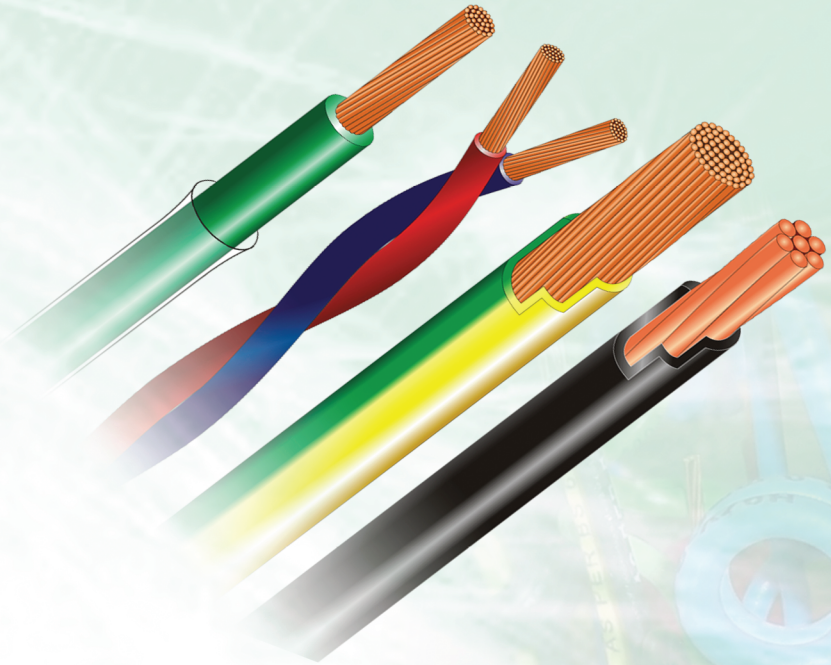
WIRES & WIRING CABLES



ISO 9001 : 2015
ISO 14001 : 2015
OHSAS 18001 : 2007

RIYADH CABLES GROUP COMPANY

450 - 750 VOLTS - Copper conductor PVC insulated IEC 60227

HO 7V - U With Solid Conductor - TYPE 60227 IEC 01

For internal wiring of equipment rated voltage up to 1000 V AC and up to 750 V DC to earth.

Catalogue Number	Nominal Cross Section	Conductor		Insulation Thickness	Overall Diameter	Weight of Finished Cable Approx.	Maximum DC Resistance at 20 C	Standard Packing Length
		Number of Wires in Conductor	Diameter of Conductor Approx.					
	mm^2		mm	mm	mm	Kg / Km	Ohm / Km	M ± 5%
0C 010004xx	1 x 1.5	1	1.38	0.7	3.2	21	12.1	100 C
0C 010005xx	1 x 2.5	1	1.78	0.8	3.9	34	7.41	100 C
0C 010006xx	1 x 4	1	2.25	0.8	4.4	50	4.61	100 C
0C 010007xx	1 x 6	1	2.76	0.8	5.0	70	3.08	100 C
0C 010008xx	1 x 10	1	3.57	1.0	6.4	115	1.83	100 C

Color:	green / yellow,	blue,	black,	green,	red,	yellow,	brown,	grey,	orange,	white,
Code:	01	02	03	04	05	06	07	08	09	10

For required colour replace the last two digits - xx, by color code.

450 - 750 VOLTS - Copper conductor PVC insulated IEC 60227

HO 7V - R With Stranded Conductor - TYPE 60227 IEC 01

For internal wiring of equipment rated voltage up to 1000 V AC and up to 750 V DC to earth.

Catalogue Number	Nominal Cross Section	Conductor		Insulation Thickness	Overall Diameter	Weight of Finished Cable Approx.	Maximum DC Resistance at 20 ℃	Standard Packing Length
		Number of Wires in Conductor	Diameter of Conductor Approx.					
	mm^2		mm	mm	mm	Kg / Km	Ohm / Km	M ± 5%
0C 010104xx	1 x 1.5	7	1.50	0.7	3.3	22	12.1	100 C
0C 010105xx	1 x 2.5	7	2.01	0.8	4.0	35	7.41	100 C
0C 010106xx	1 x 4	7	2.55	0.8	4.6	52	4.61	100 C
0C 010107xx	1 x 6	7	3.12	0.8	5.2	71	3.08	100 C
0C 010108xx	1 x 10	7	4.05	1.0	6.7	116	1.83	100 C
0C 010109xx	1 x 16	7	5.10	1.0	7.8	185	1.15	100 C
0C 0101 10xx	1 x 25	7	6.42	1.2	9.7	290	0.727	100 C
0C 0101 11xx	1 x 35	7	7.65	1.2	10.9	390	0.524	100 C
000101xx12	1 x 50	19	8.90	1.4	12.8	525	0.387	3000 D
000101xx13	1 x 70	19	10.70	1.4	14.6	735	0.268	3000 D
000101xx14	1 x 95	19	12.60	1.6	17.1	1010	0.193	3000 D
000101xx15	1 x 120	37	14.21	1.6	18.8	1260	0.153	2000 D
000101xx16	1 x 150	37	15.75	1.8	20.9	1540	0.124	2000 D
000101xx17	1 x 185	37	17.64	2.0	23.3	1940	0.0991	2000 D
000101xx18	1 x 240	61	20.25	2.2	26.6	2550	0.0754	1000 D
000101xx19	1 x 300	61	22.68	2.4	29.6	3180	0.0601	1000 D
000101xx20	1 x 400	61	25.65	2.6	33.2	4050	0.0470	500 D
000101xx21	1 x 500	61	28.80	2.8	37.0	5050	0.0366	500 D
000101xx22	1 x 630	127/91	32.76	2.8	41.0	6050	0.0283	500 D

Color:	green / yellow,	blue,	black,	green,	red,	yellow,	brown,	grey,	orange,	white,
Code:	01	02	03	04	05	06	07	08	09	10

For required colour replace the last two digits - xx, by color code.

450 - 750 VOLTS - Copper conductor PVC insulated IEC 60227

HO 7V - K With Flexible Conductor - TYPE 60227 IEC 02

For internal wiring of equipment rated voltage up to 1000 V AC and up to 750 V DC to earth.

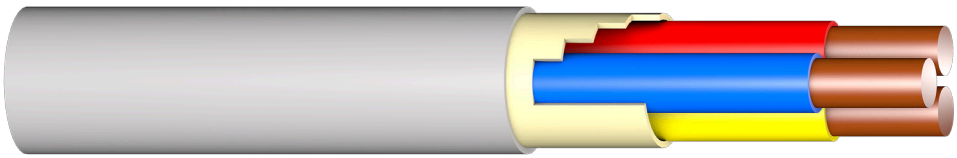
Catalogue Number	Nominal Cross Section	Conductor		Insulation Thickness	Overall Diameter	Weight of Finished Cable Approx.	Max. DC Resistance at 20 °C	Standard Packing Length
		Approx No & Nom. strand Diameter .	Diameter of Conductor Approx.					
	mm^2	No x mm	mm	mm	mm	Kg / Km	Ohm / Km	M ± 5%
0C 010504xx	1 x 1.5	28 x 0.25	1.7	0.7	3.4	23	13.3	100 C
0C 010505xx	1 x 2.5	46 x 0.25	2.2	0.8	4.1	35	7.98	100 C
0C 010506xx	1 x 4	51 x 0.30	3.1	0.8	4.8	51	4.95	100 C
0C 010507xx	1 x 6	77 x 0.30	3.8	0.8	5.3	71	3.30	100 C
0C 010508xx	1 x 10	74 x 0.40	5.0	1.0	6.8	125	1.91	100 C
0C 010509xx	1 x 16	118 x 0.40	6.3	1.0	8.1	195	1.21	100 C
0C 010510xx	1 x 25	183 x 0.40	6.4	1.2	9.2	300	0.780	100 C
0C 01051 1xx	1 x 35	257 x 0.40	9.2	1.2	10.5	410	0.554	100 C
000105xx12	1 x 50	371 x 0.40	11.0	1.4	13.9	585	0.386	1000 D
000105xx13	1 x 70	337 x 0.50	13.0	1.4	16.0	810	0.272	1000 D
000105xx14	1 x 95	444 x 0.50	15.2	1.6	18.2	1065	0.206	1000 D
000105xx15	1 x 120	570 x 0.50	17.0	1.6	20.2	1335	0.161	1000 D
000105xx16	1 x 150	712 x 0.50	19.0	1.8	22.5	1600	0.129	1000 D
000105xx17	1 x 185	864 x 0.50	21.0	2.0	24.9	2000	0.106	1000 D
000105xx18	1 x 240	1140x0.50	24.0	2.2	28.4	2500	0.0801	1000 D

Color:	green / yellow,	blue,	black,	green,	red,	yellow,	brown,	grey,	orange,	white,
Code:	01	02	03	04	05	06	07	08	09	10

For required colour replace the last two digits - xx, by color code.

300 - 500 VOLTS - Copper conductor PVC insulated and Sheathed

IEC 60227(IEC 10)



Catalogue Number	Nominal Cross Section	Number of Wires in Conductor	Diameter of Conductor Approx.	Insulation Thickness	Sheath Thickness	Overall Diameter	Weight of Finished Cable Approx.	Max. DC Resistance at 20°C	Standard Packing Length
	mm^2		mm	mm	mm	mm	Kg/Km	Ohm/Km	M ± 5%
0B 01002408	2 x 1.5	1	1.38	0.7	1.2	10.0	120	12.1	100 C
0B 01002508	2 x 2.5	1	1.78	0.8	1.2	11.5	165	7.41	100 C
0B 01002608	2 x 4	1	2.25	0.8	1.2	12.5	215	4.61	100 C
0B 01002708	2 x 6	1	2.76	0.8	1.2	13.5	270	3.08	100 C
0B 01002808	2 x 10	1	3.57	1.0	1.4	16.5	440	1.83	1000/2000
0B 01003408	3 x 1.5	1	1.38	0.7	1.2	10.5	140	12.1	100 C
0B 01003508	3 x 2.5	1	1.78	0.8	1.2	12.0	195	7.41	100 C
0B 01003608	3 x 4	1	2.25	0.8	1.2	13.0	250	4.61	100 C
0B 01003708	3 x 6	1	2.76	0.8	1.4	14.5	345	3.08	100 C
0B 01003808	3 x 10	1	3.57	1.0	1.4	17.5	540	1.83	1000/2000
0B 01004408	4 x 1.5	1	1.38	0.7	1.2	11.5	165	12.1	100 C
0B 01004508	4 x 2.5	1	1.78	0.8	1.2	13.0	235	7.41	100 C
0B 01004608	4 x 4	1	2.25	0.8	1.4	14.5	325	4.61	100 C
0B 01004708	4 x 6	1	2.76	0.8	1.4	16.0	430	3.08	1000/2000
0B 01004808	4 x 10	1	3.57	1.0	1.4	19.0	665	1.83	1000/2000
0B 01005408	5 x 1.5	1	1.38	0.7	1.2	12.0	195	12.1	100 C
0B 01005508	5 x 2.5	1	1.78	0.8	1.2	14.0	285	7.41	100 C
0B 01005608	5 x 4	1	2.25	0.8	1.4	16.0	405	4.61	100 C
0B 01005708	5 x 6	1	2.78	0.8	1.4	17.5	530	3.08	1000/2000
0B 01005808	5 x 10	1	3.57	1.0	1.4	21.0	810	1.83	1000/2000

Color code:

2 cores : Red, Black
3 cores : Red, Yellow and Blue
4 cores : Red, Yellow, Blue and Black
5 cores : Red, Yellow, Blue, Black and Green

2 cores : light Blue, Brown
3 cores : light Blue, Black, Brown
4 cores : light Blue, Black, Brown, Black
5 cores : light Blue, Black, Brown, Brown, Black

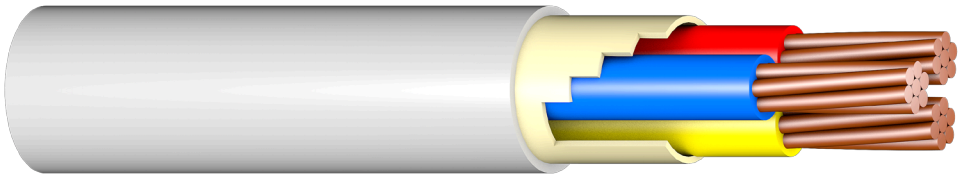
For Green / Yellow Core - Replace 5th digits by 3.

For green / yellow Core - add letter “J” at the end of item code.

outer sheath Gray.

300 - 500 VOLTS - Copper conductor PVC insulated and Sheathed

IEC 60227 (IEC 10)



Catalogue Number	Nominal Cross Section	Number of Wires in Conductor	Diameter of Conductor Approx.	Insulation Thickness	Sheath Thickness	Overall Diameter	Weight of Finished Cable Approx.	Max. DC Resistance at 20°C	Standard Packing Length
	mm^2		mm	mm	mm	mm	Kg/Km	Ohm/Km	M ± 5%
0B 01012408	2 x 1.5	7	1.50	0.7	1.2	10.5	125	12.1	100 C
0B 01012508	2 x 2.5	7	2.01	0.8	1.2	12.0	170	7.41	100 C
0B 01012608	2 x 4	7	2.55	0.8	1.2	13.0	220	4.61	100 C
0B 01012708	2 x 6	7	3.12	0.8	1.2	14.0	280	3.08	100 C
0B 01012808	2 x 10	7	4.05	1.0	1.4	17.5	470	1.83	1000/2000
0B 01012908	2 x 16	7	5.10	1.0	1.4	20.0	650	1.15	1000/2000
0B 01012108	2 x 25	7	6.42	1.2	1.4	24.0	980	0.727	1000
0B 010121 18	2 x 35	7	7.65	1.2	1.6	27.5	1300	0.524	1000
0B 01013408	3 x 1.5	7	1.50	0.7	1.2	11.0	145	12.1	100 C
0B 01013508	3 x 2.5	7	2.01	0.8	1.2	12.5	200	7.41	100 C
0B 01013608	3 x 4	7	2.55	0.8	1.2	13.5	270	4.61	100 C
0B 01013708	3 x 6	7	3.12	0.8	1.4	15.5	360	3.08	100 C
0B 01013808	3 x 10	7	4.05	1.0	1.4	19.0	570	1.83	1000/2000
0B 01013908	3 x 16	7	5.10	1.0	1.4	21.5	830	1.15	1000/2000
0B 01013108	3 x 25	7	6.42	1.2	1.6	26.0	1255	0.727	1000
0B 010131 18	3 x 35	7	7.65	1.2	1.6	29.0	1640	0.524	1000
0B 01014408	4 x 1.5	7	1.50	0.7	1.2	12.0	165	12.1	100 C
0B 01014508	4 x 2.5	7	2.01	0.8	1.2	13.5	240	7.41	100 C
0B 01014608	4 x 4	7	2.55	0.8	1.4	15.0	330	4.61	100 C
0B 01014708	4 x 6	7	3.12	0.8	1.4	17.0	460	3.08	1000/2000
0B 01014808	4 x 10	7	4.05	1.0	1.4	20.5	700	1.83	1000/2000
0B 01014908	4 x 16	7	5.10	1.0	1.4	23.5	1025	1.15	1000/2000
0B 01014108	4 x 25	7	6.42	1.2	1.6	28.5	1590	0.727	1000
0B 010141 18	4 x 35	7	7.65	1.2	1.6	32.0	2040	0.524	1000
0B 01015408	5 x 1.5	7	1.50	0.7	1.2	12.0	200	12.1	100 C
0B 01015508	5 x 2.5	7	2.01	0.8	1.2	14.5	290	7.41	100 C
0B 01015608	5 x 4	7	2.55	0.8	1.4	17.0	410	4.61	100 C
0B 01015708	5 x 6	7	3.12	0.8	1.4	18.5	550	3.08	1000/2000
0B 01015808	5 x 10	7	4.05	1.0	1.4	22.0	850	1.83	1000/2000
0B 01015908	5 x 16	7	5.10	1.0	1.6	26.0	1250	1.15	1000/2000
0B 01015108	5 x 25	7	6.42	1.2	1.6	31.5	1860	0.727	1000
0B 010151 18	5 x 35	7	7.65	1.2	1.6	35.0	2540	0.524	1000

Color code:

2 cores : Red, Black
3 cores : Red, Yellow and Blue
4 cores : Red, Yellow, Blue and Black
5 cores : Red, Yellow, Blue, Black and Green

2 cores : light Blue, Brown
3 cores : light Blue, Black, Brown
4 cores : light Blue, Black, Brown, Black
5 cores : light Blue, Black, Brown, Brown, Black

For Green / Yellow Core - Replace 5th digits by 3.

For green / yellow Core - add letter “J” at the end of item code.

outer sheath Gray.

300 - 500 VOLTS - Flexible Copper conductor PVC insulated and Sheathed

HO5VV-F, IEC 60227 (IEC 53)

Catalogue Number	Nominal Cross Section Approx.	Number & dia of wires in Conductor	Diameter of Conductor Approx.	Weight of Insulation Thickness	Thickness of Sheath Approx.	Overall Diameter	Weight of Finished Cable Approx.	Max DC Resistance at 20°C	Packing
	mm^2	no x mm	mm	mm	mm	mm	Kg/Km	Ohm/Km	M ± 5%
0B 01252210	2 x 0.75	22 x 0.20	1.1	0.6	0.8	7.2	56	26.0	100
0B 01252310	2 x 1	29 x 0.20	1.3	0.6	0.8	7.5	65	19.5	100
0B 01252410	2 x 1.5	28 x 0.25	1.6	0.7	0.8	8.6	80	13.3	100
0B 01252510	2 x 2.5	46 x 0.25	2.1	0.8	1.0	10.6	130	7.98	100
0B 01253210	3 x 0.75	22 x 0.20	1.1	0.6	0.8	7.6	65	26.0	100
0B 01253310	3 x 1	29 x 0.20	1.3	0.6	0.8	8.0	80	19.5	100
0B 01253410	3 x 1.5	28 x 0.25	1.6	0.7	0.9	9.4	100	13.3	100
0B 01253510	3 x 2.5	46 x 0.25	2.1	0.8	1.1	11.4	155	7.98	100
0B 01254210	4 x 0.75	22 x 0.20	1.1	0.6	0.8	8.3	80	26.0	100
0B 01254310	4 x 1	29 x 0.20	1.3	0.6	0.9	9.0	95	19.5	100
0B 01254410	4 x 1.5	28 x 0.25	1.6	0.7	1.0	10.5	130	13.3	100
0B 01254510	4 x 2.5	46 x 0.25	2.1	0.8	1.1	12.5	200	7.98	100
0B 01255210	5 x 0.75	22 x 0.20	1.1	0.6	0.9	9.3	105	26.0	100
0B 01255310	5 x 1	29 x 0.20	1.3	0.6	0.9	9.8	125	19.5	100
0B 01255410	5 x 1.5	28 x 0.25	1.6	0.7	1.1	11.6	160	13.3	100
0B 01255510	5 x 2.5	46 x 0.25	2.1	0.8	1.2	13.9	245	7.98	100

Color code:

2 cores : light blue, brown
3 cores : light blue, black, brown
4 cores : light blue, black, brown, black
5 cores : light blue, black, brown, brown, Black

3 cores : light blue, brown, green / yellow
4 cores : light blue, black, brown and green / yellow
5 cores : light blue, black, brown, black and green / yellow

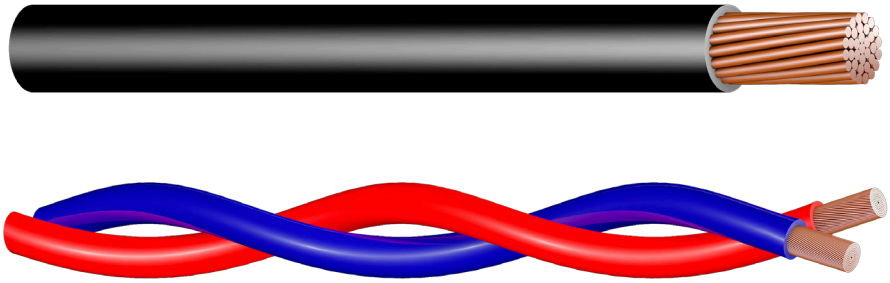
For Green / Yellow Core - add letter “J” at the end of item Code.

outer sheath White.

PVC insulated, Non-sheathed Flexible Cords for Internal Wiring. Single Core and Twisted Twin

COPPER CONDUCTOR - STANDARD(S) : IEC 60227 (IEC 06)

300 / 500 VOLTS HO5V-K



Conductor		Radial Thickness of insulation	Mean Overall diameter (upper limit) single	Maximum DC Resistance at 20°C	Approximate weight	
Nom.cross sectional area	Nominal diameter of wire				Single	Twin
mm^2	mm	mm	mm	Ω / Km	Kg / Km	Kg / Km
0.5	0.20	0.6	2.4	39.0	9	19
0.75	0.20	0.6	2.6	26.0	12	24
1.0	0.20	0.6	2.8	19.5	15	29

Note :
- The cord may be available in twin twisted form.
- For solid wire conductor equivalent cables, please refer to BS 6004 or IEC 60227.
- For larger sizes of flexible conductor cables, please refer to BS 6004 or IEC 60227.

