				395	612	836	1214	1301	1475	2016	3511	4709		34
35				373	577	789	1146	1228	1392	1903	3313	4444		35
36				352	546	746	1083	1161	1315	1798	3132	4200		36
37				334	517	706	1026	1099	1245	1702	2965	3976		37
38				316	490	670	972	1042	1181	1614	2811	3770		38
39				300	465	636	923	989	1121	1532	2669	3579		39
40				285	442	604	877	940	1065	1457	2537	3402		40
41				272	421	575	835	895	1014	1386	2415	3238		41
42				259	401	548	796	853	966	1321	2301	3086		42
43					383	523	759	814	922	1260	2195	2944		43
44					365	499	725	777	881	1204	2097	2812		44
45					349	478	693	743	842	1151	2004	2688		45
46					334	457	663	711	806	1101	1918	2573		46
47					320	438	636	681	772	1055	1837	2464		47
48					307	420	609	653	740	1012	1762	2363		48
49					295	403	585	626	710	971	1691	2267		49
50					283	387	562	602	682	932	1624	2178		50
51					272	372	540	578	655	896	1561	2093		51
52					262	358	519	556	630	862	1501	2013		52
53					252	344	500	535	607	830	1445	1938		53
54						332	481	516	585	799	1392	1867		54
55						320	464	497	564	770	1342	1800		55
56						308	448	480	544	743	1294	1736		56
57						298	432	463	525	717	1249	1676		57
58						287	417	447	507	693	1207	1618		58
59						278	403	432	490	670	1166	1564		59
60						269	390	418	474	647	1127	1512		60
61						260	377	404	458	626	1091	1463		61
62						252	365	391	443	606	1056	1416		62
63							354	379	430	587	1023	1372		63
64							343	367	416	569	991	1329		64
65							332	356	403	552	961	1288		65
66							322	345	391	535	932	1250		66
67							313	335	380	519	904	1213		67
68							304	325	369	504	878	1177		68
69							295	316	358	490	853	1143		69
70							287	307	348	476	828	1111		70
71							278	298	338	462	805	1080		71
72							271	290	329	450	783	1050		72
73							263	282	320	437	762	1022		73
74							256	275	311	426	741	994		74
75							250	267	303	414	722	968		75
76								260	295	403	703	942		76
77								254	288	393	685	918		77
78									280	383	667	895		78
79									273	373	650	872		79
80									266	364	634	851		80
81									260	355	619	830		81
82									254	347	604	810		82
83										338	589	790		83
84										330	575	772		84
85										323	562	753		85
86										315	549	736		86
87										308	536	719		87
88										301	524	703		88
89										294	512	687		89
90										288	501	672		90
91										281	490	657		91
92										275	480	643		92
93										269	469	629		93
94										264	459	616		94
95										258	450	603		95
96										253	440	591		96
97											431	579		97
98											423	567		98
99											414	555		99
100											406	544		100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

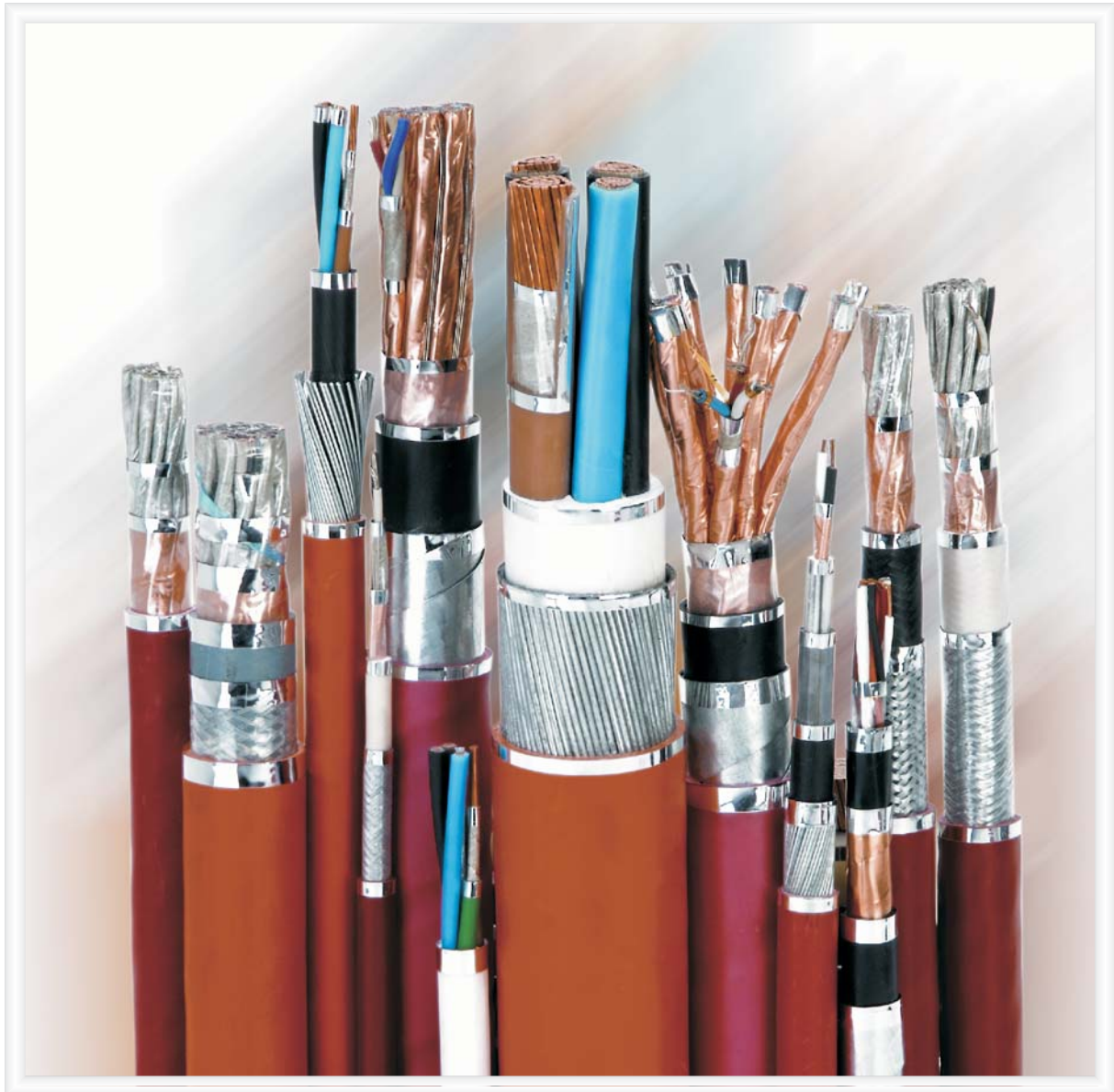
B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





**SAFETY CABLES**

# ABHAR WIRE + CABLE CO.



ISO 9002  
Certificate No.  
QS-1147HH



Accredited by the  
Dutch Council for  
Accreditation






## Safety cables

Fire resistant cables should be able to achieve the required performance under fire condition, this is categorized as resistance to fire alone, resistance to fire with water and / or resistance to fire with mechanical shock.

Cables used within public buildings, emergency systems such as fire alarm circuits, and emergency lighting systems should, as a minimum requirement, not be of any danger to the health of people or the integrity of the wiring structure of the building through acid gas emissions during a fire.

They should also be self- extinguishing and low smoke emitting, in other words they should not continue to burn once the source of fire is removed and neither should they propagate fire to other areas , and the smoke produced should not prevent the people from observing emergency lightings and exit routes.

Halogen free cables fulfill self- extinguishing and low smoke emitting properties and, in addition, the halogen content in the gases emitted from burning cable is nearly zero.

 produce a wide variety of fire resistant and halogen free cables for LV, Instrumentation, Control, Telecommunication and Signalling ranges.



# CONTENTS

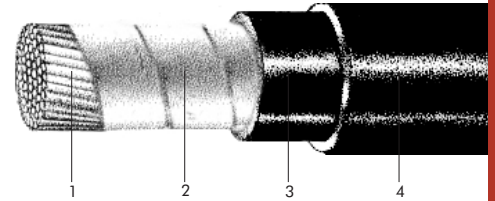
	NO. OF CORES	DESIGNATION	PAGE
<b>FIRE RESISTANT</b>	SINGLE CORE 2 & 5 CORE	Cu/MGT/XLPE/LSFOH	1
		Cu/MGT/XLPE/LSFOH/LSFOH	2
	3 CORE 3 CORE + Cu. SCREEN	Cu/MGT/XLPE/LSFOH/LSFOH	3
		Cu/MGT/XLPE/LSFOH/CWS/LSFOH	4
	4 CORE 4 CORE + Cu. SCREEN	Cu/MGT/XLPE/LSFOH/LSFOH	5
		Cu/MGT/XLPE/LSFOH/CWS/LSFOH	6
	MULTI CORE 3.5 CORE CORD	Cu/MGT/XLPE/LSFOH/LSFOH	7
		Cu/MGT/XLPE/LSFOH/LSFOH	8
		Cu/MGT/LSFOH	9
	<b>FLAME RETARDANT</b>	SINGLE CORE 2 & 5 CORE	Cu/XLPE/LSFOH
Cu/XLPE/LSFOH/LSFOH			11
3 CORE 3 CORE + Cu. SCREEN		Cu/XLPE/LSFOH/LSFOH	12
		Cu/XLPE/LSFOH/CWS/LSFOH	13
4 CORE 4 CORE + Cu. SCREEN		Cu/XLPE/LSFOH/LSFOH	14
		Cu/XLPE/LSFOH/CWS/LSFOH	15
MULTI CORE 3.5 CORE CORD		Cu/XLPE/LSFOH/LSFOH	16
		Cu/XLPE/LSFOH/LSFOH	17
		Cu/LSFOH	18

**Cu/MGT/XLPE/LSFOH**

**IEC 60502-1**

**Description:**

Mica/XLPE insulated, single core, halogen free, low smoke, fire resistant power cable, with 180 min. circuit integrity



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 1.5 RE	0.7	1.4	6.9	56
1x 2.5 RE	0.7	1.4	7.3	69
1x 4 RE	0.7	1.4	7.7	87
1x 6 RE	0.7	1.4	8.2	109
1x 10 RM	0.7	1.4	9.5	160
1x 16 RM	0.7	1.4	10.3	216
1x 25 RM	0.9	1.4	11.9	317
1x 35 RM	0.9	1.4	12.9	412
1x 50 RM	1.0	1.4	14.3	539
1x 70 RM	1.1	1.4	16.2	746
1x 95 RM	1.1	1.5	18.1	1003
1x 120 RM	1.2	1.5	20.0	1243
1x 150 RM	1.4	1.6	21.9	1526
1x 185 RM	1.6	1.7	24.3	1898
1x 240 RM	1.7	1.8	27.1	2459
1x 300 RM	1.8	1.8	29.4	3031

1-Solid/Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Flame Retardant Sheathing

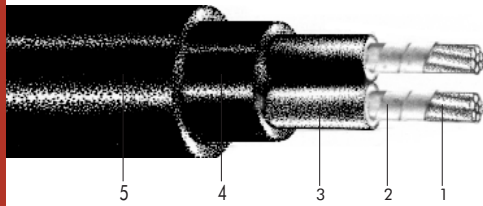
Flame retardant as per IEC 332

Fire resistant as per IEC 331

Maximum conductor Temperature 90 C







IEC 60502-1

Cu/MGT/XLPE/LSFOH/LSFOH

**Description:**

Mica/XLPE insulated, two & five cores, halogen free, low smoke, fire resistant power cable, with 180 min. circuit integrity

Number of Cores & Cross Section mm <sup>2</sup>		Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 1.5	RE	0.7	1.8	13.8	221
2x 2.5	RE	0.7	1.8	14.6	261
2x 4	RE	0.7	1.8	15.4	310
2x 6	RE	0.7	1.8	16.4	374
2x 10	RM	0.7	1.8	19.0	531
2x 16	RM	0.7	1.8	20.7	680
2x 25	RM	0.9	1.8	24.0	972
5x 1.5	RE	0.7	1.8	16.5	318
5x 2.5	RE	0.7	1.8	17.5	388
5x 4	RE	0.7	1.8	18.6	486
5x 6	RE	0.7	1.8	20.1	613
5x 10	RM	0.7	1.8	23.7	908
5x 16	RM	0.7	1.8	25.8	1210
5x 25	RM	0.9	1.8	30.4	1779

1-Solid/Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Filler 5-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332

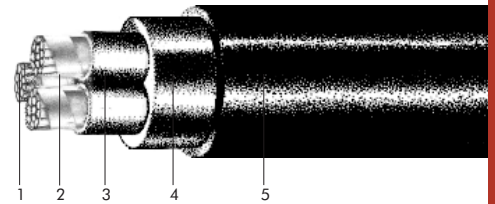
Fire resistant as per IEC 331

Maximum conductor Temperature 90 C



**Description:**

Mica/XLPE insulated, three cores, halogen free, low smoke, fire resistant power cable, with 180 min. circuit integrity