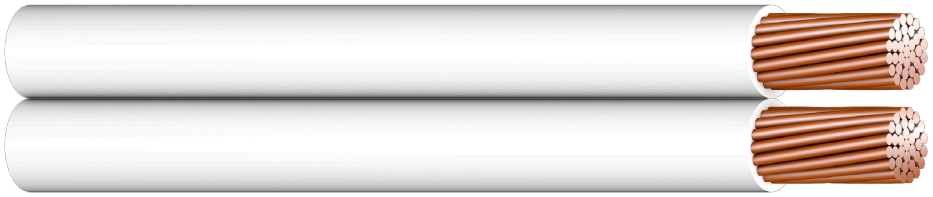
Construction :
- Annealed Copper conductor as per IEC 60228, CLASS 5.
- PVC Insulation.

Core Identification :
Green / Yellow, Blue or any other colour.

PVC insulated, Non-sheathed Flexible Cords for Internal Wiring - Parallel Twin

COPPER CONDUCTOR - STANDARD (S) : IEC 60227 (IEC 42)

300 / 300 VOLTS



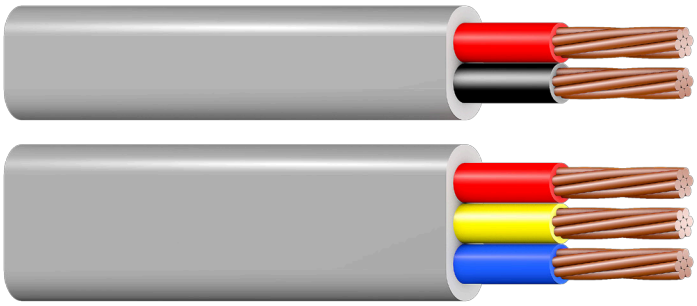
Conductor		Radial Thickness of insulation	Mean overall dimensions		Maximum DC Resistance at 20 ℃	Approx. Weight
Nom. Cross Sectional area	Maximum diameter of Wire		Lower Limit	Upper Limit		
mm^2	mm	mm	mm	mm	Ω / Km	Kg / Km
2 x 0.50	0.16	0.8	2.5 x 5.0	3.0 x 6.0	39.0	22
2 x 0.75	0.16	0.8	2.7 x 5.4	3.2 x 6.4	26.0	28

Construction :

- Annealed Copper conductor as per IEC 60228 Class 6.
- The conductors shall be laid parallel and covered with PVC Insulation
- The insulation shall be provided with a groove on each side between the conductors to facilitate seperation of the cores.

PVC insulated, PVC Sheathed Cables, Single core, Flat Twin and Three cores

COPPER CONDUCTOR - STANDARD(S) : BS 6004 - 300 / 500 VOLTS



No. & Cross sectional area of conductor	No. of wires in conductor	Radial Thickness of insulation	Radial Thickness of sheath	Mean overall dia. or dimensions.		Max. DC Resistance at 20 ℃	Approx. Weight
				Lower Limit	Upper Limit		
mm^2	mm	mm	mm	mm	mm	Ω / Km	Kg / Km
1 x 1.0	1	0.6	0.8	3.8	4.5	18.1	28
1 x 1.5	1	0.7	0.8	4.2	4.9	12.1	36
1 x 2.5	1	0.8	0.8	4.8	5.8	7.41	51
1 x 4	7	0.8	0.9	5.4	6.8	4.61	74
1 x 6	7	0.8	0.9	6.0	7.4	3.08	96
1 x 10	7	1.0	0.9	7.2	8.8	1.83	150
1 x 16	7	1.0	1.0	8.4	10.5	1.15	220
1 x 25	7	1.2	1.1	10.0	12.5	0.727	335
1 x 35	7	1.2	1.1	11.0	13.5	0.524	440
2 x 1.0	1	0.6	0.9	4.0 x 6.2	4.7 x 7.4	18.1	53
2 x 1.5	1	0.7	0.9	4.4 x 7.0	5.4 x 8.4	12.1	71
2 x 2.5	1	0.8	1.0	5.2 x 8.4	6.2 x 9.8	7.41	106
2 x 4	7	0.8	1.0	5.6 x 9.6	7.2 x 11.5	4.61	150
2 x 6	7	0.8	1.1	6.4 x 10.5	8.0 x 13.0	3.08	200
2 x 10	7	1.0	1.2	7.8 x 13.0	9.6 x 16.0	1.83	320
2 x 16	7	1.0	1.3	9.0 x 15.5	11.0 x 18.5	1.15	460
3 x 1.0	1	0.6	0.9	4.0 x 8.4	4.7 x 9.8	18.1	76
3 x 1.5	1	0.7	0.9	4.4 x 9.8	5.4 x 11.5	12.1	106
3 x 2.5	1	0.8	1.0	5.2 x 11.5	6.2 x 13.5	7.41	160
3 x 4	7	0.8	1.1	5.8 x 13.5	7.4 x 16.5	4.61	230
3 x 6	7	0.8	1.1	6.4 x 15.0	8.0 x 18.0	3.08	300
3 x 10	7	1.0	1.2	7.8 x 19.0	9.6 x 22.5	1.83	475
3 x 16	7	1.0	1.3	9.0 x 22.0	11.0 x 26.5	1.15	690

Construction :

Plain annealed copper conductor Class 1 & 2 as per IEC 60228.

- PVC Insulation.
- PVC Sheath.
- The sheath shall be closely fitting but shall not adhere to the cores and in the case of twin and three-core, the cores shall be laid parallel.

Core Identification :

Single : Brown or Blue,
Twin : Brown, Blue
Three-core : Brown, Black (Centre core), Gray

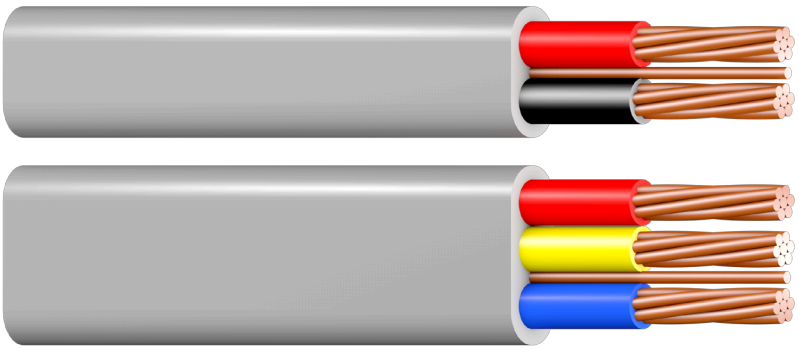
Single : Red or Black
Twin : Red, Black
Three-core : Red, Yellow (centre core), Blue

Colour of sheath

Single : Gray, (other colour on request)
Flat Twin and three core : Gray

PVC insulated, PVC Sheathed Cables with Earth Continuity Conductor, Flat Twin and Three cores

COPPER CONDUCTOR - STANDARD : BS 6004 300 / 500 VOLTS



No. & Cross sectional area of conductor	No. of wires in cond-uctor	Radial Thickness of insulation	Radial Thickness of sheath	Mean overall dia. or dimensions.		Earth conti-nuity cond. cross section	Max. DC Resist ance at 20°C	Approx. Weight
				Lower Limit	Upper Limit			
mm^2	mm	mm	mm	mm	mm	mm2	Ω / Km	Kg / Km
2 x 1.0	1	0.6	0.9	4.0 x 7.2	4.7 x 8.6	1.0	18.1	68
2 x 1.5	1	0.7	0.9	4.4 x 8.2	5.4 x 9.6	1.0	12.1	87
2 x 2.5	1	0.8	1.0	5.2 x 9.8	6.2 x 11.5	1.5	7.41	135
2 x 4	7	0.8	1.0	5.6 x 10.5	7.2 x 13.0	1.5	4.61	170
2 x 6	7	0.8	1.1	6.4 x 12.5	8.0 x 15.0	2.5	3.08	240
2 x 10	7	1.0	1.2	7.8 x 15.5	9.6 x 19.0	4	1.83	380
2 x 16	7	1.0	1.3	9.0 x 18.0	11.0 x 22.5	6	1.15	550
3 x 1.0	1	0.6	0.9	4.0 x 9.6	4.7 x 11.0	1.0	18.1	90
3 x 1.5	1	0.7	1.1	4.4 x 10.5	5.4 x 12.5	1.0	12.1	120
3 x 2.5	1	0.8	0.9	5.2 x 12.5	6.2 x 14.5	1.0	7.41	180
3 x 4	7	0.8	1.0	5.8 x 14.5	7.4 x 18.0	1.5	4.61	250
3 x 6	7	0.8	1.1	6.4 x 16.5	8.0 x 20.0	2.5	3.08	330
3 x 10	7	1.0	1.2	7.8 x 21.0	9.6 x 25.5	4	1.83	540
3 x 16	7	1.0	1.3	9.0 x 24.5	11.0 x 29.5	6	1.15	770

Construction :

Plain annealed copper conductor Class 1 & 2 as per IEC 60228.

- PVC Insulation.
- PVC Sheath.
- The sheath shall be closely fitting but shall not adhere to the cores, which shall be laid parallel with uninsulated earth continuity conductor.

Colour for Core Identification

Twin : Brown, Blue
Three-core : Brown, Black (Centre core), Gray

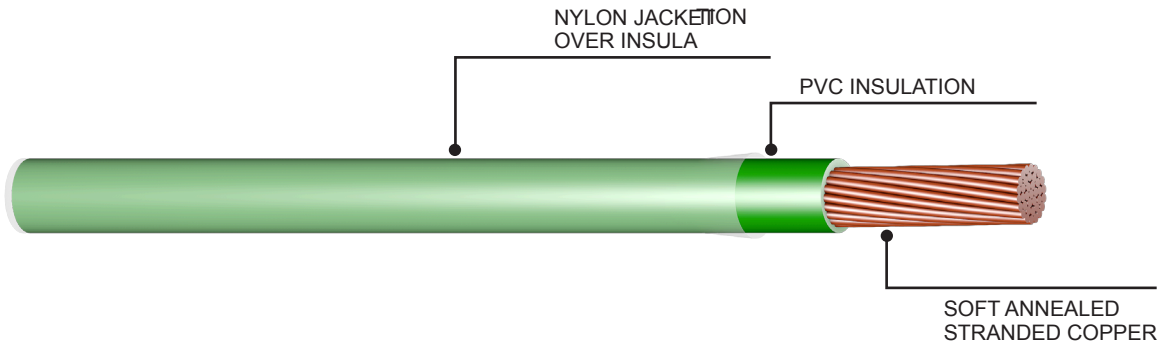
Twin : Red, Black.
Three-core : Red, Yellow (centre core), Blue.

Position of continuity conductor

Twin : Centrally placed between cores in same plane.
Three cores : Centrally placed between black and gray cores in same plane (OR) placed between yellow and blue.

Colour of outer sheath

Gray.



Construction :

Conductor - Soft drawn annealed copper conductors as per UL 83. Available in solid or stranded Type for sizes 14, 12 and 10 AWG. Sizes 8 AWG and larger available in stranded only.

Insulation - Extruded Polyvinyl Chloride (PVC) compound rated 75 and 90 deg. C.

Jacket - Tough, smooth, heat and light stablized, low moisture absorption nylon conforming to UL requirements for type THHN or THWN. This jacket offers a great degree of protection to the PVC insulation from abrasion and cut through which may be encountered in pulling wire Through conduits. Nylon has long been recognized as one of the toughest jacketing material used in wire and cable manufacturing.

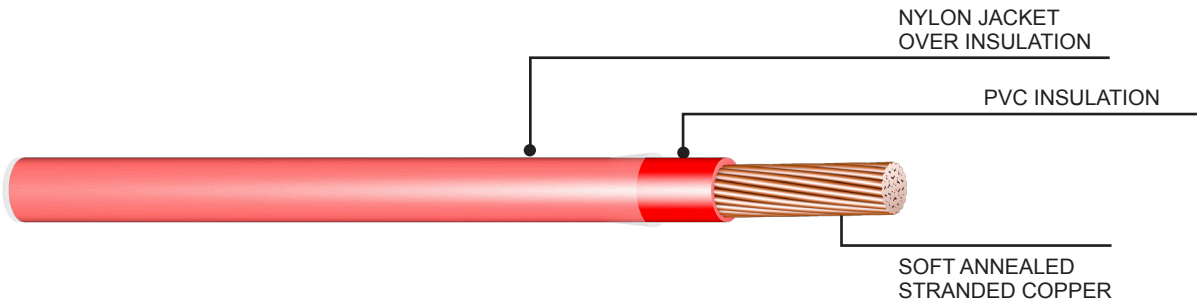
FEA TURES :

1.Meets UL 'VW - 1' Flame Test requirements.
2.Wet or dry locations - Rated 90 deg. C dry, 75 deg. C wet.
3.Resistant to gas and oil exposure - Rated gasoline and oil resistant II per UL.
4.Versatile - Can be used as follows:
  a) THHN - 90 deg. C dry building wire
  b) THWN - 75 deg. C wet and dry building wire
  c) MTW - 90 deg. C machine tool wire
5.Pulls easier - tough, smooth nylon jacket over PVC insulation.
6.Small diameter - more conductors per conduit.

APPLICA TIONS :

Type THHN - THWN building wires are intended for general purpose applications and may be installed in conduit, duct or other recognized raceways in wet or dry locations. Type THHN - THWN wires are designed to operate at conductor temperatures of 75 deg. C for 600 volts service in wet and dry locations. Applicable for both new work and rewiring installations where the smaller wire diameter permits additional circuits or larger conductors to be installed in the conduit without exceeding maximum fill limitations.

Type THHN - THWN wires are also recommended for industrial installation where exceptional resistance to heat and corrosive atmospheres are needed, such as chemical paints, oil refineries, paper mills, etc.



MARKING EXAMPLE:

RIYADH CABLES GROUP, K.S.A Year of manufacturing, 600 V, Type (THHN or THWN or TFFN) GASOLINE AND OIL RESISTANT IIVW-1 Size

Stradards :

UL 83-Underwriters Laboratories, Thermoplastic Insulated wires and Cables.
UL 1063-Underwriters Laboratories, Machine Tool Wires and Cables.
UL 1581-Underwriters Laboratories, Reference standard for Electrical wires, Cables and Flexible Cords. 600 Volts
Copper Conductor PVC Insulated NYLON Jacketed THHN/THWN Wires UL 83, 1581

AWG	Equiv . mm2	CONDUCT OR		Insulation Thickness mm (Ave.)	Nylon Jacket Thickness mm (Min.)	Approx. Overall Diameter mm	Approx. Weight of Cond. Kg/Km	Standard DC Resistance at 20°C Ohm/Km	packing length M (± 5%)
		Stranding No x mm (Nom.)	Diameter mm (Nom.)						
18*	0.82	16 x 0.254	1.19	0.38	0.10	2.3	12	18.23	152 C
16*	1.31	19 x 0.296	1.48	0.38	0.10	2.5	17	13.42	152 C
14	2.08	19 x 0.373	1.86	0.38	0.10	2.9	25	8.62	152 C
12	3.31	19 x 0.47	2.35	0.38	0.10	3.4	37	5.43	152 C
10	5.26	19 x 0.594	2.97	0.51	0.10	4.3	59	3.409	152 C
8	8.37	19 x 0.749	3.75	0.76	0.13	5.6	96	2.144	152 C
6	13.30	19 x 0.945	4.72	0.76	0.13	6.6	146	1.348	152 C
4	21.15	19 x 1.19	5.95	1.02	0.15	8.4	233	0.8481	1000
2	33.63	19 x 1.50	7.50	1.02	0.15	9.9	356	0.5335	1000
1/0	53.48	37 x 1.36	9.52	1.27	0.18	12.5	567	0.3354	1000
2/0	67.43	37 x 1.52	10.64	1.27	0.18	13.6	697	0.266	1000

* Listed as TFFN
Colour:Black, White, Red, Blue, Green, Yellow, Orange, Brown, etc.
Cutting Length:152 M (500 FT) in Coils 1000 M (3280 FT) in Drums

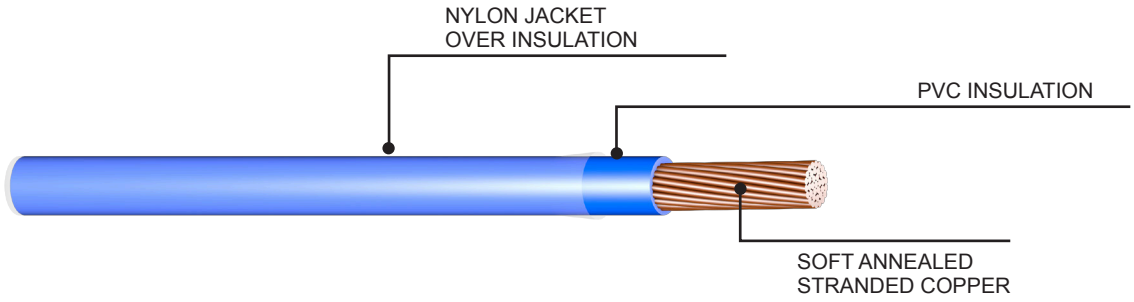


TABLE 1

Current carrying capacities of THWN and THHN insulated Copper Conductors rated 600 V not more than three conductors in raceway or cable or earth (Direct Buried) based on ambient temp. of 30 deg. C

Size	THWN	THHN
AWG	AMPS	AMPS
18		14
16		18
14	20	25
12	25	30
10	35	40
8	50	55
6	65	75
4	85	95
2	115	130
1/0	150	170
2/0	175	195

TABLE 2

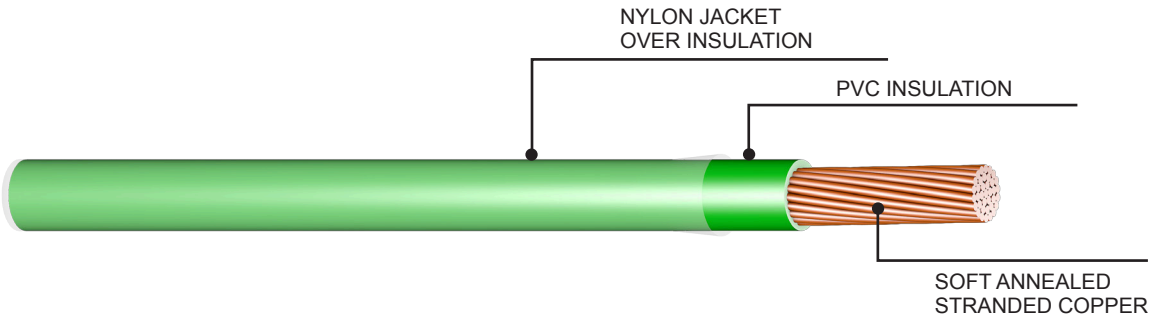
Current carrying capacities of THWN and THHN single insulated Copper Conductors rated 600 V in free air based on ambient air temp. of 30 deg. C

Size	THWN	THHN
AWG	AMPS	AMPS
18		18
16		24
14	30	35
12	35	40
10	50	55
8	70	80
6	95	105
4	125	140
2	170	190
1/0	230	260
2/0	265	300

TABLE 3 - CORRECTIO N F ACT ORS

Ambient T emp ℃	THWN (75 ℃)	THHN (90 ℃)
21 - 25	1.05	1.04
26 - 30	1.00	1.00
31 - 35	0.94	0.96
36 - 40	0.88	0.91
41 - 45	0.82	0.87
46 - 50	0.75	0.82
51 - 55	0.67	0.76
56 - 60	0.58	0.71
61 - 70	0.33	0.58
71 - 80	-	0.41

For ambient temp. other than 30 deg. C. multiply the ampacities given in tablets 1 & 2 by the appropriate factor given in Table 3.