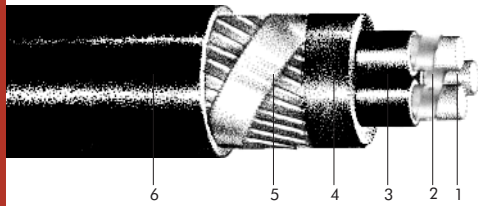
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x1.5 RE	0.7	1.8	14.4	245
3x2.5 RE	0.7	1.8	15.3	295
3x 4 RE	0.7	1.8	16.1	357
3x 6 RE	0.7	1.8	17.2	440
3x 10 RM	0.7	1.8	20.1	634
3x 16 RM	0.7	1.8	21.9	835
3x 25 RM	0.9	1.8	25.4	1207
3x 35 RM	0.9	1.8	27.5	1538
3x 50 RM	1.0	1.8	30.7	1989
3x 70 RM	1.1	2.0	35.9	2803
3x 95 RM	1.1	2.1	39.8	3691
3x 120 RM	1.2	2.2	43.8	4565
3x 150 RM	1.4	2.3	48.1	5598
3x 185 RM	1.6	2.5	53.4	6947
3x 240 RM	1.7	2.7	60.2	8987
3x 300 RM	1.8	2.8	65.1	11003

1-Solid/Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Filler 5-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332

Fire resistant as per IEC 331

Maximum conductor Temperature 90 C

**IEC 60502-1** Cu/MGT/XLPE/LSFOH/CWS/LSFOH**Description:**

Mica/XLPE insulated, three cores + copper screen, halogen free, low smoke, fire resistant power cable with 180 min. circuit integrity

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x1.5 RE/ 1.5 CS	0.7	1.8	15.8	287
3x2.5 RE/ 2.5 CS	0.7	1.8	16.7	339
3x 4 RE/ 4.0 CS	0.7	1.8	17.5	406
3x 6 RE/ 6.0 CS	0.7	1.8	18.6	508
3x 10 RE/ 10 CS	0.7	1.8	21.5	738
3x 16 RM/ 16 CS	0.7	1.8	23.3	996
3x 25 RM/ 16 CS	0.9	1.8	26.8	1368
3x 35 RM/ 16 CS	0.9	1.8	28.9	1699
3x 50 RM/ 25 CS	1.0	1.9	32.8	2250
3x 70 RM/ 35 CS	1.1	2.0	37.7	3142
3x 95 RM/ 50 CS	1.1	2.1	42.2	4176
3x120 RM/ 70 CS	1.2	2.3	47.0	5262
3x150 RM/ 70 CS	1.4	2.4	51.4	6298
3x185 RM/ 95 CS	1.6	2.6	56.9	7892
3x240 RM/120 CS	1.7	2.8	64.2	10170
3x300 RM/150 CS	1.8	2.9	69.2	12469

1-Solid/Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Filler 5-Copper Wire Screen With Helical Copper Tape

6-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332

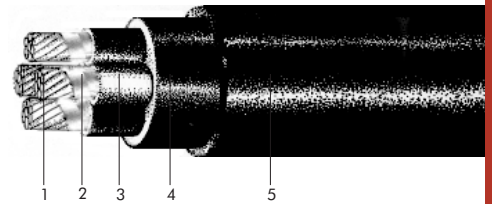
Fire resistant as per IEC 331

Maximum conductor Temperature 90 C



**Description:**

Mica/XLPE insulated, four cores, halogen free, low smoke, fire resistant power cable, with 180 min. circuit integrity



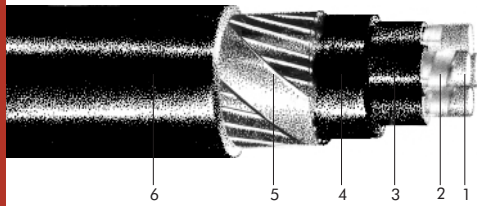
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 1.5 RE	0.7	1.8	15.4	280
4x 2.5 RE	0.7	1.8	16.3	338
4x 4 RE	0.7	1.8	17.3	420
4x 6 RE	0.7	1.8	18.5	523
4x 10 RM	0.7	1.8	21.8	768
4x 16 RM	0.7	1.8	23.8	1022
4x 25 RM	0.9	1.8	27.6	1483
4x 35 RM	0.9	1.8	30.3	1917
4x 50 RM	1.0	1.9	34.5	2547
4x 70 RM	1.1	2.1	39.5	3528
4x 95 RM	1.1	2.2	43.9	4661
4x 120 RM	1.2	2.3	48.7	5825
4x 150 RM	1.4	2.5	53.3	7114
4x 185 RM	1.6	2.7	59.8	8885
4x 240 RM	1.7	2.9	66.8	11450
4x 300 RM	1.8	3.1	72.4	14061

1-Solid/Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Filler 5-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332

Fire resistant as per IEC 331

Maximum conductor Temperature 90 C

**IEC 60502-1 Cu/MGT/XLPE/LSFOH/CWS/LSFOH****Description:**

Mica/XLPE insulated, four cores + copper screen, halogen free, low smoke, fire resistant power cable with 180 min. Circuit integrity

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x1.5 RE/ 1.5 CS	0.7	1.8	16.8	325
4x2.5 RE/ 2.5 CS	0.7	1.8	17.7	383
4x 4 RE/ 4.0 CS	0.7	1.8	18.7	470
4x 6 RE/ 6.0 CS	0.7	1.8	20.0	591
4x 10 RM/ 10 CS	0.7	1.8	23.2	872
4x 16 RM/ 16 CS	0.7	1.8	25.2	1183
4x 25 RM/ 16 CS	0.9	1.8	29.0	1644
4x 35 RM/ 16 CS	0.9	1.8	31.7	2078
4x 50 RM/ 25 CS	1.0	2.0	36.5	2810
4x 70 RM/ 35 CS	1.1	2.1	41.3	3868
4x 95 RM/ 50 CS	1.1	2.3	46.5	5169
4x120 RM/ 70 CS	1.2	2.4	52.0	6525
4x150 RM/ 70 CS	1.4	2.6	56.8	7819
4x185 RM/ 95 CS	1.6	2.7	62.8	9806
4x240 RM/120 CS	1.7	3.0	70.8	12639
4x300 RM/150 CS	1.8	3.2	76.4	15536

1-Solid/Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Filler 5-Copper Wire Screen With Helical Copper Tape

6-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332

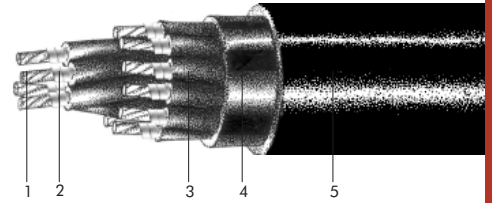
Fire resistant as per IEC 331

Maximum conductor Temperature 90 C



**Description:**

Mica/XLPE insulated, multi core, halogen free, low smoke, fire resistant control cable, with 180 min. circuit integrity