THHN/THWN BUILDING WIRE 90 DEG. C 600 VOLTS

Table 4 : Conduit Fill

Maximum number of THHN/THWN Conductors in conduit or tubing as per 1990 NEC

Size AWG	Conduit trade size (inches)											
	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	3-1/2	4	5	6
18*	19	34	55	97	132	216	-	-	-	-	-	-
16*	15	26	43	76	104	169	-	-	-	-	-	-
14	13	24	39	69	94	154	-	-	-	-	-	-
12	10	18	29	51	70	114	164	-	-	-	-	-
10	6	11	18	32	44	73	104	160	-	-	-	-
8	3	5	9	16	22	36	51	79	106	136	-	-
6	1	4	6	11	15	26	37	57	76	98	154	-
4	1	2	4	7	9	16	22	35	47	60	94	137
3	1	1	3	6	8	13	19	29	39	51	80	116
2	1	1	3	5	7	11	16	25	33	43	67	97
1	-	1	1	3	5	8	12	18	25	32	50	72
1/0	-	1	1	3	4	7	10	15	21	27	42	61
2/0	-	1	1	2	3	6	8	13	17	22	35	51

* Listed as TFFN

Table 5 : Combination of Conductors

For groups or combinations of conductors, the conduit or tubing shall be of such size that the sum of the cross sectional areas of the individual conductors will not be more than percentage of the internal cross sectional area of the conduit or tubing as shown below :

No. of conductors	1	2	3	4	over 4
Percentage	53	31	40	40	40

Soft Drawn Bare Copper Conductors
IEC 60228. (BSEN 60228)

Nominal cross sectional area	Number of strands	Approx. Overall daimeter	Approx. Weight	Max. Dc at 20°C	Standard packing
mm^2	No .	mm	kg/km	Ohm/km	m±5%
2.5	7	2.0	20	7.41	2000
4	7	2.55	35	4.61	2000
6	7	3.1	50	3.08	2000
10	7	4.0	85	1.83	2000
16	7	5.0	135	1.15	2000
25	7	6.3	210	0.727	2000
35	7	7.4	300	0.524	2000
50	19	8.8	400	0.387	1000
70	19	10.5	580	0.268	1000
95	19	12.4	810	0.193	1000
120	37	14.0	1030	0.153	1000
150	37	15.5	1270	0.124	1000
185	37	17.4	1600	0.0991	1000
240	61	20.0	2100	0.0754	1000
300	61	22.5	2640	0.0601	1000
400	61	25.4	3400	0.0470	1000
500	61	28.5	4370	0.0366	1000
630	91	32.8	5680	0.0283	1000

NOTICE

RCG C C ata loq ues un der ci rcu lat ion ar e s till v ali d. Som e i nterna tio nal an d N ationa l s tandards mentioned in R C GC cataloques might get amended by res pective organizations without prior notice. F or R iyadh C ables P roducts, the latest Amendments of applicable standards under circulation are applicable. For Wires and Wiring cables manufactured by R C GC, colour code mentioned in respective standards are applicable. However, R C GC can also provide the following colour code as required by some utilities.

1 Core: Red or Black
2 Core: Red, Black
3 Core: Red, Yellow , Blue
4 Core: Red, Yellow , Blue, Black
5 Core: Red, Yellow , Blue, Black, Green
More than 5 cores: Black cores with white printed numerals.

In the interest of product improvement, Riyadh Cables reserves the right to alter the given data in this Catalogue without any prior notice.

LOW VOLTAGE POWER CABLES

ISO 9001 : 2015
ISO 14001 : 2015
OHSAS 18001 : 2007

RIYADH CABLES GROUP COMPANY

INTRODUCTION

This catalog contains technical information on *Riyadh Cables* low voltage cables including PVC and XLPE insulations of Copper/Aluminium, armoured and un-armoured designs, single and multicore constructions along with a different range of sheathing options. Cables are categorized by insulation and armouring. Each section contains appropriate technical details and constructional data.

PRODUCT SPECIFICATIONS

All cable designs outlined in this catalog use constructions covered by IEC 60502, Please note however that *RCGC* can also supply a range of alternative designs to meet more specialized customer needs including enhanced fire performance and added environmental protection. Cables can also be supplied with alternative sheathing materials and colours, or can be made to individual customer specifications or other recognized standards both National & International. In particular, cables can be manufactured to meet specific requirements for the elimination of smoke and toxic gases using low smoke and non-halogen materials.

CABLE SELECTION

It is essential that the type of cable ordered is suitable for its intended use. Cable choice will be based on a whole range of factors including installation specifications, relevant local regulations and the performance of appropriate cable types. It is therefore impossible to provide a conclusive guide to cable selection and we would advise you to contact us for our specialist advice on suitable designs to meet your specific cable needs.

CONDUCTORS

Conductors shall be of Copper or Aluminium, circular stranded (Non-compacted or Compacted) or Shaped, Class 2 to IEC 60228, For smaller sizes, a solid circular conductor, Class 1 as per IEC 60228, can also be supplied upon request.

INSULATION

XLPE material and thickness shall be as per IEC 60502 rated for 90°C continuous operation.

PVC material and thickness shall be as per IEC 60502. PVC insulation Material-Type A as per IEC 60502-1.

ASSEMBLY:

Two, Three or Four insulated conductors are laid-up together with non-hygroscopic fillers compatible with the insulation material and the assembly is bedded with an extruded layer of PVC. In case of non-armoured cables, this layer may be omitted if the outer shape of the cable remains practically circular.

INTRODUCTION

COLOUR CODE

Colour code (1) is followed by all utilities in the Middle East and colour of insulation is as mentioned below. However, cables as per colour code (2) mentioned below is also provided based on customer's request.

Colour code (1)

1 Core: Red or Black
2 Core: Red, Black
3 Core: Red, Yellow, Blue
4 Core: Red, Yellow,Blue, Black
5 Core: Red, Yellow, Blue, Black, Green
Above 5 cores: Black Cores with White numerals

Colour code (2)

1 Core: Brown or Blue
2 Core: Brown, Blue
3 Core: Brown, Black, Grey
4 Core: Blue, Brown, Black, Grey
5 Core: Green/Yellow, Blue, Brown, Black, Grey
Above 5 cores: Black Cores with White numerals

ARMOUR:

Galvanized Steel Wires applied helically over the bedding as per IEC 60502 (Single core cables shall be Aluminium wire armoured)

Double steel tapes applied helically over the bedding of multi-core cables as per IEC 60502.

OUTER SHEATH

Outer sheath shall be extruded PVC type ST2 as per IEC 60502-1

Special type of PVC sheathing material such as Fire retardant PVC, anti- termite and anti-rodent PVC, Ultraviolet PVC, Oil resistant PVC, etc are available on request also other special sheathing materials such as LLDPE, MDPE, HDPE, CPE etc are available.

FIRE PERFORMANCE OF CABLE SHEATHS

Cable can be supplied with special flame retardant PVC outer sheath to comply with the flame retardent test requirments of IEC 60332-3-22, IEC 60332-3-23 or IEC 60332-3-24, Riyadh Cables can also supply cables with low smoke Halogen Free (LSHF) material of type ST8 according to IEC 60502-1 or other equivalent standards.

QUALITY ASSURANCE

Effective Quality Assurance procedures are essential to ensure Riyadh Cables of the consistency and long term reliability and performance of all products. RCGC has always recognized the importance of Quality Assurance and this commitment is reflected in the company's accreditation. At RCGC Quality Assurance is an integral part of production and supply process and maintained at all stages from order entry and manufacture through testing, packaging and shipping. All Quality Assurance procedures, and systems are regularly audited against International Standards.

MORE INFORMATION FOR LSHF CABLES

Fire is a complex and emotive subject, the consequences of fire can be catastrophic.

The nature of organic material used in the manufacture of cables and possible installation conditions in areas of the fire risk can lead to a situation where cables may contribute to the spread of fire, emission of smoke and release of combustion products injurious to equipment and human health.

In power stations, hospitals, theatres, hotels and other large public buildings, the loss of visibility caused by smoke evolved from burning cable materials can cause panic and create serious problems when evacuating personnel.
Location of the fire source and fire fighting are also greatly hampered by smoke. Additionally the presence of corrosive gases in the smoke result in damage and failure of sensitive electrical equipment and may initiate long term deterioration of structures, as well as being injurious to the health of personnel even after short exposure.

Awareness of this situation has lead to the development of new cable technologies and introduction by major cable users of cable types with low emission of smoke, corrosive and toxic fumes and reduced flame propagation properties.

In considering cable systems with improved fire performance characteristics it is useful to first consider the various aspects of the effect of fire on a cable:

- Propagation of fire along cable runs
- Evolution of smoke leading to obstruction of exits
- Evolution of acid gas leading to corrosion of equipment
- Evolution of toxic fumes leading to personal injury

LSHF cables use special formulation based on non-halogenated polymers in order to restrict the generation of smoke as much as possible. Materials are carefully selected and the compounds carefully designed in order to ensure the best performance of the external sheaths, which are directly exposed to fire.

LSHF Cables manufactured by Riyadh Cables group have been designed to offer improved performance in areas where smoke and fume emission in the event of a fire would cause particular problems. Compounds used in LSF cables do not contain halogen hence, do not emit halogenated acids when burnt which help in minimizing the total cost of the damage caused by fire and generate little smoke when burned. Furthermore, the rate at which this low level of smoke is released, is very much slower than that of PVC or similar halogenated polymers.

LSHF Cables manufactured by Riyadh Cables have controlled limits on smoke evolution, when assessed by burning samples of cables in a 3 meter cube smoke chamber as per IEC 61034. Generally these cables combine the properties of low corrosive gas emission and low toxic gas emission as they are essentially halogen free when assessed by IEC 60754-1 and IEC 60754-2.

BUNCH BURNING TEST (IEC 60332-3 SERIES)

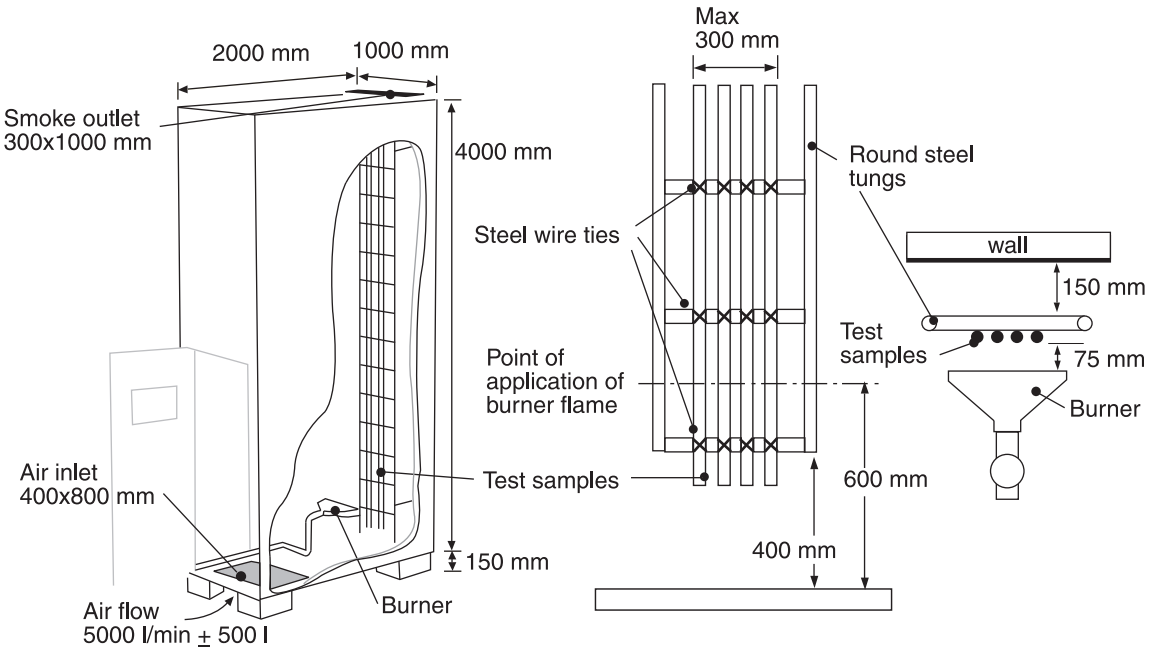
PURPOSE

This standard describes a method of type approval testing to define the ability of bunched cables to restrain flame propagation in defined conditions regardless of their application, i.e. power, telecommunications (including data transmission and optical fibre cables), etc.

Three categories (A, B and C) are defined and distinguished by test duration and the volume of non-metallic material of the sample under test. Two methods of mounting (designations F/R and F) are application to category A. Only designation F applies to categories B and C.

EQUIPMENT

1. Fire test rig
2. Ladder
3. Ignition source



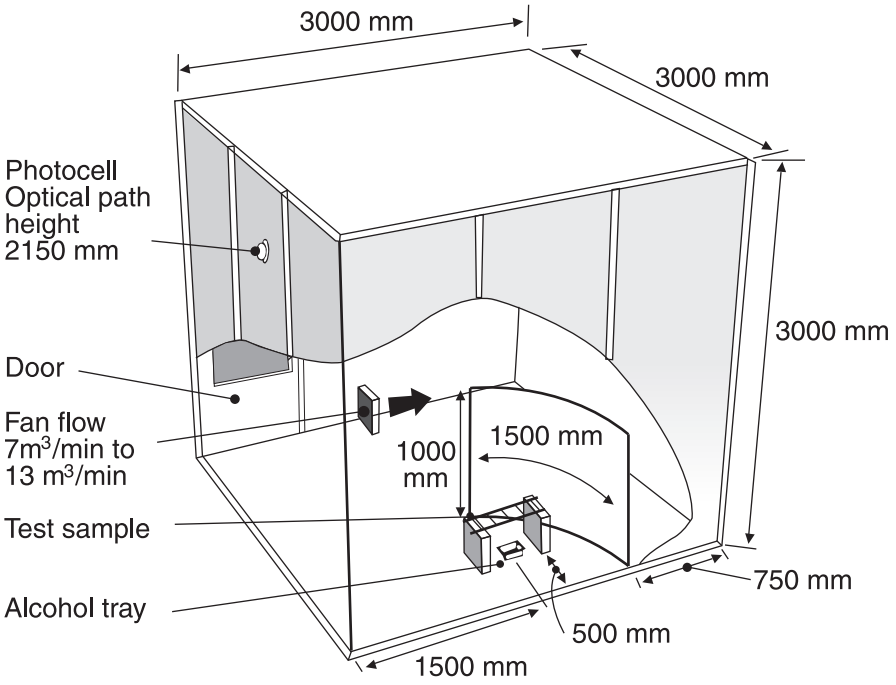
SMOKE DENSITY 3 M TEST CUBE (IEC 61034)

PURPOSE

The measurement of smoke density is an important aspect in the evaluation of the burning performance of electric cables as it is related to the evacuation of persons and accessibility for fire-fighting. The standard describe measurements of smoke emission when electric cables are burned horizontally. The light transmittance for flaming and smouldering conditions can be used when comparing different cables.

EQUIPMENT

1. Cube enclosure
2. Photometric system
3. Fire source
4. Smoke mixer



TEST ON GASES EVOLVED DURING COMBUSTION OF ELECTRIC CABLES

PURPOSE

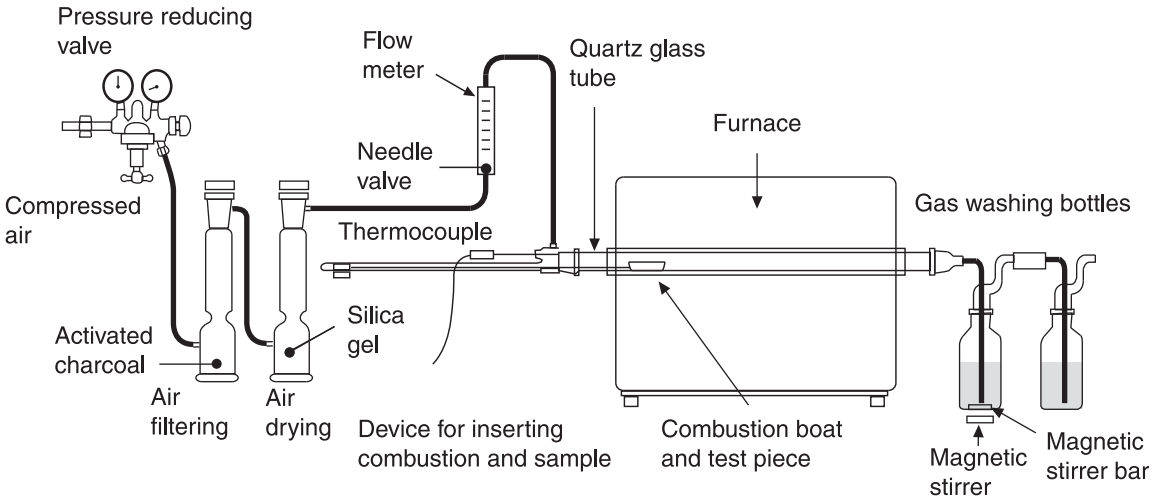
The purpose of this test is to determine the pH and conductivity of gases evolved during the combustion of materials taken from electric cables as a function of temperature.

PRINCIPLE OF OPERATION

A predetermined quantity of the test material is burned in a tube furnace. The evolved gases are trapped by bubbling through bottles filled with distilled or demineralized water. The acidity is measured by determination of pH value. The conductivity of the solution is also measured.

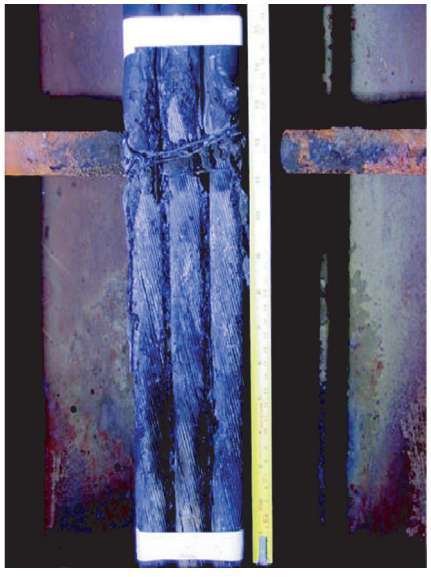
EQUIPMENT

1. Test apparatus
2. pH meter
3. Conductivity meter
4. Analytical balance
5. Computer containing a measuring program
5. Deionized water

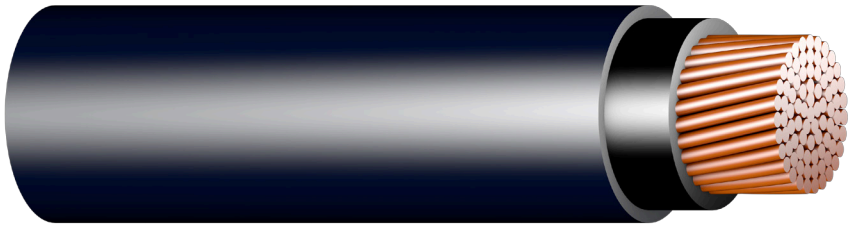


Cable mounted for fire test

Fire test in progress



Completion of fire test (The charred portion is less than the specified requirement)



CABLE CORE(S) UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
1x1.5 re	1	1.38	0.8	1.4	6	55	1000
1x1.5 rm	7	1.56	0.8	1.4	6	55	1000
1x2.5 re	1	1.78	0.8	1.4	7	65	1000
1x2.5 rm	7	2.01	0.8	1.4	7	70	1000
1x4 re	1	2.25	1.0	1.4	7	90	1000
1x4 rm	7	2.55	1.0	1.4	8	95	1000
1x6 re	1	2.76	1.0	1.4	8	110	1000
1x6 rm	7	3.12	1.0	1.4	8	120	1000
1x10 re	1	3.57	1.0	1.4	9	155	1000
1x10 rm	7	4.01	1.0	1.4	9	165	1000
1x16 rm	7	5.03	1.0	1.4	10	230	1000
1x25 rm	7	6.3	1.2	1.4	12	335	1000
1x35 rm	7	7.44	1.2	1.4	13	440	1000
1x50 rm	19	8.8	1.4	1.4	15	575	1000
1x70 rm	19	10.6	1.4	1.4	17	785	1000
1x95 rm	19	12.4	1.6	1.5	19	1075	1000
1x120 rm	37	14	1.6	1.5	21	1325	1000
1x150 rm	37	15.5	1.8	1.6	23	1600	1000
1x185 rm	37	17.4	2.0	1.7	25	2000	1000
1x240 rm	61	20	2.2	1.8	28	2600	1000
1x300 rm	61	22.5	2.4	1.9	32	3250	500
1x400 rm	61	25.4	2.6	2.0	35	4150	500
1x500 rm	61	28.5	2.8	2.1	39	5250	500
1x630 rm	91	32.8	2.8	2.2	43	6700	500

CABLE CORE(S) UNARMOURED

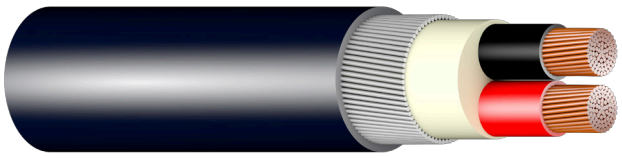
2x1.5 re	1	1.38	0.8	1.8	12	200	1000
2x1.5 rm	7	1.56	0.8	1.8	13	200	1000
2x2.5 re	1	1.78	0.8	1.8	13	225	1000
2x2.5 rm	7	2.01	0.8	1.8	14	275	1000
2x4 re	1	2.25	1.0	1.8	15	325	1000
2x4 rm	7	2.55	1.0	1.8	16	350	1000
2x6 re	1	2.76	1.0	1.8	16	375	1000
2x6 rm	7	3.12	1.0	1.8	17	400	1000
2x10 re	1	3.57	1.0	1.8	18	500	1000
2x10 rm	7	4.01	1.0	1.8	19	550	1000
2x16 rm	7	5.03	1.0	1.8	21	725	1000
2x25 rm	7	6.3	1.2	1.8	24	1025	1000
2x35 rm	7	7.44	1.2	1.8	26	1300	1000

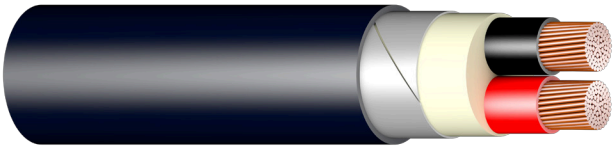
re : Round Solid
rm : Round Stranded

Colour code (1)
1 Core : Black (Red on request)
2 Core : Red, Black

Colour code (2)
1 Core : Brown or Blue
2 Core : Brown, Blue.