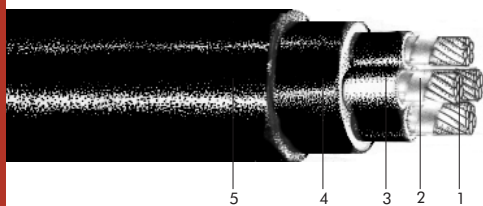
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
7 x 1.5 RM	0.7	1.8	16.1	281
10x 1.5 RM	0.7	1.8	20.2	384
12x 1.5 RM	0.7	1.8	20.8	435
14x 1.5 RM	0.7	1.8	21.8	490
19x 1.5 RM	0.7	1.8	24.2	625
24x 1.5 RM	0.7	1.8	28.2	775
30x 1.5 RM	0.7	1.8	30.0	926
7 x 2.5 RM	0.7	1.8	17.6	369
10x 2.5 RM	0.7	1.8	22.2	509
12x 2.5 RM	0.7	1.8	22.9	582
14x 2.5 RM	0.7	1.8	24.0	659
19x 2.5 RM	0.7	1.8	26.7	851
24x 2.5 RM	0.7	1.8	31.4	1059
30x 2.5 RM	0.7	1.9	33.5	1292

1-Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Filler 5-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332

Fire resistant as per IEC 331

Maximum conductor Temperature 90 C

**IEC 60502-1****Cu/MGT/XLPE/LSFOH/LSFOH****Description:**

Mica/XLPE insulated, 31/2 core, halogen free, low smoke, fire resistant power cable, with 180 min. circuit integrity

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness		Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
	PH mm	N mm			
3x 25 + 16 RM	0.9	0.7	1.8	27.6	1408
3x 35 + 16 RM	0.9	0.7	1.8	30.3	1765
3x 50 + 25 RM	1.0	0.9	1.9	34.5	2410
3x 70 + 35 RM	1.1	0.9	2.1	39.5	3314
3x 95 + 50 RM	1.1	1.0	2.2	43.9	4263
3x120 + 70 RM	1.2	1.1	2.3	48.7	5393
3x150 + 70 RM	1.4	1.1	2.5	53.3	6450
3x185 + 95 RM	1.6	1.1	2.7	59.8	8136
3x240 + 120 RM	1.7	1.2	2.9	66.8	10428
3x300 + 150 RM	1.8	1.4	3.1	72.4	12766

1-Stranded Circular Conductor 2-Mica, glass fiber Tape 3-XLPE Insulation 4-Halogen Free Filler 5-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332

Fire resistant as per IEC 331

Maximum conductor Temperature 90 C

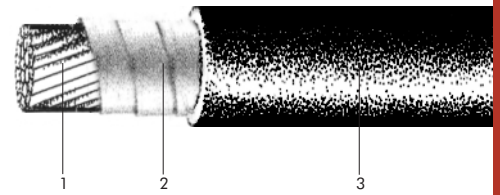


**Cu/MGT/LSFOH**

**IEC 60227-3**

**Description:**

Mica/halogen free insulated, low smoke, fire resistant cord, with 180 min. circuit integrity



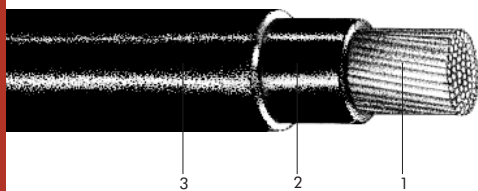
Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Outer Diameter Approx. mm	Total Weight Approx. kg/km
1.5 RE	0.7	3.8	25
2.5 RE	0.8	4.4	37
4.0 RE	0.8	4.8	53
6 RE	0.8	5.3	73
10 RM	1.0	7.0	123
16 RM	1.0	8.2	178
25 RM	1.2	9.9	275
35 RM	1.2	11.0	367

1-Solid/Stranded Circular Conductor 2-Mica, glass fiber Tape 3-Halogen Free Flame Retardant Insulation

Flame retardant as per IEC 332  
Fire resistant as per IEC 331  
Maximum conductor Temperature 90 C







IEC 60502-1

Cu/XLPE/LSFOH

**Description:**

XLPE insulated, single core, halogen free, low smoke, flame retardant power cable

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
1x 1.5 RE	0.7	1.4	5.9	45
1x 2.5 RE	0.7	1.4	6.3	58
1x 4 RE	0.7	1.4	6.8	76
1x 6 RE	0.7	1.4	7.3	97
1x 10 RM	0.7	1.4	8.6	146
1x 16 RM	0.7	1.4	9.3	200
1x 25 RM	0.9	1.4	10.9	299
1x 35 RM	0.9	1.4	11.9	393
1x 50 RM	1.0	1.4	13.3	517
1x 70 RM	1.1	1.4	15.2	722
1x 95 RM	1.1	1.5	17.1	976
1x 120 RM	1.2	1.5	19.0	1213
1x 150 RM	1.4	1.6	21.0	1494
1x 185 RM	1.6	1.6	23.1	1851
1x 240 RM	1.7	1.7	25.9	2407
1x 300 RM	1.8	1.8	28.2	2987

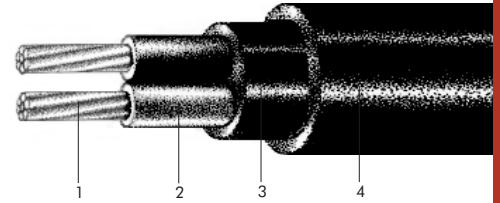
1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C



**Cu/XLPE/LSFOH/LSFOH****IEC 60502-1****Description:**

XLPE insulated, two & five cores, halogen free, low smoke, flame retardant power cable

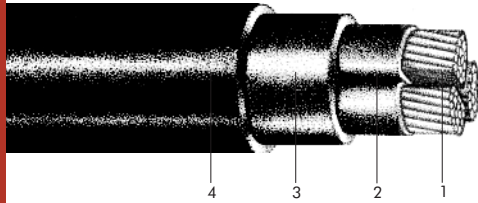


Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
2x 1.5 RE	0.7	1.8	11.8	170
2x 2.5 RE	0.7	1.8	12.6	206
2x 4 RE	0.7	1.8	13.6	258
2x 6 RE	0.7	1.8	14.6	318
2x 10 RM	0.7	1.8	17.2	465
2x 16 RM	0.7	1.8	18.6	603
2x 25 RM	0.9	1.8	22.0	882
5x 1.5 RE	0.7	1.8	13.8	248
5x 2.5 RE	0.7	1.8	14.8	313
5x 4 RE	0.7	1.8	16.2	414
5x 6 RE	0.7	1.8	17.5	531
5x 10 RM	0.7	1.8	21.2	812
5x 16 RM	0.7	1.8	23.1	1102
5x 25 RM	0.9	1.8	27.5	1653

1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free filler 4-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C





IEC 60502-1

Cu/XLPE/LSFOH/LSFOH

**Description:**

XLPE insulated, three cores, halogen free, low smoke, flame retardant power cable

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x 1.5 RE	0.7	1.8	12.2	189
3x 2.5 RE	0.7	1.8	13.1	236
3x 4 RE	0.7	1.8	14.2	302
3x 6 RE	0.7	1.8	15.3	381
3x 10 RM	0.7	1.8	18.1	566
3x 16 RM	0.7	1.8	19.7	751
3x 25 RM	0.9	1.8	23.2	1109
3x 35 RM	0.9	1.8	25.4	1439
3x 50 SM	1.0	1.8	26.6	1542
3x 70 SM	1.1	1.9	31.1	2169
3x 95 SM	1.1	2.0	35.0	2934
3x 120 SM	1.2	2.1	38.5	3667
3x 150 SM	1.4	2.3	43.0	4532
3x 185 SM	1.6	2.4	47.9	5643
3x 240 SM	1.7	2.6	53.7	7346
3x 300 SM	1.8	2.7	59.4	9117

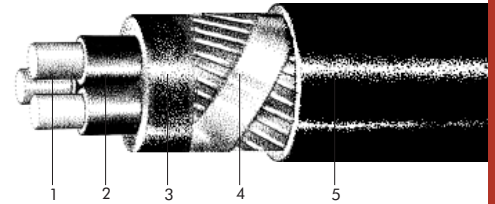
1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free filler 4-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C



**Description:**

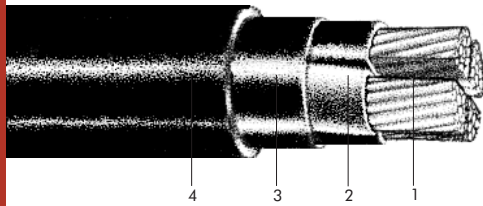
XLPE insulated, three cores+copper screen, halogen free, low smoke, flame retardant power cable



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
3x1.5 RE/ 1.5 CS	0.7	1.8	13.6	229
3x2.5 RE/ 2.5 CS	0.7	1.8	14.5	275
3x 4 RE/ 4.0 CS	0.7	1.8	15.6	352
3x 6 RE/ 6.0 CS	0.7	1.8	16.7	449
3x 10 RM/ 10 CS	0.7	1.8	19.6	670
3x 16 RM/ 16 CS	0.7	1.8	21.1	912
3x 25 RM/ 16 CS	0.9	1.8	24.6	1270
3x 35 RM/ 16 CS	0.9	1.8	26.8	1600
3x 50 SM/ 25 CS	1	1.8	30.8	1956
3x 70 SM/ 35 CS	1.1	2	35.4	2720
3x 95 SM/ 50 CS	1.1	2.1	40.4	3706
3x120 SM/ 70 CS	1.2	2.2	44.6	4656
3x150 SM/ 70 CS	1.4	2.4	49.6	5618
3x185 SM/ 95 CS	1.6	2.5	54.4	7015
3x240 SM/120 CS	1.7	2.7	61.8	9079
3x300 SM/150 CS	1.8	2.9	67.6	11223

1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free filler 4-Copper Wire Screen with Cu helical tape 5-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C

**IEC 60502-1****Cu/XLPE/LSFOH/LSFOH****Description:**

XLPE insulated, four cores, halogen free, low smoke, flame retardant power cable

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x 1.5 RE	0.7	1.8	13.0	219
4x 2.5 RE	0.7	1.8	13.9	273
4x 4 RE	0.7	1.8	15.1	355
4x 6 RE	0.7	1.8	16.3	453
4x 10 RM	0.7	1.8	19.6	686
4x 16 RM	0.7	1.8	21.3	923
4x 25 RM	0.9	1.8	25.2	1375
4x 35 RM	0.9	1.8	27.6	1792
4x 50 SM	1.0	1.8	29.5	2013
4x 70 SM	1.1	2.0	34.6	2858
4x 95 SM	1.1	2.1	38.8	3867
4x 120 SM	1.2	2.3	43.1	4857
4x 150 SM	1.4	2.4	47.9	5977
4x 185 SM	1.6	2.6	53.3	7469
4x 240 SM	1.7	2.8	60.2	9723
4x 300 SM	1.8	3.0	66.5	12104

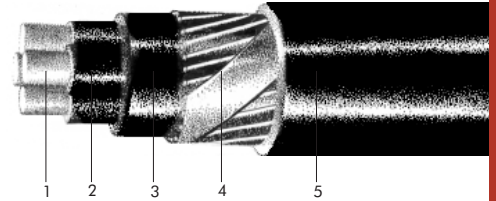
1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free filler 4-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C



**Description:**

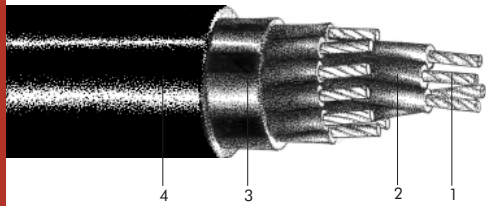
XLPE insulated, four cores + copper screen, halogen free, low smoke, flame retardant power cable



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
4x1.5 RE/ 1.5 CS	0.7	1.8	14.4	258
4x2.5 RE/ 2.5 CS	0.7	1.8	15.3	315
4x 4 RE/ 4.0 CS	0.7	1.8	16.5	405
4x 6 RE/ 6.0 CS	0.7	1.8	17.7	521
4x 10 RM/ 10 CS	0.7	1.8	21.0	790
4x 16 RM/ 16 CS	0.7	1.8	22.7	1084
4x 25 RM/ 16 CS	0.9	1.8	26.6	1536
4x 35 RM/ 16 CS	0.9	1.8	29.0	1953
4x 50 SM/ 25 CS	1.0	1.9	33.9	2443
4x 70 SM/ 35 CS	1.1	2.1	39.4	3454
4x 95 SM/ 50 CS	1.1	2.2	44.3	4641
4x120 SM/ 70 CS	1.2	2.3	49.4	5883
4x150 SM/ 70 CS	1.4	2.5	54.4	7067
4x185 SM/ 95 CS	1.6	2.7	60.2	8848
4x240 SM/120 CS	1.7	2.9	68.2	11466
4x300 SM/150 CS	1.8	3.1	74.5	14190

1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free Filler 4-Copper Wire Screen With Helical Copper Tape 5-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C

**IEC 60502-1****Cu/XLPE/LSFOH/LSFOH****Description:**

XLPE insulated, multi core, halogen free, low smoke, flame retardant control cable

Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness mm	Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
7 x 1.5 RM	0.7	1.8	13.4	227
10x 1.5 RM	0.7	1.8	16.5	310
12x 1.5 RM	0.7	1.8	17.0	352
14x 1.5 RM	0.7	1.8	17.8	396
19x 1.5 RM	0.7	1.8	19.7	505
24x 1.5 RM	0.7	1.8	22.8	625
30x 1.5 RM	0.7	1.8	24.1	748
7 x 2.5 RM	0.7	1.8	14.6	306
10x 2.5 RM	0.7	1.8	18.1	422
12x 2.5 RM	0.7	1.8	18.7	484
14x 2.5 RM	0.7	1.8	19.6	548
19x 2.5 RM	0.7	1.8	21.7	709
24x 2.5 RM	0.7	1.8	25.2	881
30x 2.5 RM	0.7	1.8	26.6	1064

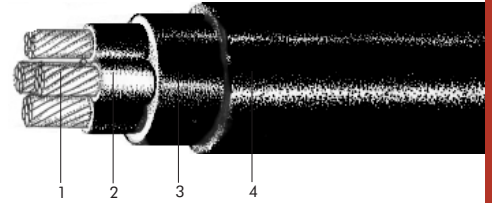
1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free filler 4-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C



**Cu/XLPE/LSFOH/LSFOH****IEC 60502-1****Description:**

XLPE insulated, 31/2 cores, halogen free, low smoke, flame retardant power cable



Number of Cores & Cross Section mm <sup>2</sup>	Insulation Thickness		Sheath Thickness mm	Cable Diameter Approx. mm	Total Weight Approx. kg/km
	PH mm	N mm			
3x 25 + 16 RM	0.9	0.7	1.8	25.2	1300
3x 35 + 16 RM	0.9	0.7	1.8	27.6	1640
3x 50 + 25 SM	1.0	0.9	1.8	29.5	1810
3x 70 + 35 SM	1.1	0.9	2.0	34.6	2552
3x 95 + 50 SM	1.1	1.0	2.1	38.8	3443
3x120 + 70 SM	1.2	1.1	2.3	43.1	4397
3x150 + 70 SM	1.4	1.1	2.4	47.9	5256
3x185 + 95 SM	1.6	1.1	2.6	53.3	6640
3x240 + 120 SM	1.7	1.2	2.8	60.2	8588
3x300 + 150 SM	1.8	1.4	3.0	66.5	10668

1-Solid/Stranded Circular Conductor 2-XLPE Insulation 3-Halogen Free filler 4-Halogen Free Flame Retardant Sheathing

Flame retardant as per IEC 332  
Maximum conductor Temperature 90 C



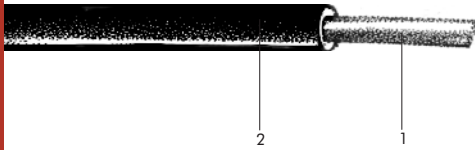


IEC 60227-3

Cu/LSFOH

**Description:**

Halogen free, low smoke, flame retardant cord



Number of Cores & Cross Section mm <sup>2</sup>		Insulation Thickness mm	Outer Diameter Approx. mm	Total Weight Approx. kg/km
1.5	RE	0.7	2.8	20
2.5	RE	0.8	3.4	31
4.0	RE	0.8	3.9	47
6	RE	0.8	4.4	66
10	RM	1.0	6.1	113
16	RM	1.0	7.2	166
25	RM	1.2	8.9	260
35	RM	1.2	10.1	351

1-Solid/Stranded Circular Conductor 2-Halogen Free Flame Retardant Insulation

Flame retardant as per IEC 332  
 Maximum conductor Temperature 90 C



# TECHNICAL DATA



## IEC & AWC Abbreviations

<b>Cu</b>	Copper
<b>Al</b>	Aluminium
<b>AA</b>	Aluminium Alloy
<b>TiCu</b>	Tinned Copper
<b>SiCu</b>	Silver Coated copper
<b>RM</b>	Stranded Circular
<b>SM</b>	Shaped Stranded
<b>SE</b>	Shaped Solid
<b>RE</b>	Solid Circular
<b>RF</b>	Flexible Circular
<b>RMS</b>	Stranded Segmental (Milliken)
<b>CTS</b>	Copper Tape Screen
<b>CWS</b>	Copper Wire Screen
<b>CuB</b>	Copper Wire Braided Screen
<b>ICTS</b>	Individual Copper Tape Screen
<b>ICWS</b>	Individual Copper Wire Screen
<b>ISCR</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester + Polyester
<b>ISCRC</b>	Individual Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester + Polyester
<b>OSCR</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Aluminium Backed Polyester
<b>OSCRC</b>	Overall Screen Formed by Polyester + Tinned Drain Wire + Copper Backed Polyester
<b>TCB</b>	Tinned Copper Wire Braided Screen
<b>CW</b>	Communication Wire
<b>ATA</b>	Double Aluminium Tape Armour
<b>STA</b>	Double Galv. Steel Tape Armour
<b>AWA</b>	Aluminium Wire Armour
<b>AWAT</b>	Aluminium Wire Armour + Counter Helix
<b>SWA</b>	Galv. Steel Wire Armour
<b>SWAT</b>	Galv. Steel Wire Armour + Counter Helix
<b>SSWA</b>	Stainless Steel Wire Armour
<b>DAWA</b>	Double Aluminum Wire Armour
<b>DSWA</b>	Double Galv. Steel Wire Armour
<b>TCWA</b>	Tinned Copper Wire Armour
<b>AWB</b>	Aluminium Wire Braided
<b>SWB</b>	Galv. Steel Wire Braided
<b>BWB</b>	Bronze Wire Braided
<b>SSWB</b>	Stainless Steel Wire Braided
<b>LSh</b>	Lead Sheath
<b>AIPE</b>	Aluminium Copolymer Coated