Single core cables are Aluminium Armoured as per IEC 60502-1 recommendation.





ALUMINIUM WIRE ARMOURED

Nominal Alum/Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	14	300	1000
0.8	1.8	15	375	1000
0.8	1.8	16	500	1000
0.8	1.8	18	625	1000
1.25	1.8	20	835	1000
1.25	1.8	22	1075	1000
1.25	1.8	24	1385	1000
1.6	1.8	26	1700	1000
1.6	1.8	28	2025	1000
1.6	1.8	31	2450	500
1.6	1.9	34	3100	500
2.0	2.0	38	3900	500
2.0	2.1	42	4875	500
2.0	2.2	45	6050	500
2.0	2.4	50	7625	500

ALUMINIUM TAPE ARMOURED

Nominal Alum/Steel tape thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.5	1.8	14	300	1000
0.5	1.8	15	375	1000
0.5	1.8	17	500	1000
0.5	1.8	18	625	1000
0.5	1.8	20	775	1000
0.5	1.8	21	1025	1000
0.5	1.8	24	1325	1000
0.5	1.8	25	1575	1000
0.5	1.8	27	1900	1000
0.5	1.8	29	2300	1000
0.5	1.9	33	2950	500
0.5	1.9	35	3600	500
0.5	2.1	40	4575	500
0.5	2.2	43	5725	500
0.5	2.3	48	7225	500

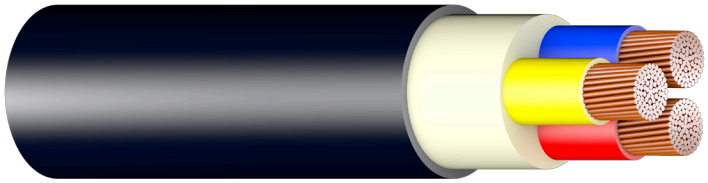
STEEL WIRE ARMOURED

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	15	425	1000
0.8	1.8	17	500	1000
0.8	1.8	17	525	1000
1.25	1.8	19	700	1000
1.25	1.8	19	775	1000
1.25	1.8	20	825	1000
1.25	1.8	21	950	1000
1.25	1.8	23	1150	1000
1.6	1.8	27	1700	1000
1.6	1.8	29	2050	1000

DOUBLE STEEL TAPE ARMOURED

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	15	325	1000
0.2	1.8	16	400	1000
0.2	1.8	16	425	1000
0.2	1.8	17	475	1000
0.2	1.8	18	500	1000
0.2	1.8	18	600	1000
0.2	1.8	19	650	1000
0.2	1.8	21	825	1000
0.2	1.8	25	1150	1000
0.2	1.8	27	1450	1000

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
3x1.5 re	1	1.38	0.8	1.8	13	225	1000
3x1.5 rm	7	1.56	0.8	1.8	13	225	1000
3x2.5 re	1	1.78	0.8	1.8	14	275	1000
3x2.5 rm	7	2.01	0.8	1.8	14	285	1000
3x4 re	1	2.25	1.0	1.8	16	375	1000
3x4 rm	7	2.55	1.0	1.8	16	400	1000
3x6 re	1	2.76	1.0	1.8	17	450	1000
3x6 rm	7	3.12	1.0	1.8	18	475	1000
3x10 re	1	3.57	1.0	1.8	19	600	1000
3x10 rm	7	4.01	1.0	1.8	19	650	1000
3x16 rm	7	5.03	1.0	1.8	22	875	1000
3x25 rm	7	6.3	1.2	1.8	25	1275	1000
3x35 rm	7	7.44	1.2	1.8	28	1500	1000
3x50 rm	19	8.8	1.4	1.8	32	1950	500
3x70 rm	19	10.55	1.4	2.0	36	2700	500
3x95 rm	19	12.4	1.6	2.1	41	3625	500
3x120 rm	37	14.0	1.6	2.2	45	4425	500
3x150 rm	37	15.47	1.8	2.3	49	5425	500
3x185 rm	37	17.36	2.0	2.5	55	6750	250
3x240 rm	61	20.25	2.2	2.7	63	8800	250
3x300 rm	61	22.68	2.4	2.9	69	10925	250
3x400 rm	61	25.38	2.6	3.1	77	13850	250
3x500 rm	61	28.8	2.8	3.4	86	17500	250

CABLE CORE(S) — UNARMOURED

	Ph	Ne	Ph	Ne	Ph	Ne				
3x10 rm+6	7	7	4.01	3.12	1.0	1.0	1.8	21	730	1000
3x16 rm+10	7	7	5.03	4.01	1.0	1.0	1.8	23	1000	1000
3x25 rm+16	7	7	6.3	5.03	1.2	1.0	1.8	27	1450	1000
3x35 sm+16	6	7	-	5.03	1.2	1.0	1.8	27	1600	1000
3x50 sm+25	6	7	-	6.30	1.4	1.2	1.9	31	2150	500
3x70 sm+35	12	7	-	7.44	1.4	1.2	2.0	35	2950	500
3x95 sm+50	15	19	-	8.80	1.6	1.4	2.2	39	3975	500
3x120 sm+70	18	19	-	10.60	1.6	1.4	2.3	43	4975	500
3x150 sm+70	18	19	-	10.60	1.8	1.4	2.4	47	5925	500
3x185 sm+95	30	19	-	12.40	2.0	1.6	2.6	52	7425	250
3x240 sm+120	34	37	-	14.00	2.2	1.6	2.8	58	9575	250
3x300 sm+150	34	37	-	15.50	2.4	1.8	3.0	64	11850	250
3x400 sm+185	53	37	-	17.40	2.6	2.0	3.2	72	15025	250
3x500 sm+240	53	61	-	20.00	2.8	2.2	3.5	79	19025	250

re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded
Ph : Phase
Ne : Neutral

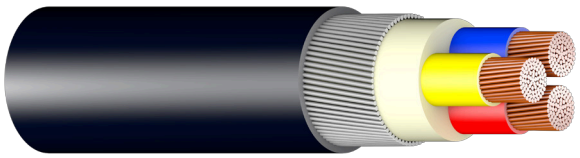
Colour code (1)

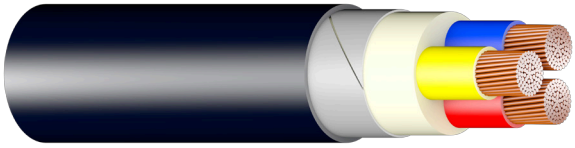
3 Cores : Red, Yellow, Blue
3 1/2 Cores : Red, Yellow, Blue, Black

Colour code (2)

3 Cores : Brown, Black, Grey
3 1/2 Cores : Blue, Brown, Black, Grey

For 3 1/2 core, neutral conductors are round stranded.
For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228.





STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	16	465	1000
1.25	1.8	18	685	1000
1.25	1.8	19	725	1000
1.25	1.8	19	800	1000
1.25	1.8	20	850	1000
1.25	1.8	21	1000	1000
1.25	1.8	22	1050	1000
1.25	1.8	24	1350	1000
1.6	1.8	29	1975	1000
1.6	1.8	31	2300	500
1.6	2.0	35	2900	500
2.0	2.1	40	4025	500
2.0	2.2	45	5150	500
2.0	2.3	49	6050	500
2.5	2.5	55	7725	250
2.5	2.7	60	9300	250
2.5	2.9	68	11700	250
2.5	3.1	75	14125	250
3.15	3.4	84	18400	250
3.15	3.6	92	22500	250

DOUBLE STEEL TAPE ARMOURED

St. Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	15	360	1000
0.2	1.8	17	450	1000
0.2	1.8	17	480	1000
0.2	1.8	18	540	1000
0.2	1.8	18	575	1000
0.2	1.8	19	700	1000
0.2	1.8	20	750	1000
0.2	1.8	23	1000	1000
0.2	1.8	26	1425	1000
0.2	1.8	29	1650	1000
0.2	1.9	33	2150	500
0.2	2.0	37	2900	500
0.5	2.2	43	4275	500
0.5	2.3	47	5150	500
0.5	2.5	52	6250	250
0.5	2.6	57	7625	250
0.5	2.8	65	9800	250
0.5	3.0	71	12050	250
0.5	3.3	79	15125	250
0.5	3.5	88	18900	250

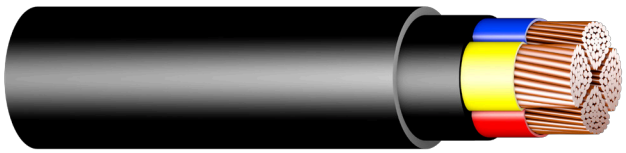
STEEL WIRE ARMOURED

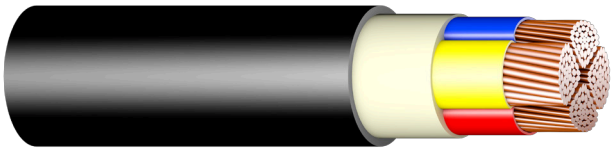
1.25	1.8	23	1175	1000
1.6	1.8	26	1650	1000
1.6	1.8	30	2200	1000
1.6	1.9	30	2375	1000
2.0	2.0	35	3275	500
2.0	2.1	39	4200	500
2.0	2.3	44	5425	500
2.5	2.5	48	6950	500
2.5	2.6	52	8100	250
2.5	2.7	57	9775	250
2.5	2.9	63	12250	250
2.5	3.1	70	14775	250
0.3	3.5	79	19250	250
3.15	3.7	85	23625	250

DOUBLE STEEL TAPE ARMOURED

0.2	1.8	21	850	1000
0.2	1.8	24	1150	1000
0.2	1.8	27	1600	1000
0.2	1.8	28	1750	1000
0.2	1.9	32	2350	500
0.2	2.1	36	3175	500
0.5	2.3	42	4600	500
0.5	2.4	45	5650	500
0.5	2.5	49	6675	500
0.5	2.7	54	8250	250
0.5	2.9	60	10500	250
0.5	3.1	66	12875	250
0.5	3.3	74	16175	250
0.8	3.6	83	21050	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%





CABLE CORE(S)

UNARMOURED

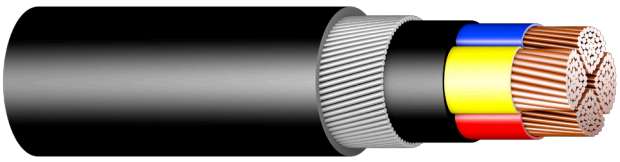
Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
4x1.5 re	1	1.38	0.8	1.8	14	250	1000
4x1.5 rm	7	1.56	0.8	1.8	14	275	1000
4x2.5 re	1	1.78	0.8	1.8	15	325	1000
4x2.5 rm	7	2.01	0.8	1.8	15	325	1000
4x4 re	1	2.25	1.0	1.8	17	450	1000
4x4 rm	7	2.55	1.0	1.8	18	475	1000
4x6 re	1	2.76	1.0	1.8	18	550	1000
4x6 rm	7	3.12	1.0	1.8	19	575	1000
4x10 re	1	3.57	1.0	1.8	20	750	1000
4x10 rm	7	4.01	1.0	1.8	21	800	1000
4x16 rm	7	5.03	1.0	1.8	24	1100	1000
4x25 rm	7	6.3	1.2	1.8	28	1600	1000
4x35 sm	6	-	1.2	1.8	28	1800	1000
4x50 sm	6	-	1.4	1.9	32	2400	500
4x70 sm	12	-	1.4	2.1	36	3275	500
4x95 sm	15	-	1.6	2.2	41	4425	500
4x120 sm	18	-	1.6	2.4	45	5475	500
4x150 sm	18	-	1.8	2.5	49	6700	500
4x185 sm	30	-	2.0	2.7	55	8350	250
4x240 sm	34	-	2.2	2.9	61	10765	250
4x300 sm	34	-	2.4	3.1	67	13350	250
4x400 sm	53	-	2.6	3.4	76	17000	250
4x500 sm	53	-	2.8	3.6	83	21425	250

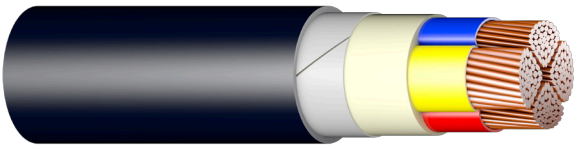
re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded

Colour code (1)
4 cores : Red, Yellow, Blue, Black

Colour code (2)
4 cores : Blue, Brown, Black, Grey

For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228.





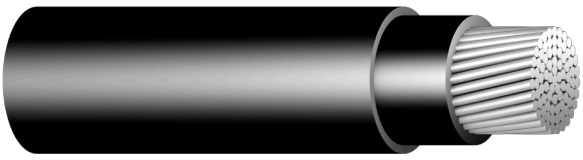
STEEL WIRE ARMOURED

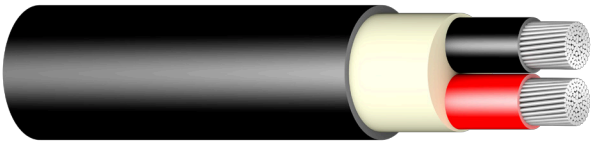
Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1.25	1.8	19	790	1000
1.25	1.8	20	825	1000
1.25	1.8	21	925	1000
1.25	1.8	21	975	1000
1.25	1.8	23	1175	1000
1.25	1.8	24	1250	1000
1.6	1.8	27	1750	1000
1.6	1.8	31	2375	500
1.6	1.9	31	2600	500
2.0	2.1	37	3625	500
2.0	2.2	40	4575	500
2.5	2.4	46	6350	500
2.5	2.5	50	7525	500
2.5	2.7	55	8950	250
2.5	2.9	60	10650	250
2.5	3.1	66	13575	250
2.5	3.3	73	16425	250
3.15	3.6	83	21500	250
3.15	3.9	91	26500	250

DOUBLE STEEL TAPE ARMOURED

St. Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	18	525	1000
0.2	1.8	18	575	1000
0.2	1.8	19	650	1000
0.2	1.8	20	675	1000
0.2	1.8	21	850	1000
0.2	1.8	22	900	1000
0.2	1.8	24	1225	1000
0.2	1.8	28	1750	1000
0.2	1.9	29	1975	1000
0.2	2.0	33	2625	500
0.5	2.2	38	3850	500
0.5	2.4	43	5100	500
0.5	2.5	47	6175	500
0.5	2.6	52	7475	250
0.5	2.8	57	9200	250
0.5	3.0	63	11725	250
0.5	3.2	69	14425	250
0.5	3.5	78	18200	250
0.8	3.8	87	23600	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%





CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
1x16 rm	7	4.98	1.0	1.4	10	135	1000
1x25 rm	7	6.30	1.2	1.4	12	185	1000
1x35 rm	7	7.41	1.2	1.4	13	225	1000
1x50 rm	19	8.75	1.4	1.4	15	300	1000
1x70 rm	19	10.55	1.4	1.4	17	375	1000
1x95 rm	19	12.40	1.6	1.5	19	500	1000
1x120 rm	37	14.00	1.6	1.5	21	600	1000
1x150 rm	37	15.47	1.8	1.6	23	725	1000
1x185 rm	37	17.36	2.0	1.7	25	900	1000
1x240 rm	61	19.89	2.2	1.8	28	1150	1000
1x300 rm	61	22.23	2.4	1.9	31	1400	500
1x400 rm	61	25.20	2.6	2.0	35	1750	500
1x500 rm	61	28.62	2.8	2.1	39	2200	500
1x630 rm	91	32.56	2.8	2.2	43	2725	500

CABLE CORE(S) — UNARMOURED

2x16 rm	7	4.98	1.0	1.8	20	525	1000
2x25 rm	7	6.30	1.2	1.8	24	725	1000
2x35 rm	7	7.41	1.2	1.8	26	875	1000

CABLE CORE(S) — UNARMOURED

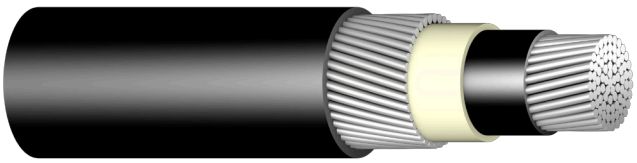
3x16 rm	7	4.98	1.0	1.8	22	600	1000
3x25 rm	7	6.30	1.2	1.8	25	825	1000
3x35 rm	7	7.41	1.2	1.8	28	875	1000
3x50 rm	19	8.75	1.4	1.8	31	1100	500
3x70 rm	19	10.55	1.4	2.0	36	1475	500
3x95 rm	19	12.4	1.6	2.1	41	1925	500
3x120 rm	37	14.0	1.6	2.2	45	2275	500
3x150 rm	37	15.47	1.8	2.3	49	2775	500
3x185 rm	37	17.36	2.0	2.5	55	3425	250
3x240 rrm	61	19.89	2.2	2.7	62	4375	250
3x300 rm	61	22.23	2.4	2.9	68	5325	250
3x400 rm	61	25.2	2.6	3.1	76	6675	250
3x500 rm	61	28.62	2.8	3.4	85	8350	250

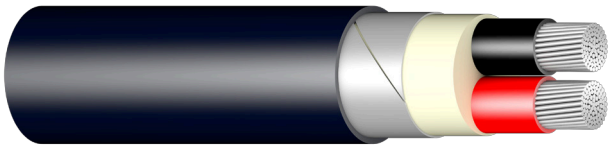
rm : Round Stranded
sm : Sectoral Stranded

Colour code (1)
1 Cores : Black (Red on request)
2 Cores : Red, Black
3 Cores : Red, Yellow, Blue

Colour code (2)
1 Cores : Brown or Blue
2 Cores : Brown, Blue
3 Cores : Brown, Black, Gray

Single core cables are Aluminium Armouted as per IEC 60502-1 recommendation.
For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228





ALUMINIUM WIRE ARMOURED

Nominal Alum/Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
0.8	1.8	15	275	1000
0.8	1.8	16	350	1000
0.8	1.8	17	400	1000
1.25	1.8	20	550	1000
1.25	1.8	22	675	1000
1.25	1.8	24	825	1000
1.6	1.8	26	1000	1000
1.6	1.8	28	1150	1000
1.6	1.8	31	1350	500
1.6	1.9	34	1625	500
2.0	2.0	37	2050	500
2.0	2.1	41	2500	500
2.0	2.2	45	3050	500
2.0	2.4	50	3650	500

ALUMINIUM TAPE ARMOURED

Nominal Alum/Steel tape thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
0.5	1.8	15	285	1000
0.5	1.8	17	375	1000
0.5	1.8	18	425	1000
0.5	1.8	20	500	1000
0.5	1.8	21	600	1000
0.5	1.8	24	750	1000
0.5	1.8	25	875	1000
0.5	1.8	27	1000	1000
0.5	1.8	29	1200	1000
0.5	1.9	32	1475	500
0.5	1.9	35	1750	500
0.5	2.1	39	2200	500
0.5	2.2	43	2700	500
0.5	2.3	48	3275	500

STEEL WIRE ARMOURED

1.25	1.8	23	950	1000
1.6	1.8	27	1400	1000
1.6	1.8	29	1600	1000

DOUBLE STEEL TAPE ARMOURED

0.2	1.8	21	650	1000
0.2	1.8	25	850	1000
0.2	1.8	27	1025	1000

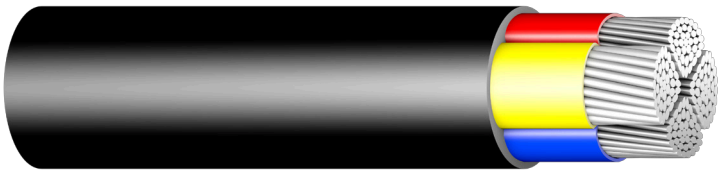
STEEL WIRE ARMOURED

1.25	1.8	24	1050	1000
1.6	1.8	28	1525	1000
1.6	1.8	31	1650	1000
1.6	2.0	35	2025	500
2.0	2.1	40	2800	500
2.0	2.2	45	3450	500
2.0	2.3	49	3900	500
2.5	2.5	55	5075	250
2.5	2.7	60	5975	250
2.5	2.9	67	7225	250
2.5	3.1	74	8475	250
3.15	3.4	83	11150	250
3.15	3.6	92	13325	250