<b>Bd</b>	Bedding
<b>BT</b>	Brass tape
<b>BHT</b>	Bituminized Hessian Tape
<b>BPT</b>	Bitumen Coated Paper Tape
<b>BdT</b>	Bedding Tape (PVC or PE)
<b>BrT</b>	Bronze Tape
<b>MGT</b>	Mica Glass Tape
<b>PPT</b>	Polypropylene Tape
<b>SCT</b>	Semi Conductive Tape
<b>WBT</b>	Water Blocking Tape
<b>Pet</b>	Polyester Tape (Mylar)
<b>SCWBT</b>	Semi-Conductive Water Blocking Tape
<b>PPY</b>	Polypropylene Yarn
<b>WBY</b>	Water Blocking Yarn
<b>SCYF</b>	Semi-conductive Yarn Filler
<b>GC</b>	Graphite Coating
<b>GFB</b>	Glass Fiber Braided
<b>FPE</b>	Foamed Polyethylene (Cellular)
<b>TPU</b>	Thermoplastic Polyurethane
<b>SC</b>	Ext. Polymer Semi Conductive
<b>TPE</b>	Thermoplastic Elastomer
<b>PVC</b>	Polyvinylchloride
<b>XLPE</b>	Cross Linked Polyethylene
<b>SIR</b>	Silicone Rubber
<b>PE</b>	Polyethylene
<b>EVA</b>	Ethylene Vinyl Acetate
<b>XEVA</b>	Cross Linked EVA
<b>HDPE</b>	High Density Polyethylene
<b>HEPR</b>	Hard Grade Ethylene Propylene Rubber
<b>LDPE</b>	Low Density Polyethylene
<b>MDPE</b>	Medium Density Polyethylene
<b>LSFOH</b>	Low Smoke Flame Retardant Zero Halogen
<b>EPR</b>	Ethylene Propylene Rubber
<b>PVCE</b>	High Temperature PVC (90°C)
<b>PVCH</b>	High temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>APVC</b>	Anti Termite PVC
<b>APVCE</b>	Anti Termite High Temperature PVC (90°C)
<b>APVCH</b>	Anti Termite & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)
<b>XPVC</b>	Cross Linked PVC
<b>OPVC</b>	Oil, Acid & Hydrocarbon Resistance Sheathing Compound
<b>OPVCH</b>	Oil Resistant & High Temperature Sheathing Compound equal to IEC ST2 ,VDE YM5 (90°C)



## VDE Abbreviations

<b>N</b>	DIN VDE standard type
<b>(N)</b>	With reference to DIN VDE standard
<b>A</b>	Aluminium conductor
<b>-</b>	Copper
<b>Y</b>	PVC
<b>2X</b>	Cross-linked PE(VPE)
<b>C</b>	Concentric Cu conductor, in longitudinal twist
<b>CW</b>	Concentric Cu conductor, corrugated
<b>CE</b>	Concentric Cu conductor for individual core
<b>S</b>	Cu shielding
<b>SE</b>	Cu screening per individual core in multi-core cables
<b>H</b>	Conductive layer
<b>(F)</b>	Longitudinally watertight shielding
<b>B</b>	Steel strip reinforcement
<b>F</b>	Flat wire, zinc-plated
<b>G</b>	Counterhelix consisting of zinc-plated steel strip
<b>R</b>	Round-section wire, zinc-plated
<b>A</b>	Protective cover consisting of fiber materials
<b>K</b>	Lead sheath
<b>KL</b>	Aluminium sheath
<b>Y</b>	PVC
<b>2Y</b>	PE
<b>I</b>	With protective conductor
<b>O</b>	Without protective conductor
<b>r...</b>	Round-section conductor
<b>s...</b>	Sector-section conductor
<b>o...</b>	Oval conductor
<b>e...</b>	Single wire conductor
<b>m...</b>	Multi-wire conductor
<b>h...</b>	Hollow conductor
<b>N</b>	Compacted conductor

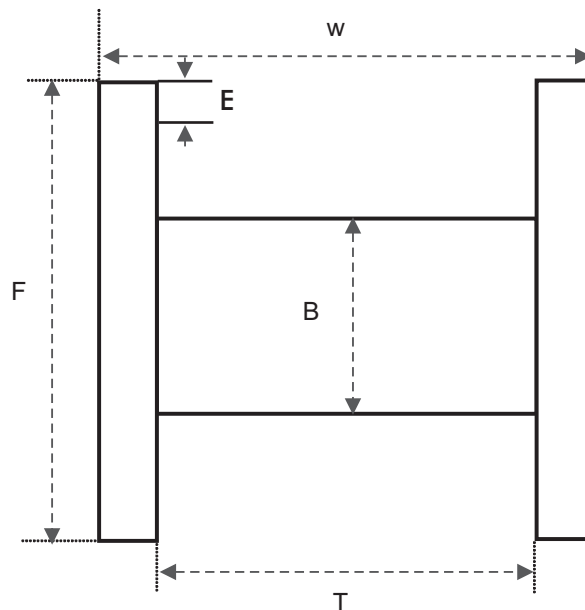


Max Cable length in meters on standard drums

Drum Sizes														
Cable Dia.mm	6	8	10	12	14	16	18	20	22	24	26	30	Cable Dia.mm	
6	1326	3961											6	
7	975	2910											7	
8	746	2228	4391										8	
9	590	1760	3470										9	
10	478	1426	2810	4566									10	
11	395	1178	2323	3774									11	
12	332	990	1952	3171	4912								12	
13	283	844	1663	2702	4185								13	
14		727	1434	2330	3609	4934							14	
15		634	1249	2029	3144	4298							15	
16		557	1098	1784	2763	3777							16	
17		493	972	1580	2448	3346	4858						17	
18		440	867	1409	2183	2985	4333	4643					18	
19		395	778	1265	1959	2679	3889	4167	4722				19	
20		356	703	1142	1768	2417	3510	3760	4262				20	
21		323	637	1035	1604	2193	3183	3411	3866				21	
22		295	581	943	1461	1998	2901	3108	3522	4815			22	
23		270	531	863	1337	1828	2654	2843	3223	4406			23	
24			488	793	1228	1679	2437	2611	2960	4046			24	
25			450	731	1132	1547	2246	2407	2728	3729			25	
26			416	675	1046	1430	2077	2225	2522	3448			26	
27			386	626	970	1326	1926	2063	2338	3197			27	
28			358	582	902	1233	1791	1919	2174	2973			28	
29			334	543	841	1150	1669	1789	2027	2771	4826		29	
30			312	507	786	1074	1560	1671	1894	2590	4510		30	
31			292	475	736	1006	1461	1565	1774	2425	4224		31	
32			274	446	691	944	1371	1469	1665	2276	3964		32	
33			258	419	650	888	1289	1381	1565	2140	3727	4999	33	
34				395	612	836	1214	1301	1475	2016	3511	4709	34	
35				373	577	789	1146	1228	1392	1903	3313	4444	35	
36				352	546	746	1083	1161	1315	1798	3132	4200	36	
37				334	517	706	1026	1099	1245	1702	2965	3976	37	
38				316	490	670	972	1042	1181	1614	2811	3770	38	
39				300	465	636	923	989	1121	1532	2669	3579	39	
40				285	442	604	877	940	1065	1457	2537	3402	40	
41				272	421	575	835	895	1014	1386	2415	3238	41	
42				259	401	548	796	853	966	1321	2301	3086	42	
43					383	523	759	814	922	1260	2195	2944	43	
44					365	499	725	777	881	1204	2097	2812	44	
45					349	478	693	743	842	1151	2004	2688	45	
46					334	457	663	711	806	1101	1918	2573	46	
47					320	438	636	681	772	1055	1837	2464	47	
48					307	420	609	653	740	1012	1762	2363	48	
49					295	403	585	626	710	971	1691	2267	49	
50					283	387	562	602	682	932	1624	2178	50	
51					272	372	540	578	655	896	1561	2093	51	
52					262	358	519	556	630	862	1501	2013	52	
53					252	344	500	535	607	830	1445	1938	53	
54						332	481	516	585	799	1392	1867	54	
55						320	464	497	564	770	1342	1800	55	
56						308	448	480	544	743	1294	1736	56	
57						298	432	463	525	717	1249	1676	57	
58						287	417	447	507	693	1207	1618	58	
59						278	403	432	490	670	1166	1564	59	
60						269	390	418	474	647	1127	1512	60	
61						260	377	404	458	626	1091	1463	61	
62							252	365	391	443	606	1056	1416	62
63								354	379	430	587	1023	1372	63
64								343	367	416	569	991	1329	64
65								332	356	403	552	961	1288	65
66								322	345	391	535	932	1250	66
67								313	335	380	519	904	1213	67
68								304	325	369	504	878	1177	68
69								295	316	358	490	853	1143	69
70								287	307	348	476	828	1111	70
71								278	298	338	462	805	1080	71
72								271	290	329	450	783	1050	72
73								263	282	320	437	762	1022	73
74								256	275	311	426	741	994	74
75								250	267	303	414	722	968	75
76									260	295	403	703	942	76
77									254	288	393	685	918	77
78										280	383	667	895	78
79										273	373	650	872	79
80										266	364	634	851	80
81										260	355	619	830	81
82											254	604	810	82
83												589	790	83
84													772	84
85													753	85
86													736	86
87													719	87
88													703	88
89													687	89
90													672	90
91													657	91
92													643	92
93													629	93
94													616	94
95													603	95
96													591	96
97													431	97
98													423	98
99													414	99
100													406	100