DOUBLE STEEL TAPE ARMOURED

0.2	1.8	22	700	1000
0.2	1.8	26	975	1000
0.2	1.8	28	1025	1000
0.2	1.9	32	1300	500
0.2	2.0	37	1700	500
0.5	2.2	43	2575	500
0.5	2.3	47	3000	500
0.5	2.5	52	3600	250
0.5	2.6	57	4300	250
0.5	2.8	64	5350	250
0.5	3.0	70	6400	250
0.5	3.3	79	7950	250
0.5	3.5	87	9725	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires		Approx. Conductor diameter		Nominal Insulation thickness		Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.		mm		mm		mm	mm	Kg/Km	meters
	Ph	Ne	Ph	Ne	Ph	Ne				
3x25 rm+16	7	7	6.3	4.98	1.2	1.0	1.8	27	900	1000
3x35 sm+16	6	7	-	4.98	1.2	1.0	1.8	27	875	1000
3x50 sm+25	6	7	-	6.3	1.4	1.2	1.9	31	1150	500
3x70 sm+35	12	7	-	7.41	1.4	1.2	2.0	34	1475	500
3x95 sm+50	15	19	-	8.75	1.6	1.4	2.2	39	1950	500
3x120 sm+70	15	19	-	10.55	1.6	1.4	2.3	43	2375	500
3x150 sm+70	15	19	-	10.55	1.8	1.4	2.4	47	2800	500
3x185 sm+95	30	19	-	12.4	2.0	1.6	2.6	52	3450	250
3x240 sm+120	30	37	-	14.0	2.2	1.6	2.8	58	4400	250
3x300 sm+150	30	37	-	15.47	2.4	1.8	3.0	64	5375	250
3x400 sm+185	53	37	-	17.36	2.6	2.0	3.2	72	6775	250
3x500 sm+240	53	61	-	19.89	2.8	2.2	3.5	79	8400	250

CABLE CORE(S) — UNARMOURED

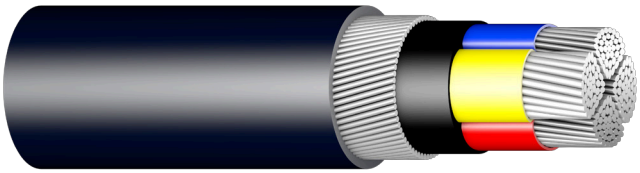
4x16 rm	7	4.98	1.0	1.8	23	700	1000
4x25 rm	7	6.30	1.2	1.8	28	1000	1000
4x35 sm	6	-	1.2	1.8	28	925	1000
4x50 sm	6	-	1.4	1.9	32	1250	500
4x70 sm	12	-	1.4	2.1	36	1600	500
4x95 sm	15	-	1.6	2.2	41	2100	500
4x120 sm	15	-	1.6	2.4	45	2550	500
4x150 sm	15	-	1.8	2.5	49	3075	500
4x185 sm	30	-	2.0	2.7	55	3800	250
4x240 sm	30	-	2.2	2.9	61	4825	250
4x300 sm	30	-	2.4	3.1	67	5875	250
4x400 sm	53	-	2.6	3.4	76	7475	250
4x500 sm	53	-	2.8	3.6	83	9225	250

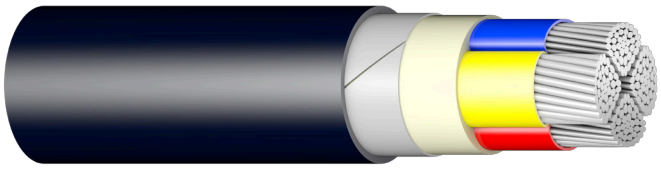
re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded
Ph : Phase Conductor
Ne : Neutral Conductor

Colour code (1)
3 1/2 Cores : Red, Yellow, Blue, Black
4 Cores : Red, Yellow, Blue, Black

Colour code (2)
3 1/2 Cores : Blue, Brown, Black, Grey
4 Cores :Blue, Brown, Black, Grey

For 3 1/2 cores, neutral conductors are round stranded.
For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228.





STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
1.6	1.8	30	1675	1000
1.6	1.9	30	1650	1000
2.0	2.0	35	2250	500
2.0	2.1	39	2725	500
2.0	2.3	44	3400	500
2.5	2.5	48	4375	500
2.5	2.6	52	4975	250
2.5	2.7	57	5800	250
2.5	2.9	63	7075	250
2.5	3.1	70	8275	250
3.15	3.5	79	11000	250
3.15	3.7	87	13050	250

DOUBLE STEEL TAPE ARMOURED

Steel Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
0.2	1.8	27	1075	1000
0.2	1.8	27	1025	1000
0.2	1.9	32	1325	500
0.2	2.1	35	1700	500
0.5	2.3	42	2575	500
0.5	2.4	45	3050	500
0.5	2.5	49	3550	500
0.5	2.7	54	4275	250
0.5	2.9	60	5325	250
0.5	3.1	66	6375	250
0.5	3.3	74	7900	250
0.8	3.6	83	10425	250

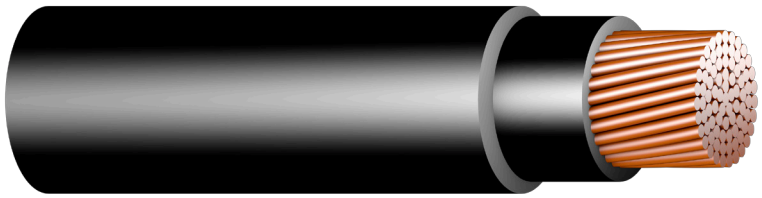
STEEL WIRE ARMOURED

1.6	1.8	27	1350	1000
1.6	1.8	31	1775	500
1.6	1.9	31	1750	500
2.0	2.1	37	2450	500
2.0	2.2	40	2900	500
2.5	2.4	46	4025	500
2.5	2.5	50	4600	500
2.5	2.7	55	5325	250
2.5	2.9	60	6300	250
2.5	3.1	66	7650	250
2.5	3.3	73	9075	250
3.15	3.6	83	11850	250
3.15	3.9	91	14125	250

DOUBLE STEEL TAPE ARMOURED

0.2	1.8	24	850	1000
0.2	1.8	28	1150	1000
0.2	1.9	29	1125	1000
0.2	2.0	33	1475	500
0.5	2.2	38	2175	500
0.5	2.4	43	2775	500
0.5	2.5	47	3250	500
0.5	2.6	51	3850	250
0.5	2.8	57	4675	250
0.5	3.0	63	5800	250
0.5	3.2	69	6950	250
0.5	3.5	78	8675	250
0.8	3.8	87	11400	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
1x1.5 re	1	1.38	0.7	1.4	6	45	1000
1x1.5 rm	7	1.56	0.7	1.4	6	50	1000
1x2.5 re	1	1.78	0.7	1.4	6	60	1000
1x2.5 rm	7	2.01	0.7	1.4	7	60	1000
1x4 re	1	2.25	0.7	1.4	7	75	1000
1x4 rm	7	2.55	0.7	1.4	7	80	1000
1x6 re	1	2.76	0.7	1.4	7	95	1000
1x6 rm	7	3.12	0.7	1.4	8	100	1000
1x10 rm	7	4.01	0.7	1.4	9	145	1000
1x16 rm	7	5.03	0.7	1.4	10	200	1000
1x25 rm	7	6.3	0.9	1.4	11	300	1000
1x35 rm	7	7.44	0.9	1.4	13	400	1000
1x50 rm	19	8.8	1.0	1.4	14	525	1000
1x70 rm	19	10.6	1.1	1.4	16	725	1000
1x95 rm	19	12.4	1.1	1.5	18	1000	1000
1x120 rm	37	14.0	1.2	1.5	20	1225	1000
1x150 rm	37	15.5	1.4	1.6	22	1500	1000
1x185 rm	37	17.4	1.6	1.6	24	1875	1000
1x240 rm	61	20.0	1.7	1.7	27	2450	1000
1x300 rm	61	22.5	1.8	1.8	30	3050	1000
1x400 rm	61	25.4	2.0	1.9	34	3900	500
1x500 rm	61	28.5	2.2	2.0	37	4975	500
1x630 rm	91	32.8	2.4	2.2	42	6425	500

CABLE CORE(S) — UNARMOURED

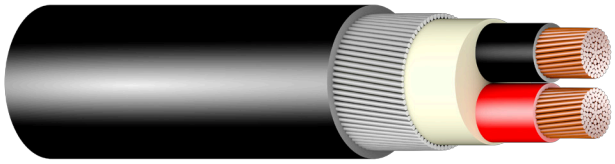
2x1.5 re	1	1.38	0.7	1.8	12	175	1000
2x1.5 rm	7	1.56	0.7	1.8	13	200	1000
2x2.5 re	1	1.78	0.7	1.8	13	225	1000
2x2.5 rm	7	2.01	0.7	1.8	13	225	1000
2x4 re	1	2.25	0.7	1.8	14	275	1000
2x4 rm	7	2.55	0.7	1.8	14	275	1000
2x6 re	1	2.76	0.7	1.8	15	325	1000
2x6 rm	7	3.12	0.7	1.8	16	350	1000
2x10 rm	7	4.01	0.7	1.8	17	475	1000
2x16 rm	7	5.03	0.7	1.8	19	650	1000
2x25 rm	7	6.3	0.9	1.8	23	925	1000
2x35 rm	7	7.44	0.9	1.8	25	1200	1000

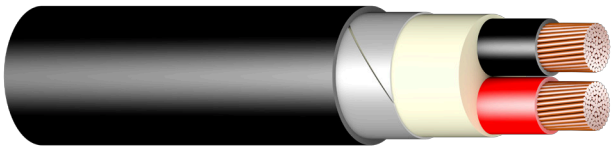
re : Round Solid
rm : Round Stranded

Colour code (1)
1 Cores : Black (Red on request)
2 Cores : Red, Black

Colour code (2)
1 Cores : Brown or Blue
4 Cores : Brown, Blue

Single core cables are Aluminium Armoured as per IEC 60502-1 recommendation.





ALUMINIUM WIRE ARMOURED

Nominal Alum/Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	16	475	1000
0.8	1.8	17	575	1000
1.25	1.8	19	775	1000
1.25	1.8	21	1000	1000
1.25	1.8	23	1300	1000
1.6	1.8	26	1600	1000
1.6	1.8	28	1925	1000
1.6	1.8	30	2325	1000
1.6	1.9	33	2950	500
1.6	1.9	36	3575	500
2.0	2.1	40	4650	500
2.0	2.2	44	5775	500
2.0	2.3	49	7325	500

ALUMINIUM TAPE ARMOURED

Nominal Alum/Steel tape thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.5	1.8	16	475	1000
0.5	1.8	17	575	1000
0.5	1.8	19	725	1000
0.5	1.8	21	975	1000
0.5	1.8	23	1250	1000
0.5	1.8	24	1500	1000
0.5	1.8	26	1800	1000
0.5	1.8	29	2175	1000
0.5	1.8	31	2775	500
0.5	1.9	34	3400	500
0.5	2.0	38	4325	500
0.5	2.1	42	5450	500
0.5	2.3	47	6950	500

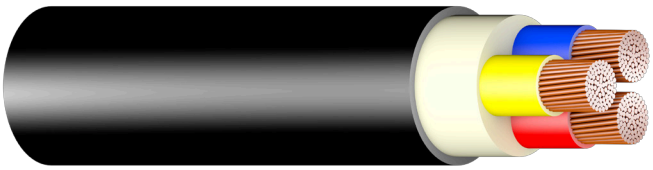
STEEL WIRE ARMOURED

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	15	450	1000
0.8	1.8	16	475	1000
0.8	1.8	16	525	1000
0.8	1.8	17	550	1000
1.25	1.8	20	835	1000
1.25	1.8	22	1050	1000
1.6	1.8	26	1575	1000
1.6	1.8	28	1900	1000

DOUBLE STEEL TAPE ARMOURED

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	15	350	1000
0.2	1.8	15	375	1000
0.2	1.8	16	400	1000
0.2	1.8	16	450	1000
0.2	1.8	18	575	1000
0.2	1.8	20	750	1000
0.2	1.8	24	1075	1000
0.2	1.8	26	1350	1000

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S)

UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
3x1.5 re	1	1.38	0.7	1.8	13	200	1000
3x1.5 rm	7	1.56	0.7	1.8	13	210	1000
3x2.5 re	1	1.78	0.7	1.8	13	250	1000
3x2.5 rm	7	2.01	0.7	1.8	14	275	1000
3x4 re	1	2.25	0.7	1.8	14	325	1000
3x4 rm	7	2.55	0.7	1.8	15	325	1000
3x6 re	1	2.76	0.7	1.8	15	400	1000
3x6 rm	7	3.12	0.7	1.8	16	400	1000
3x10 rm	7	4.01	0.7	1.8	18	575	1000
3x16 rm	7	5.03	0.7	1.8	20	800	1000
3x25 rm	7	6.3	0.9	1.8	24	1150	1000
3x35 rm	7	7.44	0.9	1.8	27	1375	1000
3x50 rm	19	8.8	1.0	1.8	30	1800	1000
3x70 rm	19	10.55	1.1	1.9	35	2500	500
3x95 rm	19	12.4	1.1	2.0	39	3350	500
3x120 rm	37	14.0	1.2	2.1	43	4150	500
3x150 rm	37	15.47	1.4	2.3	48	5125	500
3x185 rm	37	17.36	1.6	2.4	53	6375	250
3x240 rm	61	20.25	1.7	2.6	60	8275	250
3x300 rm	61	22.68	1.8	2.8	67	10275	250
3x400 rm	61	25.38	2.0	3.1	74	13050	250
3x500 rm	61	28.8	2.2	3.3	83	16625	250

CABLE CORE(S)

UNARMOURED

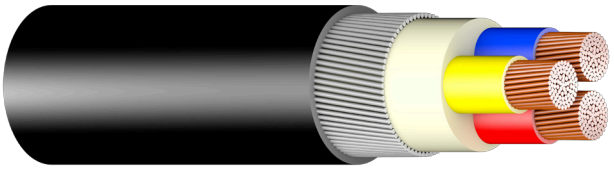
	Ph	Ne	Ph	Ne	Ph	Ne				
3x10 rm+6	7	7	4.01	3.12	0.7	0.7	1.8	19	640	1000
3x16 rm+10	7	7	5.03	4.01	0.7	0.7	1.8	22	900	1000
3x25 rm+16	7	7	6.30	5.03	0.9	0.7	1.8	25	1325	1000
3x35 sm+16	6	7	-	5.03	0.9	0.7	1.8	25	1475	1000
3x50 sm+25	6	7	-	6.3	1.0	0.9	1.8	29	1950	1000
3x70 sm+35	12	7	-	7.44	1.1	0.9	1.9	33	2750	500
3x95 sm+50	15	19	-	8.8	1.1	1.0	2.1	37	3675	500
3x120 sm+70	18	19	-	10.6	1.2	1.1	2.2	40	4600	500
3x150 sm+70	18	19	-	10.6	1.4	1.1	2.3	45	5550	500
3x185 sm+95	30	19	-	12.4	1.6	1.1	2.5	50	6975	500
3x240 sm+120	34	37	-	14.0	1.7	1.2	2.7	55	9275	250
3x300 sm+150	34	37	-	15.5	1.8	1.4	2.9	61	11150	250
3x400 sm+185	53	37	-	17.4	2.0	1.6	3.1	68	14500	250
3x500 sm+240	53	61	-	20.0	2.2	1.7	3.4	76	18050	250

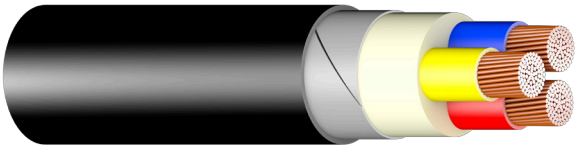
re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded
Ph : Phase Conductor
Ne : Neutral Conductor

Colour code (1)
3 Core : Red, Yellow, Blue
3 1/2 Core : Red, Yellow, Blue, Black

Colour code (2)
3 Core : Brown, Black, Grey
3 1/2 Core : Blue, Brown, Black, Grey

For 3 1/2 cores, neutral conductors are round stranded.
For sectoral conductors, number of wires mentioned is minimum number of wires as per IEC 60228.





STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	17	525	1000
0.8	1.8	17	575	1000
0.8	1.8	18	625	1000
1.25	1.8	21	950	1000
1.25	1.8	23	1225	1000
1.6	1.8	27	1825	1000
1.6	1.8	30	2125	1000
1.6	1.9	33	2650	500
2.0	2.0	39	3775	500
2.0	2.2	43	4800	500
2.0	2.3	47	5750	500
2.5	2.5	53	7325	250
2.5	2.6	58	8825	250
2.5	2.8	66	11100	250
2.5	3.0	72	13350	250
2.5	3.2	79	16425	250
3.15	3.5	90	21450	250

DOUBLE STEEL TAPE ARMOURED

Steel Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	16	410	1000
0.2	1.8	16	475	1000
0.2	1.8	17	500	1000
0.2	1.8	19	675	1000
0.2	1.8	21	900	1000
0.2	1.8	25	1300	1000
0.2	1.8	27	1525	1000
0.2	1.8	31	1975	500
0.2	2.0	36	2750	500
0.2	2.1	40	3600	500
0.5	2.3	45	4875	500
0.5	2.4	50	5900	500
0.5	2.6	55	7250	250
0.5	2.7	63	9250	250
0.5	2.9	69	11350	250
0.5	3.2	76	14225	250
0.5	3.4	85	17950	250

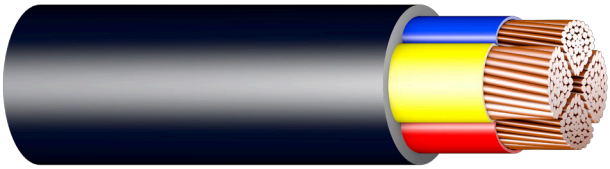
STEEL WIRE ARMOURED

1.25	1.8	22	1050	1000
1.25	1.8	24	1350	1000
1.6	1.8	28	2000	1000
1.6	1.8	28	2175	1000
1.6	1.9	32	2775	500
2.0	2.1	37	3950	500
2.0	2.2	41	5000	500
2.0	2.4	45	6100	500
2.5	2.5	50	7650	500
2.5	2.7	55	9275	250
2.5	2.9	61	11575	250
2.5	3.0	66	13900	250
3.15	3.4	76	18250	250
3.15	3.6	83	22650	250

DOUBLE STEEL TAPE ARMOURED

0.2	1.8	20	750	1000
0.2	1.8	22	1025	1000
0.2	1.8	26	1475	1000
0.2	1.8	26	1625	1000
0.2	1.9	30	2150	1000
0.2	2.0	34	2950	500
0.5	2.2	39	4250	500
0.5	2.3	43	5250	500
0.5	2.5	47	6275	500
0.5	2.6	52	7775	250
0.5	2.8	58	9900	250
0.5	3.0	63	12125	250
0.5	3.3	71	15250	250
0.5	3.5	78	19275	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S)

UNARMOURED

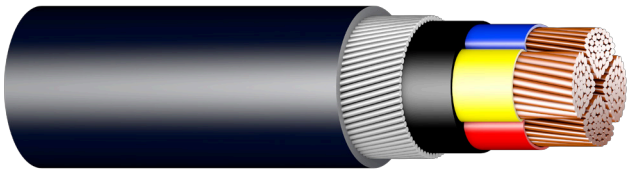
Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
4x1.5 re	1	1.38	0.7	1.8	13	230	1000
4x1.5 rm	7	1.56	0.7	1.8	14	250	1000
4x2.5 re	1	1.78	0.7	1.8	14	300	1000
4x2.5 rm	7	2.01	0.7	1.8	15	300	1000
4x4 re	1	2.25	0.7	1.8	15	375	1000
4x4 rm	7	2.55	0.7	1.8	16	400	1000
4x6 re	1	2.76	0.7	1.8	17	475	1000
4x6 rm	7	3.12	0.7	1.8	17	500	1000
4x10 rm	7	4.01	0.7	1.8	20	700	1000
4x16 rm	7	5.03	0.7	1.8	22	975	1000
4x25 rm	7	6.3	0.9	1.8	26	1450	1000
4x35 sm	6	-	0.9	1.8	26	1650	1000
4x50 sm	6	-	1.0	1.9	30	2175	1000
4x70 sm	12	-	1.1	2.0	34	3050	500
4x95 sm	15	-	1.1	2.1	38	4100	500
4x120 sm	18	-	1.2	2.3	43	5125	500
4x150 sm	18	-	1.4	2.4	47	6300	500
4x185 sm	30	-	1.6	2.6	52	7825	250
4x240 sm	34	-	1.7	2.8	58	10150	250
4x300 sm	34	-	1.8	3.0	64	12575	250
4x400 sm	53	-	2.0	3.3	73	16075	250
4x500 sm	53	-	2.2	3.5	80	20375	250

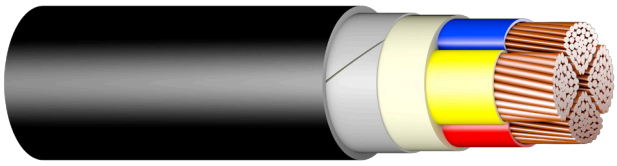
re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded

Colour code (1)
4 Core : Red, Yellow, Blue, Black

Colour code (2)
4 Cores : Blue, Brown, Black, Grey

For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228.