Drum size	Flange Dia. F	Barrel Dia. B	Traverse T	Width overall W	Drum weight Kg
6	600	300	400	430	20
8	800	350	520	600	30
10	1000	450	620	700	50
12	1200	600	720	820	70
14	1400	700	790	920	125
16	1600	900	900	1028	175
18	1800	1100	1120	1248	290
20	2000	1200	1120	1248	330
22	2200	1400	1120	1248	450
24	2400	1600	1370	1570	595
26	2600	1600	1700	1900	645
30	3000	2000	1900	2100	770



$$L_T = \frac{\pi NP (B + PD)}{1000}$$

$$P = \frac{F - B - 2E}{2D}$$

$$N = 0.95 \frac{T}{D}$$

$L_T$  = Length of Cable (m)

F = Flange Dia. (mm)

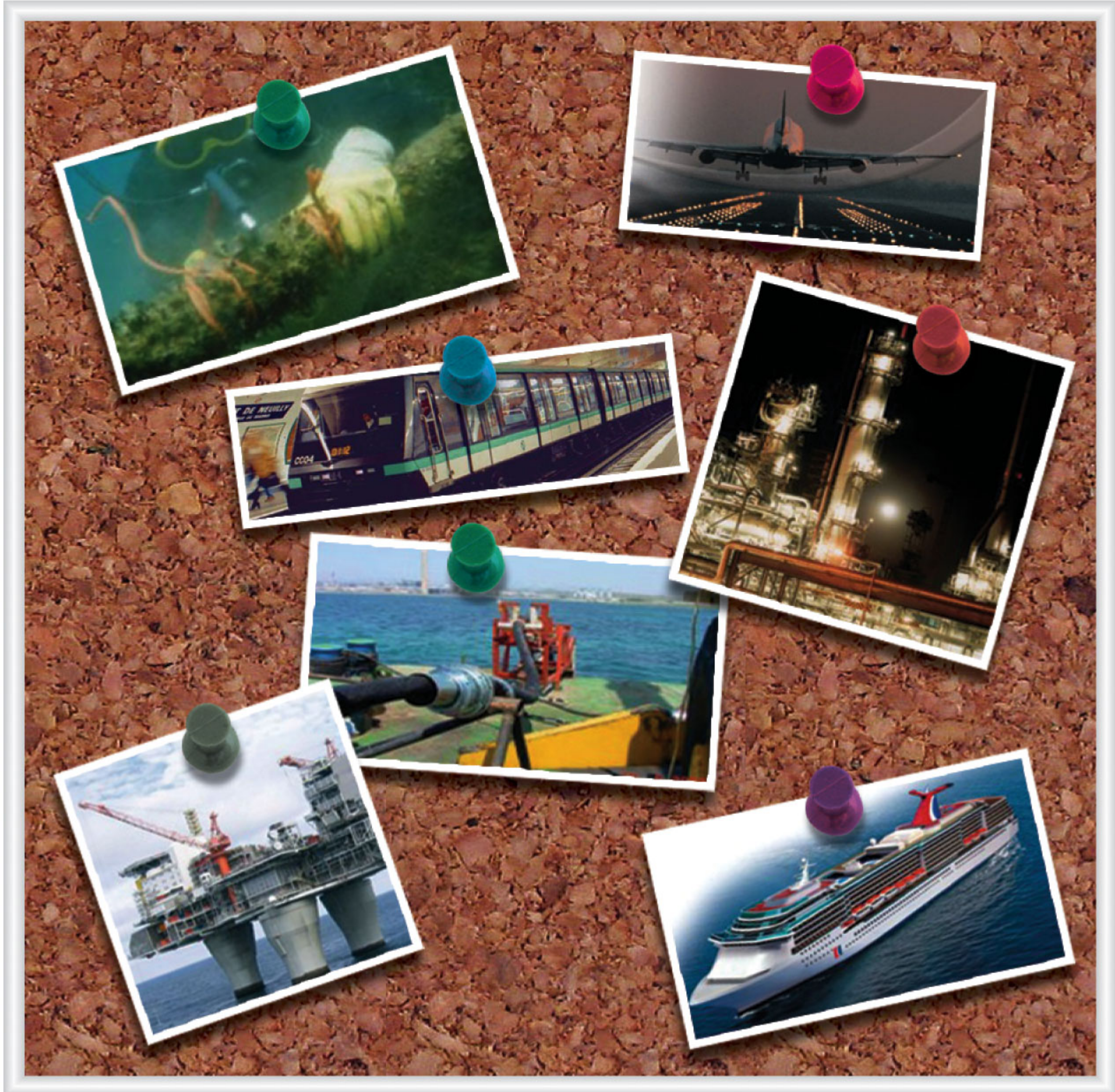
B = Barrel Dia. (mm)

D = Cable Dia. (mm)

T = Traverse (mm)

E = Empty Space (mm)





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