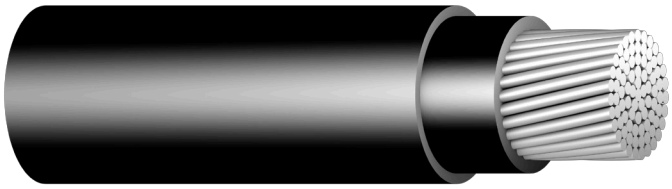
STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	18	600	1000
1.25	1.8	19	800	1000
1.25	1.8	20	850	1000
1.25	1.8	22	1100	1000
1.6	1.8	25	1600	1000
1.6	1.8	29	2175	1000
1.6	1.9	30	2400	1000
1.6	2.0	33	3025	500
2.0	2.2	39	4325	500
2.0	2.3	43	5500	500
2.5	2.5	48	7075	500
2.5	2.6	52	8425	250
2.5	2.8	57	10200	250
2.5	3.0	64	12850	250
2.5	3.2	70	15550	250
3.15	3.5	80	20450	250
3.15	3.8	88	25225	250

DOUBLE STEEL TAPE ARMOURED

St. Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	17	475	1000
0.2	1.8	17	550	1000
0.2	1.8	18	600	1000
0.2	1.8	20	800	1000
0.2	1.8	23	1100	1000
0.2	1.8	27	1600	1000
0.2	1.8	27	1800	1000
0.2	1.9	31	2350	500
0.2	2.1	35	3275	500
0.5	2.3	41	4725	500
0.5	2.4	45	5800	500
0.5	2.6	49	7050	500
0.5	2.7	54	8650	250
0.5	2.9	60	11075	250
0.5	3.1	66	13600	250
0.5	3.4	75	17250	250
0.8	3.7	84	22475	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
1x16 rm	7	5.0	0.7	1.4	10	110	1000
1x25 rm	7	6.30	0.9	1.4	11	150	1000
1x35 rm	7	7.41	0.9	1.4	12	200	1000
1x50 rm	19	8.8	1.0	1.4	14	250	1000
1x70 rm	19	10.55	1.1	1.4	16	325	1000
1x95 rm	19	12.4	1.1	1.5	18	425	1000
1x120 rm	37	14.0	1.2	1.5	20	525	1000
1x150 rm	37	15.5	1.4	1.6	22	650	1000
1x185 rm	37	17.4	1.6	1.6	24	775	1000
1x240 rm	61	19.9	1.7	1.7	27	1000	1000
1x300 rm	61	22.2	1.8	1.8	30	1200	1000
1x400 rm	61	25.2	2.0	1.9	33	1525	500
1x500 rm	61	28.6	2.2	2.0	37	1925	500
1x630 rm	91	32.6	2.4	2.2	42	2475	500

CABLE CORE(S) — UNARMOURED

2x16 rm	7	5.0	0.7	1.8	19	450	1000
2x25 rm	7	6.30	0.9	1.8	23	625	1000
2x35 rm	7	7.41	0.9	1.8	25	775	1000

CABLE CORE(S) — UNARMOURED

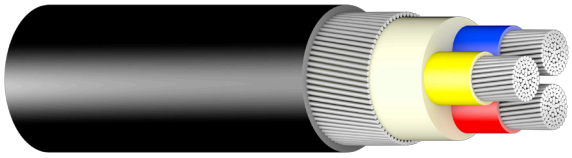
3x16 rm	7	5.0	0.7	1.8	20	500	1000
3x25 rm	7	6.30	0.9	1.8	24	700	1000
3x35 rm	7	7.41	0.9	1.8	26	750	1000
3x50 rm	19	8.8	1.0	1.8	30	1785	500
3x70 rm	19	10.55	1.1	1.9	35	2500	500
3x95 rm	19	12.4	1.1	2.0	39	3340	500
3x120 rm	37	14.0	1.2	2.1	43	4150	500
3x150 rm	37	15.5	1.4	2.3	48	5120	500
3x185 rm	37	17.4	1.6	2.4	53	6350	250
3x240 rm	61	19.9	1.7	2.6	60	8280	250
3x300 rm	61	22.2	1.8	2.8	66	10270	250
3x400 rm	61	25.2	2.0	3.1	74	13040	250
3x500 rm	61	28.6	2.2	3.3	83	16610	250

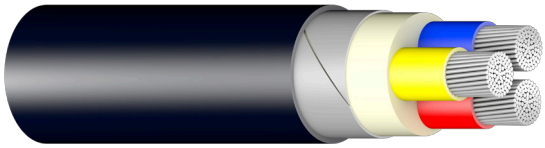
rm : Round Stranded
sm : Sectoral Stranded

Colour code (1)
1 Cores : Black (Red on Request)
2 Cores : Red, Black
3 Cores : Red, Yellow, Blue

Colour code (2)
1 Core : Brown or Blue
2 Cores : Brown, Blue
3 Cores : Brown, Black, Grey

Single core cables are Aluminium Armoured as per IEC 60502-1 recommendation.
For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228





ALUMINIUM WIRE ARMOURED

Nominal Alum/Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1.25	1.8	19	500	1000
1.25	1.8	21	600	1000
1.25	1.8	23	725	1000
1.6	1.8	26	900	1000
1.6	1.8	27	1025	1000
1.6	1.8	30	1225	1000
1.6	1.9	33	1475	500
1.6	1.9	35	1725	500
2.0	2.1	40	2275	500
2.0	2.2	44	2750	500
2.0	2.3	49	3350	500

STEEL WIRE ARMOURED

1.25	1.8	22	850	1000
1.6	1.8	26	1265	1000
1.6	1.8	28	1475	1000

STEEL WIRE ARMOURED

1.25	1.8	23	925	1000
1.6	1.8	27	1375	1000
1.6	1.8	30	1475	1000
1.6	1.9	33	2640	500
2.0	2.0	39	3770	500
2.0	2.2	43	4795	500
2.0	2.3	47	5740	500
2.5	2.5	53	7330	250
2.5	2.6	58	8820	250
2.5	2.8	66	11090	250
2.5	3.0	72	13340	250
2.5	3.2	79	16420	250
3.15	3.5	90	21450	250

ALUMINIUM TAPE ARMOURED

Nominal Alum/Steel tape thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.5	1.8	19	450	1000
0.5	1.8	21	550	1000
0.5	1.8	23	675	1000
0.5	1.8	24	775	1000
0.5	1.8	26	900	1000
0.5	1.8	29	1075	1000
0.5	1.8	31	1300	500
0.5	1.9	34	1550	500
0.5	2.0	38	1950	500
0.5	2.1	42	2400	500
0.5	2.3	47	3000	500

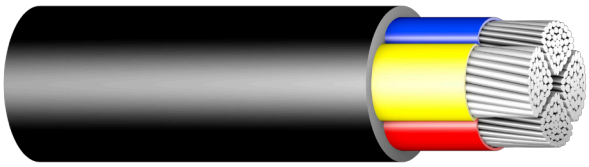
DOUBLE STEEL TAPE ARMOURED

0.2	1.8	20	550	1000
0.2	1.8	24	750	1000
0.2	1.8	26	925	1000

DOUBLE STEEL TAPE ARMOURED

0.2	1.8	21	625	1000
0.2	1.8	25	850	1000
0.2	1.8	27	900	1000
0.2	1.8	31	1960	500
0.2	2.0	36	2730	500
0.2	2.1	40	3600	500
0.5	2.3	45	4860	500
0.5	2.4	50	5890	500
0.5	2.6	55	7230	250
0.5	2.7	63	9250	250
0.5	2.9	69	11330	250
0.5	3.2	76	14230	250
0.5	3.4	85	17940	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S)

UNARMOURED

Nominal Area	No. of wires		Approx. Conductor diameter		Nominal Insulation thickness		Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.		mm		mm		mm	mm	Kg/Km	meters
	Ph	Ne	Ph	Ne	Ph	Ne				
3x25 rm+16	7	7	6.3	4.98	0.9	0.7	1.8	25	775	1000
3x35 sm+16	6	7	-	4.98	0.9	0.7	1.8	25	750	1000
3x50 sm+25	6	7	-	6.3	1.0	0.9	1.8	29	950	1000
3x70 sm+35	12	7	-	7.41	1.1	0.9	1.9	33	1275	500
3x95 sm+50	15	19	-	8.75	1.1	1.0	2.1	37	1650	500
3x120 sm+70	15	19	-	10.55	1.2	1.1	2.2	40	2000	500
3x150 sm+70	15	19	-	10.55	1.4	1.1	2.3	45	2425	500
3x185 sm+95	30	19	-	12.4	1.6	1.1	2.5	50	3000	500
3x240 sm+120	30	37	-	14.0	1.7	1.2	2.7	55	3850	250
3x300 sm+150	30	37	-	15.47	1.8	1.4	2.9	61	4650	250
3x400 sm+185	53	37	-	17.36	2.0	1.6	3.1	68	5875	250
3x500 sm+240	53	61	-	19.89	2.2	1.7	3.4	76	7425	250

CABLE CORE(S)

UNARMOURED

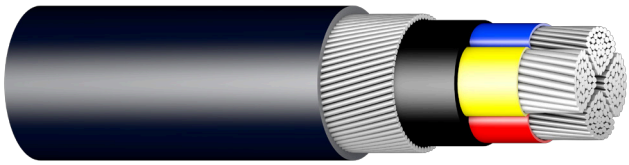
4x16 rm	7	4.98	0.7	1.8	22	600	1000
4x25 rm	7	6.30	0.9	1.8	26	850	1000
4x35 sm	6	-	0.9	1.8	26	800	1000
4x50 sm	6	-	1.0	1.9	30	1025	1000
4x70 sm	12	-	1.1	2.0	34	1375	500
4x95 sm	15	-	1.1	2.1	38	1775	500
4x120 sm	15	-	1.2	2.3	43	2200	500
4x150 sm	15	-	1.4	2.4	47	2675	500
4x185 sm	30	-	1.6	2.6	52	3275	250
4x240 sm	30	-	1.7	2.8	58	4225	250
4x300 sm	30	-	1.8	3.0	64	5100	250
4x400 sm	53	-	2.0	3.3	73	6550	250
4x500 sm	53	-	2.2	3.5	80	8175	250

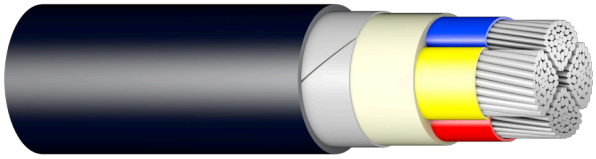
re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded
Ph : Phase Conductor
Ne : Neutral Conductor

Colour code (1)
3 1/2 Cores : Red, Yellow, Blue, Black
4 Cores : Red, Yellow, Blue, Black

Colour code (2)
3 1/2 Cores : Blue, Brown, Black, Grey
4 Cores :Blue, Brown, Black, Grey

For 3 1/2 cores, neutral conductors are round stranded.
For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228.





STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	mm	mm
1.6	1.8	28	1475	1000
1.6	1.8	28	1450	1000
1.6	1.9	32	1775	500
2.0	2.1	37	2475	500
2.0	2.2	41	2975	500
2.0	2.4	45	3500	500
2.5	2.5	50	4510	500
2.5	2.7	55	5300	250
2.5	2.9	61	6400	250
2.5	3.0	66	7400	250
3.15	3.4	76	9875	250
3.15	3.6	83	11875	250

DOUBLE STEEL TAPE ARMOURED

Steel Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
0.2	1.8	26	925	1000
0.2	1.8	26	885	1000
0.2	1.9	30	1125	1000
0.2	2.0	34	1485	500
0.5	2.2	39	2225	500
0.5	2.3	43	2650	500
0.5	2.5	47	3175	500
0.5	2.6	52	3800	250
0.5	2.8	58	4725	250
0.5	3.0	63	5625	250
0.5	3.3	71	7000	250
0.5	3.5	78	8650	250

STEEL WIRE ARMOURED

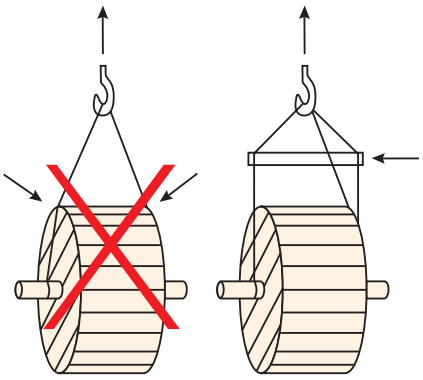
1.6	1.8	25	1200	1000
1.6	1.8	29	1575	1000
1.6	1.9	30	1550	1000
1.6	2.0	33	1875	500
2.0	2.2	39	2650	500
2.0	2.3	43	3175	500
2.5	2.5	48	4175	500
2.5	2.6	52	4850	250
2.5	2.8	57	5650	250
2.5	3.0	64	6900	250
2.5	3.2	70	8175	250
3.15	3.5	80	10950	250
3.15	3.8	88	13000	250

DOUBLE STEEL TAPE ARMOURED

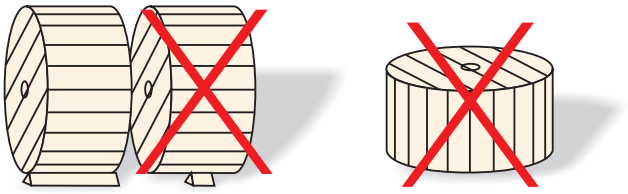
0.2	1.8	23	725	1000
0.2	1.8	27	1000	1000
0.2	1.8	27	950	1000
0.2	1.9	31	1200	500
0.2	2.1	35	1600	500
0.5	2.3	41	2400	500
0.5	2.4	45	2875	500
0.5	2.6	50	3450	500
0.5	2.7	54	4000	250
0.5	2.9	60	5150	250
0.5	3.1	66	6125	250
0.5	3.4	75	7700	250
0.8	3.7	84	10250	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%

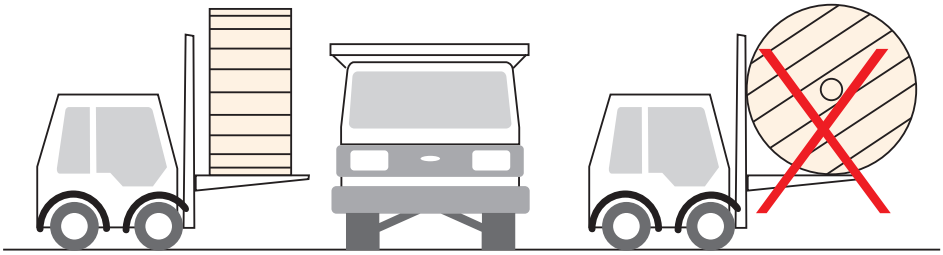
Cables and Conductors should be installed by trained personnel in accordance with good engineering practices, recognized codes of practice, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied in heavy cable reels and handling these reels can constitute a safety hazard. In particular, dangers may arise during the removal of steel binding straps and during the removal of retaining battens and timbers which may expose projecting nails.



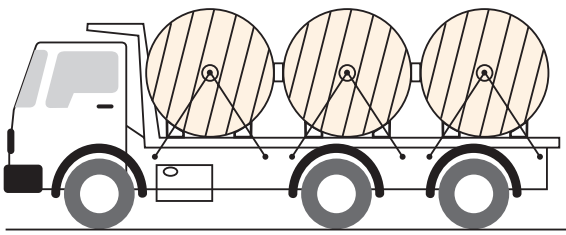
Lifting cable drums using crane.



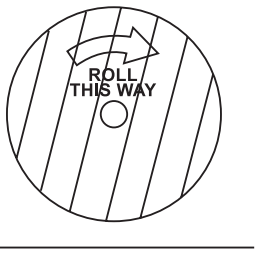
Do not lay drums flat on their sides, use proper stops to prevent drums rolling.



Lift drums on fork trucks correctly.



Secure drums adequately before transportation.



Roll in the direction shown by the arrow.

NOTICE

RCGC catalogues under circulation are still valid. Some International and National Standards mentioned in RCGC Catalogues might get Amended and Revised by respective organizations without prior notice. For Riyadh Cables Products, the latest amendments of applicable standards under circulation are applicable, except for the colour code. Colour code of cables manufactured by Riyadh Cables Group of Companies shall only be as listed below (Colour Code (1)):

1 Core: Red or Black

2 Core: Red, Black

3 Core: Red, Yellow, Blue

4 Core: Red, Yellow, Blue, Black

5 Core: Red, Yellow, Blue, Black, Green

More than five cores: Black cores with white printed numerals.

The above is because: SASO. All power utilities in the Kingdom of Saudi Arabia and GCC including Ministries, Oil industries specify the colour code as above and the same is mentioned in their specifications.

However, Colour code (2) can be provided if quantity is economically feasible

450/750 V LSHF WIRES AND 0.6/1 kV LSHF CABLES

ISO 9001 : 2015
ISO 14001 : 2015
OHSAS 18001 : 2007

RIYADH CABLES GROUP COMPANY

INDEX

LSHF CABLES

Fire is a complex and emotive subject, the consequences of fire can be catastrophic.

The nature of organic material used in the cable manufacture of cables and possible installation conditions in areas of the fire risk can lead to a situation where cables may contribute to the spread of fire, emission of smoke and release of combustion products injurious to equipment and human health.

In power stations, hospitals, theatres, hotels and other large public buildings, the loss of visibility caused by smoke evolved from burning cable materials can cause panic and create serious problems when evacuating personnel.
Location of the fire source and fire fighting are also greatly hampered by smoke. Additionally the presence of corrosive gases in the smoke result in damage and failure of sensitive electrical equipment and may initiate long term deterioration of structures, as well as being injurious to the health of personnel even after short exposure.

Awareness of this situation has lead to the development of new cable technologies and introduction by major cable users of cable types with low emission of smoke, corrosive and toxic fumes and reduced flame propagation properties.

In considering cable systems with improved fire performance characteristics it is useful to first consider the various aspects of the effect of fire on a cable:

- Propagation of fire along cable runs
- Evolution of smoke leading to obstruction of exits
- Evolution of acid gas leading to corrosion of equipment
- Evolution of toxic fumes leading to personal injury

LSHF cables use special formulation based on non-halogenated polymers in order to restrict the generation of smoke as much as possible. Materials are carefully selected and the compounds carefully designed in order to ensure the best performance of the external sheaths, which are directly exposed to fire.

LSHF Cables manufactured by Riyadh Cables group have been designed to offer improved performance in areas where smoke and fume emission in the event of a fire would cause particular problems. Compounds used in LSHF cables do not contain halogen hence, do not emit halogenated acids when burnt which help in minimizing the total cost of the damage caused by fire and generate little smoke when burned. Furthermore, the rate at which this low level of smoke is released, is very much slower than that of PVC or similar halogenated polymers.

LSHF Cables manufactured by Riyadh Cables have controlled limits on smoke evolution, when assessed by burning samples of cables in a 3 meter cube smoke chamber as per IEC 61034. Generally these cables combine the properties of low corrosive gas emission and low toxic gas emission as they are essentially halogen free when assessed by IEC 60754-1 and IEC 60754-2.

VERTICAL FLAME TEST FOR SINGLE CABLES (IEC 60332-1-2)

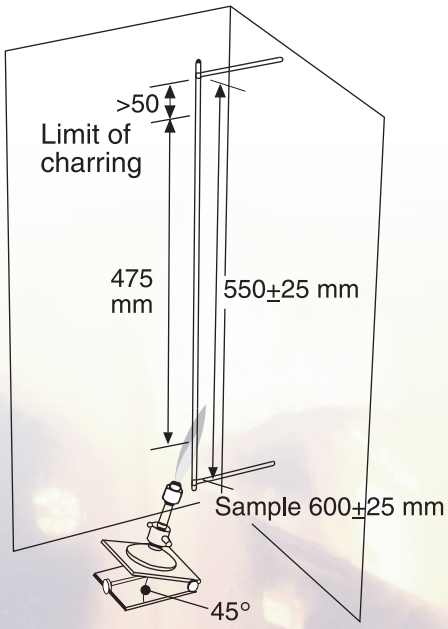
PURPOSE

The purpose of the test is to determine the resistance to flame propagation for single vertical cables.

This test is not suitable for small wires with solid conductor having a diameter less than 0.8 mm or stranded conductors less than 0.5 mm^2 because the conductor melts before the test is completed. (See IEC 60332-1-2)

EQUIPMENT

1. Enclosure
2. Burner
3. Wedge (45°)
4. A verticle adjustable jig
5. Matches
6. Ruler
7. Stop-watch



This test is to be conducted in a 3-sided enclosure (300mm wide, 450 mm deep and 1200 mm high) with open front and closed top and bottom. A 1 kW flame produced by a propane burner with adjustable air and gas flow is used.

(This design of the burner is described in IEC 60695-11-2

CALIBRATION

The burner is calibrated by adjusting the flame to about 180 mm and the inner blue cone to 55 mm. The temperature increase is measured 95 mm above the top of the burner by using a thermocouple in a copper slug. The time for the temperature from 100℃ to 700℃ should be 45 s.

BUNCH BURNING TEST (IEC 60332-3 SERIES)

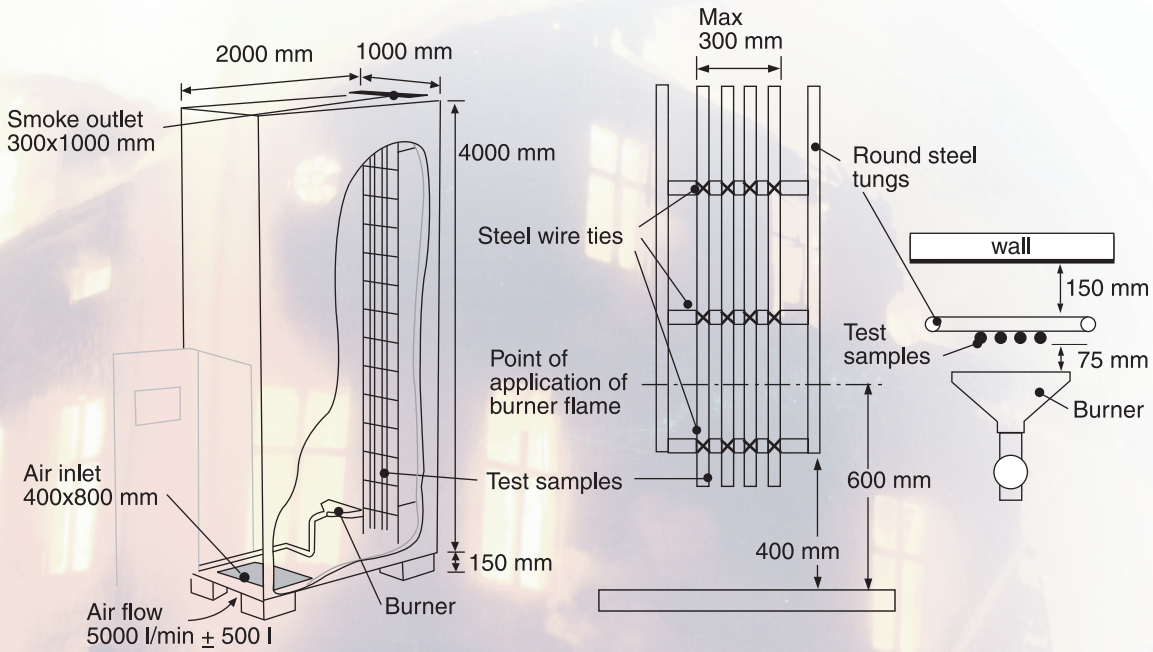
PURPOSE

This standard describes a method of type approval testing to define the ability of bunched cables to restrain flame propagation in defined conditions regardless of their application, i.e. power, telecommunications (including data transmission and optical fibre cables), etc.

Three categories (A, B and C) are defined and distinguished by test duration and the volume of non-metallic material of the sample under test. Two methods of mounting (designations F/R and F) are application to category A. Only designation F applies to categories B and C.

EQUIPMENT

1. Fire test rig
2. Ladder
3. Ignition source



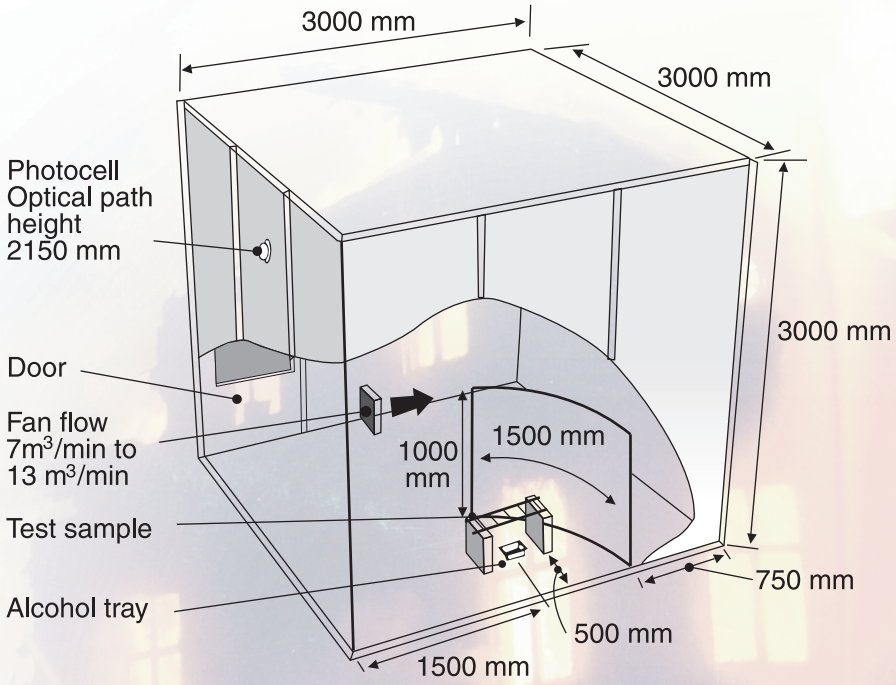
SMOKE DENSITY 3 M TEST CUBE (IEC 61034)

PURPOSE

The measurement of smoke density is an important aspect in the evaluation of the burning performance of electric cables as it is related to the evacuation of persons and accessibility for fire-fighting. The standard describe measurements of smoke emission when electric cables are burned horizontally. The light transmittance for flaming and smouldering conditions can be used when comparing different cables.

EQUIPMENT

1. Cube enclosure
2. Photometric system
3. Fire source
4. Smoke mixer



TEST ON GASES EVOLVED DURING COMBUSTION OF ELECTRIC CABLES

PURPOSE

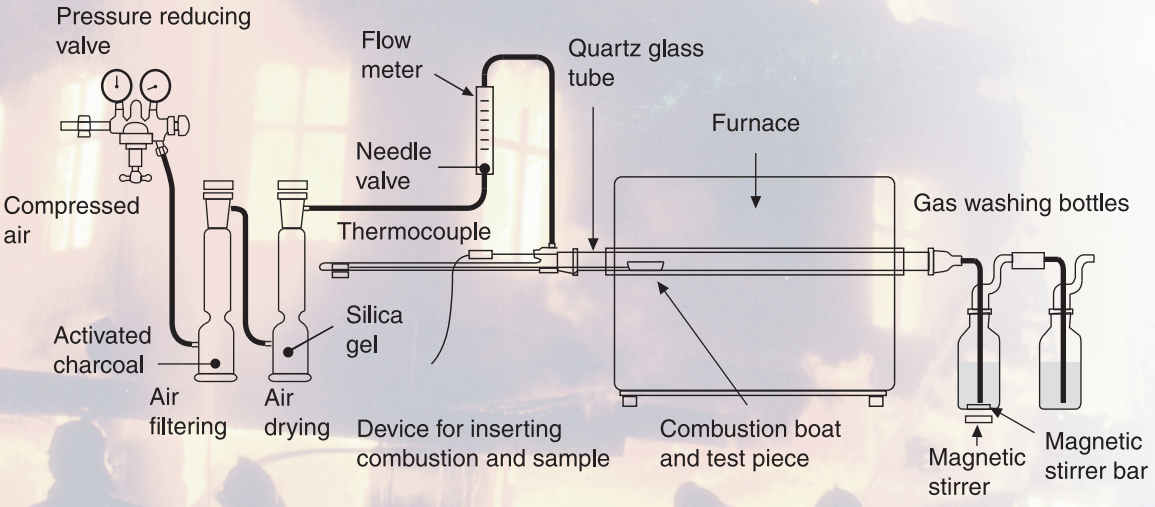
The purpose of this test is to determine the pH and conductivity of gases evolved during the combustion of materials taken from electric cables as a function of temperature.

PRINCIPLE OF OPERATION

A predetermined quantity of the test material is burned in a tube furnace. The evolved gases are trapped by bubbling through bottles filled with distilled or demineralized water. The acidity is measured by determination of pH value. The conductivity of the solution is also measured.

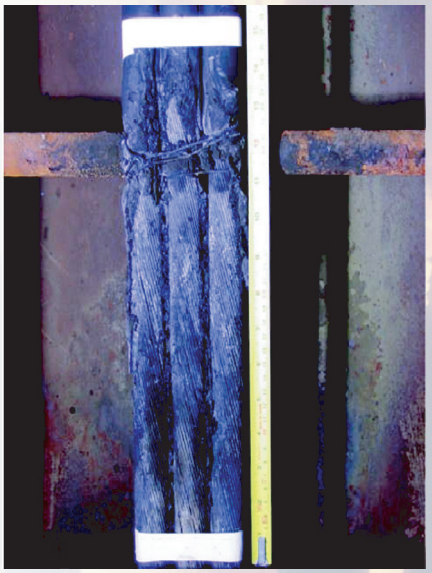
EQUIPMENT

1. Test apparatus
2. pH meter
3. Conductivity meter
4. Analytical balance
5. Computer containing a measuring program
5. Deionized water



Cable mounted for fire test

Fire test in progress



Completion of fire test (The charred portion is less than the specified requirement)

INTRODUCTION

This catalogue contains technical information on 450/750 Volts single core thermosetting insulated non-sheathed wires to BS EN 50525-3-41and 600/1000 Volt LSHF Cables of Armoured and Un-armoured type to IEC 60502-1.

CONDUCTORS

Conductors shall be of plain annealed copper for wires as per BS EN 50525-3-41 and shall be of Copper or Aluminium for 0.6/1 kV cables. Conductors shall be in accordance with IEC 60228 .

INSULATION

Insulation material shall be Type EI 5 as per BS EN 50363-5 and thickness of insulation shall be as BS EN 50525-3-41 for 450/750 V Wires.
For 0.6/1 kV Cables, insulation material and thickness shall be as per IEC 60502-1 as the case may be.

0.6/1 kV CABLES:

ASSEMBLY:

Two, three, four or five core cables shall be laid-up together with suitable non-hygroscopic fillers. Assembly shall be bedded with an extruded layer of LSHF material. In case of non-armoured cables, this layer may be omitted if the outer shape of cable of remains practically circular.

COLOUR CODE

Colour code (1) is followed by all utilities in the Middle East and colour of insulation is as mentioned below. However, cables as per colour code (2) mentioned below is also provided based on customer request.

Colour code (1)

1 Core: Red or Black
2 Core: Red, Black
3 Core: Red, Yellow, Blue
4 Core: Red, Yellow,Blue, Black
5 Core: Red, Yellow, Blue, Black, Green
Above 5 cores: Black Cores with White numerals

Colour code (2)

1 Core: Brown or Blue
2 Core: Brown, Blue
3 Core: Brown, Black, Grey
4 Core: Blue, Brown, Black, Grey
5 Core: Green/Yellow, Blue, Brown, Black, Grey
Above 5 cores: Black Cores with White numerals

ARMOUR:

Armour shall be of Galvanized steel wires applied helically over LSHF bedding in accordance with IEC 60502. Single core cables shall be Aluminium wire armoured. Also, Double steel tape armour as per IEC 60502-1 can be provided based on specific requirement.

OUTER SHEATH:

Outer sheath shall be extruded LSHF Type ST8 as per IEC 60502 . Thickness of outer sheath shall be as per IEC 60502-1 as per the requirement.

FIRE PERFORMANCE:

450/750 volt wires shall meet flame test requirements of IEC 60332-1-2
0.6/1 kV cables shall meet flame test requirements of IEC 60332-3-24 (Category C).

Particulars & Guarantees Relating to Cross-linked Insulating Compound EI 5 (BSEN 50363-5)

SL. NO.	DESCRIPTION	UNIT	GUARANTEED PARTICULARS
1	**Tensile Strength and Elongation at break :**		
	Minimum Tensile Strength	N/mm^2	10
	Minimum Elongation at break	%	125
2	Properties after ageing for specified period at specified temperature followed by tensile strength and elongation at break test		
	Number of days ageing		7
	Ageing temperature	°C	135 ± 2
	Tensile Strength after ageing :		
	Minimum value	N/mm^2	-
	Maximum variation	%	30
	Elongation at break after ageing :		
	Minimum value	%	-
	Minimum variation from unaged value	%	30
3	**Low temperature bend test:**		
	Temperature at which specimen shall not crack	°C	-15 ± 2
4	**Low temperature elongation test:**		
	Test temperature	°C	-15 ± 2
	Minimum Elongation	%	30
5	**Low temperature impact test:**		
	Temperature at which specimen shall not crack	°C	- 5
6	**Ozone resistance test**		
	Temperature at which specimen shall not crack	°C	25 ± 2
	Duration	hours	24
	Ozone Concentration	ppm	250 to 300
6a	**Alternate Ozone resistance test (Low Concentration)**		
	Temperature at which specimen shall not crack	°C	40 ± 2
	Duration	hours	72
	Ozone Concentration	ppm	2 ± 0.5
7	**Hot Set Test**		
	Test temperature	°C	200 ± 3
	Time under Load	minutes	15
	Mechanical Stress	N/mm^2	0.2
	Maximum elongation under Load	%	100
	Maximum permanent elongation after cooling	%	25
8	**Pressure test at high temperature :**		
	Force exerted by the blade with a k value of 1.0	BSEN 60811-508	
	Duration of heating under load		
	Test temperature	°C	100 ± 2
	Maximum indentation	%	50
9	**Acidic (corrosive) gases evolved :**		
	Level of HCL	%	< 0.5
	pH (minimum)	BSEN 50267	4.3
	Conductivity (maximum) (µS/mm)	BSEN 50267	10

PARTICULARS & GUARANTEES RELATING TO XLPE INSULATION

SL. NO.	DESCRIPTION	UNIT	GUARANTEED PARTICULARS
1	**Tensile Strength and Elongation at break :**		
	Min. tensile strength	N/mm^2	12.5
	Min. elongation at break	%	200
2	Accelerated ageing for specified period at specified temperature followed by tensile strength and elongation at break		
	No. of days ageing	Days	7
	Ageing temperature	°C	135 ± 3
	Max. variation of tensile strength from unaged specimen	%	± 25
	Max. variation of elongation from unaged specimen	%	± 25
3	**Hot Set Test :**		
	Treatment		
	- Temperature	°C	200 ± 3
	- Time under load	Minutes	15
	- Mechanical stress	N/cm^2	20
	Max. elongation under load	%	175
	Max permanent elongation after cooling	%	15
4	**Water Absorption :**		
	Treatment :		
	- Temperature	°C	85 ± 2
	- Duration	Days	14
	Max. variation of mass	mg/cm^2	1.0
5	**Maximum permissible shrinkage :**		
	Treatment :		
	- Temperature	°C	130 ± 3
	- Duration	Hours	1
	Maximum permissible shrinkage	%	4
6	Insulation Resistance constant (Ki) at maximum rated temperature (90°C)	M.Ohm.Km	3.67
7	Volume Resistivity at maximum rated temperature (90°C)	Ohm.cm	10^{12}
8	**Acidic emission and corrosive gases evolved**		
	Level of HCl	%	< 0.5
	Fluorine Content	%	< 0.1
	pH Minimum		4.3
	Conductivity	µ S/mm	10

PARTICULARS & GUARANTEES RELATING TO LSHF OUTER SHEATH TYPE ST8 (IEC 60502-1)

SL. NO.	DESCRIPTION	UNIT	GUARANTEED
1	**Tensile Strength and Elongation at break :**		
	Minimum Tensile strength	N/mm^2	9
	Minimum Elongation at break	%	125
2	Properties after ageing for specified period at specified temperature followed by tensile strength and elongation at break test		
	Number of days ageing		7
	Ageing temperature	°C	100 ± 2
	Tensile Strength after ageing :		
	Minimum value	N/mm^2	9
	Maximum variation	%	40
	Elongation at break after ageing :		
	Minimum Value	%	100
	Maximum variation from unaged value	%	40
3	**Low temperature bend test :** Temperature at which specimen shall not crack	°C	-15 ± 2
4	**Low temperature elongation test :**		
	Test temperature	°C	-15 ± 2
	Minimum Elongation	%	20
5	**Low temperature impact test :** Temperature at which specimen shall not crack	°C	-15 ± 2
6	**Pressure test at high temperature :**		
	Test temperature	°C	80 ± 2
	Maximum indentation	%	50
7	**Water Absorption**		
	Ageing: Number of hours		24
	Ageing temperature	°C	70 ± 2
	Maximum increase in Mass	mg/cm^2	10
8	**Acidic emission and corrosive gases evolved**		
	Level of HCl	%	< 0.5
	Fluorine Content	%	< 0.1
	pH Minimum		4.3
	Conductivity	μ S/mm	10

450 - 750 VOLTS Copper Conductor LSHF insulated Wires to BS EN 50525-3-41

HO7Z-U with Solid Conductor

For internal wiring of equipment rated voltage up to 1000 V AC and up to 750 V DC to earth.

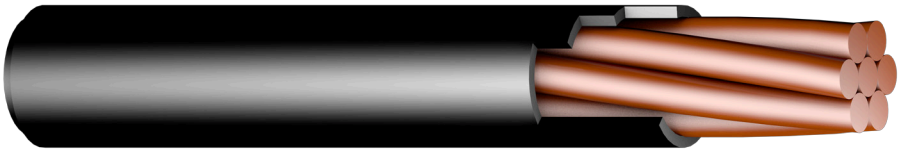
Item Code	Nominal Cross Section	Conductor		Insulation Thickness	Overall Diameter	Weight of Finished Cable Approx.	Maximum DC Resistance at 20°C	Standard Packing Length
		Number of Wires in Conductor	Diameter of Conductor Approx.					
	mm^2	No.	mm	mm	mm	Kg / Km	Ohm / Km	Yards
OC 063004xx	1 x 1.5	1	1.38	0.7	3.0	20	12.1	100 C
OC 063005xx	1 x 2.5	1	1.78	0.8	3.5	30	7.41	100 C
OC 063006xx	1 x 4	1	2.25	0.8	4.0	50	4.61	100 C
OC 063007xx	1 x 6	1	2.76	0.8	5.0	65	3.08	100 C
OC 063008xx	1 x 10	1	3.57	1.0	6.0	110	1.83	100 C

Color :	Green / Yellow,	Blue,	Black,	Green,	Red,	Yellow,	Brown,	Grey,	Orange,	White,
Code :	01	02	03	04	05	06	07	08	09	10

For required colour replace the last two digits - xx, by color code.

450 - 750 VOLTS Copper Conductor LSHF insulated Wires to BS EN 50525-3-41

HO7Z-R with Stranded Conductor



For internal wiring of equipment rated voltage up to 1000 V AC and up to 750 V DC to earth.

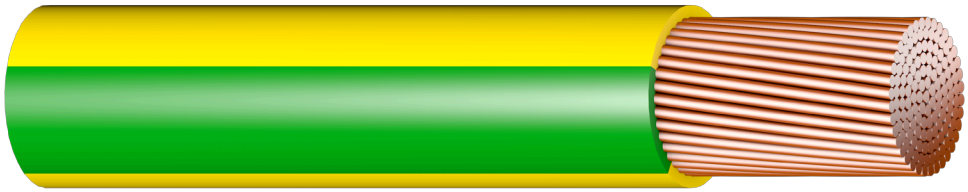
Item Code	Nominal Cross Section	Conductor		Insulation Thickness	Overall Diameter	Weight of Finished Cable Approx.	Maximum DC Resistance at 20°C	Standard Packing Length
		Number of Wires in Conductor	Diameter of Conductor Approx.					
	mm^2	No.	mm	mm	mm	Kg / Km	Ohm / Km	M ± 5%
OC 063104xx	1 x 1.5	7	1.50	0.7	3.0	20	12.1	100 C
OC 063105xx	1 x 2.5	7	12.0	0.8	3.7	35	7.41	100 C
OC 063106xx	1 x 4	7	2.6	0.8	4.2	50	4.61	100 C
OC 063107xx	1 x 6	7	3.1	0.8	4.8	70	3.08	100 C
OC 063108xx	1 x 10	7	4.0	1.0	6	115	1.83	100 C
OC 063109xx	1 x 16	7	5.0	1.0	7	170	1.15	100 C
OC 063110xx	1 x 25	7	6.3	1.2	8.7	265	0.727	100 C
OC 063111xx	1 x 35	7	7.4	1.2	10	360	0.524	100 C
000631xx12	1 x 50	19	8.8	1.4	11.6	485	0.387	3000 D
000631xx13	1 x 70	19	10.6	1.4	13.4	685	0.268	3000 D
000631xx14	1 x 95	19	12.4	1.6	15.6	950	0.193	3000 D
000631xx15	1 x 120	37	14.0	1.6	17.5	1175	0.153	2000 D
000631xx16	1 x 150	37	15.5	1.8	19.0	1450	0.124	2000 D
000631xx17	1 x 185	37	17.4	2.0	21.5	1825	0.0991	2000 D
000631xx18	1 x 240	61	20.0	2.2	25	2375	0.0754	1000 D
000631xx19	1 x 300	61	22.5	2.4	27.5	2980	0.0601	1000 D
000631xx20	1 x 400	61	25.5	2.6	31	3800	0.0470	500 D
000631xx21	1 x 500	61	28.5	2.8	35	4850	0.0366	500 D
000631xx22	1 x 630	91	32.8	2.8	39	6250	0.0283	500 D

Color :	Green / Yellow,	Blue,	Black,	Green,	Red,	Yellow,	Brown,	Grey,	Orange,	White,
Code :	01	02	03	04	05	06	07	08	09	10

For required colour replace the last two digits - xx, by color code.

450 - 750 VOLTS Copper Conductor LSHF insulated Wires to BS EN 50525-3-41

HO7Z-K with Flexible Conductor

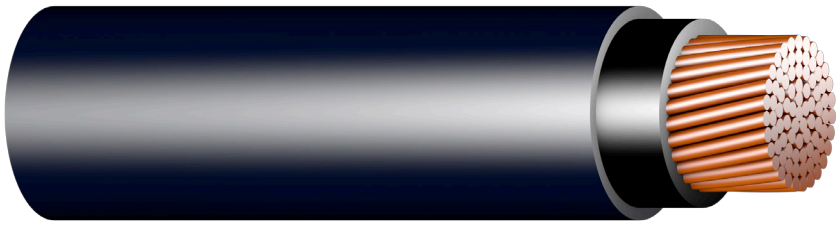


For internal wiring of equipment rated voltage up to 1000 V AC and up to 750 V DC to earth.

Item Code	Nominal Cross Section	Conductor		Insulation Thickness	Overall Diameter	Weight of Finished Cable Approx.	Maximum DC Resistance at 20°C	Standard Packing Length
		Approx No & Nom. strand Diameter.	Diameter of Conductor Approx.					
	mm^2	No. x mm	mm	mm	mm	Kg / Km	Ohm / Km	M ± 5%
OC 063504xx	1 x 1.5	27 x 0.25	1.55	0.7	3.0	20	13.3	100 C
OC 063505xx	1 x 2.5	46 x 0.25	2.0	0.8	3.6	30	7.98	100 C
OC 063506xx	1 x 4	51 x 0.30	2.5	0.8	4.1	45	4.95	100 C
OC 063507xx	1 x 6	77 x 0.30	3.0	0.8	4.7	65	3.30	100 C
OC 063508xx	1 x 10	74 x 0.40	4.0	1.0	6.1	105	1.91	100 C
OC 063509xx	1 x 16	118 x 0.40	5.1	1.0	7.1	165	1.21	100 C
OC 063510xx	1 x 25	182 x 0.40	6.4	1.2	9	250	0.780	100 C
OC 063511xx	1 x 35	257 x 0.40	7.5	1.2	10	350	0.554	100 C
000635xx12	1 x 50	371 x 0.40	9.0	1.4	12	500	0.386	1000 D
000635xx13	1 x 70	336 x 0.50	10.7	1.4	14	685	0.272	1000 D
000635xx14	1 x 95	444 x 0.50	12.3	1.6	16	900	0.206	1000 D
000635xx15	1 x 120	568 x 0.50	14.0	1.6	18	1150	0.161	1000 D
000635xx16	1 x 150	708 x 0.50	15.6	1.8	20	1425	0.129	1000 D
000635xx17	1 x 185	864 x 0.50	17.2	2.0	22	1725	0.106	1000 D
000635xx18	1 x 240	1134x0.50	20.0	2.2	25	2250	0.0801	1000 D
000635xx19	1 x 300	1414x0.50	22.0	2.4	27	2800	0.0641	1000 D

Color :	Green / Yellow,	Blue,	Black,	Green,	Red,	Yellow,	Brown,	Grey,	Orange,	White,
Code :	01	02	03	04	05	06	07	08	09	10

For required colour replace the last two digits - xx, by color code.



CABLE CORE(S) UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
1x1.5 re	1	1.38	0.7	1.4	6	45	1000
1x1.5 rm	7	1.56	0.7	1.4	6	50	1000
1x2.5 re	1	1.78	0.7	1.4	6	60	1000
1x2.5 rm	7	2.01	0.7	1.4	7	60	1000
1x4 re	1	2.25	0.7	1.4	7	75	1000
1x4 rm	7	2.55	0.7	1.4	7	80	1000
1x6 re	1	2.76	0.7	1.4	7	95	1000
1x6 rm	7	3.12	0.7	1.4	8	100	1000
1x10 rm	7	4.01	0.7	1.4	9	145	1000
1x16 rm	7	5.03	0.7	1.4	10	200	1000
1x25 rm	7	6.3	0.9	1.4	11	300	1000
1x35 rm	7	7.44	0.9	1.4	13	400	1000
1x50 rm	19	8.8	1.0	1.4	14	525	1000
1x70 rm	19	10.6	1.1	1.4	16	725	1000
1x95 rm	19	12.4	1.1	1.5	18	1000	1000
1x120 rm	37	14.0	1.2	1.5	20	1225	1000
1x150 rm	37	15.5	1.4	1.6	22	1500	1000
1x185 rm	37	17.4	1.6	1.6	24	1875	1000
1x240 rm	61	20.0	1.7	1.7	27	2450	1000
1x300 rm	61	22.5	1.8	1.8	30	3050	1000
1x400 rm	61	25.4	2.0	1.9	34	3900	500
1x500 rm	61	28.5	2.2	2.0	37	4975	500
1x630 rm	91	32.8	2.4	2.2	42	6425	500

CABLE CORE(S) UNARMOURED

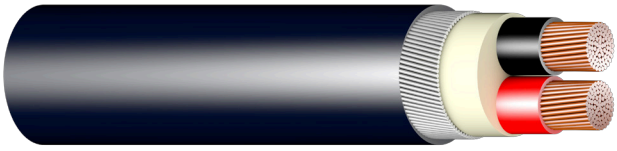
2x1.5 re	1	1.38	0.7	1.8	12	175	1000
2x1.5 rm	7	1.56	0.7	1.8	13	200	1000
2x2.5 re	1	1.78	0.7	1.8	13	225	1000
2x2.5 rm	7	2.01	0.7	1.8	13	225	1000
2x4 re	1	2.25	0.7	1.8	14	275	1000
2x4 rm	7	2.55	0.7	1.8	14	275	1000
2x6 re	1	2.76	0.7	1.8	15	325	1000
2x6 rm	7	3.12	0.7	1.8	16	350	1000
2x10 rm	7	4.01	0.7	1.8	17	475	1000
2x16 rm	7	5.03	0.7	1.8	19	650	1000
2x25 rm	7	6.3	0.9	1.8	23	925	1000
2x35 rm	7	7.44	0.9	1.8	25	1200	1000

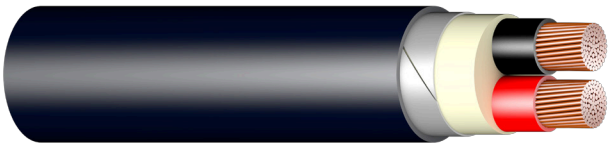
re : Round Solid
rm : Round Stranded

Colour code (1)
1 Core : Black (Red on request)
2 Core : Red, Black

Colour code (2)
1 Core : Brown or Blue
2 Core : Brown, Blue.

Single core cables are Aluminium Armoured as per IEC 60502-1 recommendation.





ALUMINIUM WIRE ARMOURED

Nominal Alum/Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	16	475	1000
0.8	1.8	17	575	1000
1.25	1.8	19	775	1000
1.25	1.8	21	1000	1000
1.25	1.8	23	1300	1000
1.6	1.8	26	1600	1000
1.6	1.8	28	1925	1000
1.6	1.8	30	2325	1000
1.6	1.9	33	2950	500
1.6	1.9	36	3575	500
2.0	2.1	40	4650	500
2.0	2.2	44	5775	500
2.0	2.3	49	7325	500

ALUMINIUM TAPE ARMOURED

Nominal Alum/Steel tape thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.5	1.8	16	475	1000
0.5	1.8	17	575	1000
0.5	1.8	19	725	1000
0.5	1.8	21	975	1000
0.5	1.8	23	1250	1000
0.5	1.8	24	1500	1000
0.5	1.8	26	1800	1000
0.5	1.8	29	2175	1000
0.5	1.8	31	2775	500
0.5	1.9	34	3400	500
0.5	2.0	38	4325	500
0.5	2.1	42	5450	500
0.5	2.3	47	6950	500

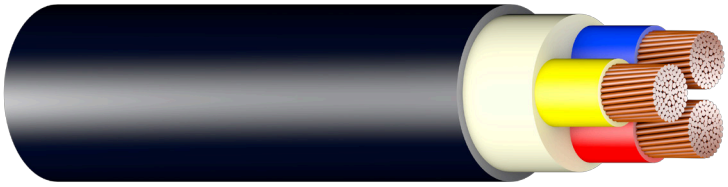
STEEL WIRE ARMOURED

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	15	450	1000
0.8	1.8	16	475	1000
0.8	1.8	16	525	1000
0.8	1.8	17	550	1000
1.25	1.8	20	835	1000
1.25	1.8	22	1050	1000
1.6	1.8	26	1575	1000
1.6	1.8	28	1900	1000

STEEL TAPE ARMOURED

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	15	350	1000
0.2	1.8	15	375	1000
0.2	1.8	16	400	1000
0.2	1.8	16	450	1000
0.2	1.8	18	575	1000
0.2	1.8	20	750	1000
0.2	1.8	24	1075	1000
0.2	1.8	26	1350	1000

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
3x1.5 re	1	1.38	0.7	1.8	13	200	1000
3x1.5 rm	7	1.56	0.7	1.8	13	210	1000
3x2.5 re	1	1.78	0.7	1.8	13	250	1000
3x2.5 rm	7	2.01	0.7	1.8	14	275	1000
3x4 re	1	2.25	0.7	1.8	14	325	1000
3x4 rm	7	2.55	0.7	1.8	15	325	1000
3x6 re	1	2.76	0.7	1.8	15	400	1000
3x6 rm	7	3.12	0.7	1.8	16	400	1000
3x10 rm	7	4.01	0.7	1.8	18	575	1000
3x16 rm	7	5.03	0.7	1.8	20	800	1000
3x25 rm	7	6.3	0.9	1.8	24	1150	1000
3x35 rm	7	7.44	0.9	1.8	27	1375	1000
3x50 rm	19	8.8	1.0	1.8	30	1775	1000
3x70 rm	19	10.55	1.1	1.9	35	2490	500
3x95 rm	19	12.4	1.1	2.0	39	3335	500
3x120 rm	37	14.0	1.2	2.1	43	4135	500
3x150 rm	37	15.47	1.4	2.3	48	5100	500
3x185 rm	37	17.36	1.6	2.4	53	6330	500
3x240 rm	61	20.25	1.7	2.6	60	8250	500
3x300 rm	61	22.68	1.8	2.8	67	10240	500
3x400 rm	61	25.38	2.0	3.1	74	13010	250
3x500 rm	61	28.8	2.2	3.3	83	16570	250

CABLE CORE(S) — UNARMOURED

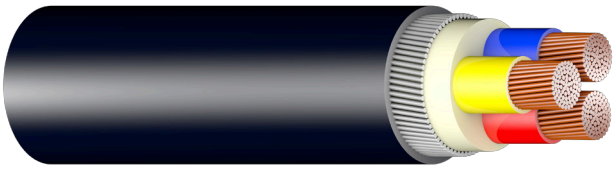
	Ph	Ne	Ph	Ne	Ph	Ne				
3x10 rm+6	7	7	4.01	3.12	0.7	0.7	1.8	19	640	1000
3x16 rm+10	7	7	5.03	4.01	0.7	0.7	1.8	22	900	1000
3x25 rm+16	7	7	6.30	5.03	0.9	0.7	1.8	25	1325	1000
3x35 sm+16	6	7	-	5.03	0.9	0.7	1.8	25	1475	1000
3x50 sm+25	6	7	-	6.3	1.0	0.9	1.8	29	1950	1000
3x70 sm+35	12	7	-	7.44	1.1	0.9	1.9	33	2750	500
3x95 sm+50	15	19	-	8.8	1.1	1.0	2.1	37	3675	500
3x120 sm+70	18	19	-	10.6	1.2	1.1	2.2	40	4600	500
3x150 sm+70	18	19	-	10.6	1.4	1.1	2.3	45	5550	500
3x185 sm+95	30	19	-	12.4	1.6	1.1	2.5	50	6975	500
3x240 sm+120	34	37	-	14.0	1.7	1.2	2.7	55	9275	500
3x300 sm+150	34	37	-	15.5	1.8	1.4	2.9	61	11150	250
3x400 sm+185	53	37	-	17.4	2.0	1.6	3.1	68	14500	250
3x500 sm+240	53	61	-	20.0	2.2	1.7	3.4	76	18050	250

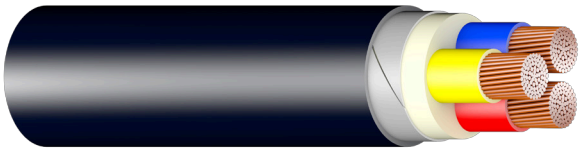
re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded

Colour code (1)
3 Cores : Red, Yellow, Blue
3½ Cores : Red, Yellow, Blue, Black

Colour code (2)
3 Cores : Brown, Black, Grey
3½ Cores : Blue, Brown, Black, Grey

For 3½ cores, neutral conductors are round stranded.
For sectoral conductors, number of wires mentioned is minimum number of wires as per IEC 60228





STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	17	525	1000
0.8	1.8	17	575	1000
0.8	1.8	18	625	1000
1.25	1.8	21	950	1000
1.25	1.8	23	1225	1000
1.6	1.8	27	1825	1000
1.6	1.8	30	2125	1000
1.6	1.9	33	2635	1000
2.0	2.0	39	3765	500
2.0	2.2	43	4780	500
2.0	2.3	47	5725	500
2.5	2.5	53	7310	500
2.5	2.6	58	8795	500
2.5	2.8	66	11050	500
2.5	3.0	72	13300	250
2.5	3.3	79	16380	250
3.15	3.5	90	21405	250

STEEL TAPE ARMOURED

Steel Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	16	410	1000
0.2	1.8	16	475	1000
0.2	1.8	17	500	1000
0.2	1.8	19	675	1000
0.2	1.8	21	900	1000
0.2	1.8	25	1300	1000
0.2	1.8	27	1525	1000
0.2	1.8	31	1950	1000
0.2	2.0	36	2710	500
0.2	2.1	40	3585	500
0.5	2.3	45	4840	500
0.5	2.4	50	5865	500
0.5	2.6	55	7205	500
0.5	2.7	63	9220	250
0.5	2.9	69	11305	250
0.5	3.2	76	14190	250
0.5	3.4	85	17900	250

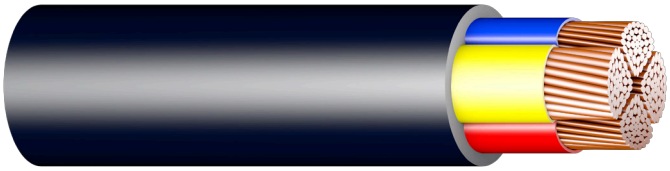
STEEL WIRE ARMOURED

1.25	1.8	22	1050	1000
1.25	1.8	24	1350	1000
1.6	1.8	28	2000	1000
1.6	1.8	28	2175	1000
1.6	1.9	32	2775	500
2.0	2.1	37	3950	500
2.0	2.2	41	5000	500
2.0	2.4	45	6100	500
2.5	2.5	50	7650	500
2.5	2.7	55	9275	500
2.5	2.9	61	11575	250
2.5	3.0	66	13900	250
3.15	3.4	76	18250	250
3.15	3.6	83	22650	250

STEEL TAPE ARMOURED

0.2	1.8	20	750	1000
0.2	1.8	22	1025	1000
0.2	1.8	26	1475	1000
0.2	1.8	26	1625	1000
0.2	1.9	30	2150	1000
0.2	2.0	34	2950	500
0.5	2.2	39	4250	500
0.5	2.3	43	5250	500
0.5	2.5	47	6275	500
0.5	2.6	52	7775	500
0.5	2.8	58	9900	500
0.5	3.0	63	12125	250
0.5	3.3	71	15250	250
0.5	3.5	78	19275	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
4x1.5 re	1	1.38	0.7	1.8	13	230	1000
4x1.5 rm	7	1.56	0.7	1.8	14	250	1000
4x2.5 re	1	1.78	0.7	1.8	14	300	1000
4x2.5 rm	7	2.01	0.7	1.8	15	300	1000
4x4 re	1	2.25	0.7	1.8	15	375	1000
4x4 rm	7	2.55	0.7	1.8	16	400	1000
4x6 re	1	2.76	0.7	1.8	17	475	1000
4x6 rm	7	3.12	0.7	1.8	17	500	1000
4x10 rm	7	4.01	0.7	1.8	20	700	1000
4x16 rm	7	5.03	0.7	1.8	22	975	1000
4x25 rm	7	6.3	0.9	1.8	26	1450	1000
4x35 sm	6	-	0.9	1.8	26	1650	1000
4x50 sm	6	-	1.0	1.9	30	2175	1000
4x70 sm	12	-	1.1	2.0	34	3050	500
4x95 sm	15	-	1.1	2.1	38	4100	500
4x120 sm	18	-	1.2	2.3	43	5125	500
4x150 sm	18	-	1.4	2.4	47	6300	500
4x185 sm	30	-	1.6	2.6	52	7825	500
4x240 sm	34	-	1.7	2.8	58	10150	500
4x300 sm	34	-	1.8	3.0	64	12575	500
4x400 sm	53	-	2.0	3.3	73	16075	250
4x500 sm	53	-	2.2	3.5	80	20375	250

re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded

Colour code (1)
4 cores : Red, Yellow, Blue, Black

Colour code (2)
4 cores : Blue, Brown, Black, Grey

For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228

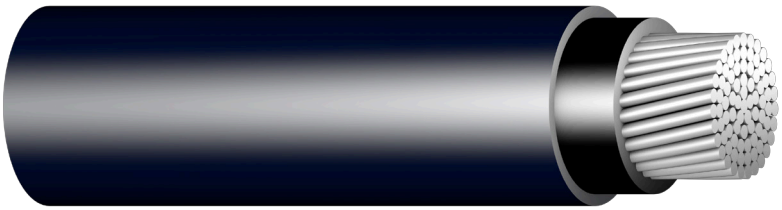
STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.8	1.8	18	600	1000
1.25	1.8	19	800	1000
1.25	1.8	20	850	1000
1.25	1.8	22	1100	1000
1.6	1.8	25	1600	1000
1.6	1.8	29	2175	1000
1.6	1.9	30	2400	1000
1.6	2.0	33	3025	500
2.0	2.2	39	4325	500
2.0	2.3	43	5500	500
2.5	2.5	48	7075	500
2.5	2.6	52	8425	500
2.5	2.8	57	10200	500
2.5	3.0	64	12850	250
2.5	3.2	70	15550	250
3.15	3.5	80	20450	250
3.15	3.8	88	25225	250

STEEL TAPE ARMOURED

St. Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.2	1.8	17	475	1000
0.2	1.8	17	550	1000
0.2	1.8	18	600	1000
0.2	1.8	20	800	1000
0.2	1.8	23	1100	1000
0.2	1.8	27	1600	1000
0.2	1.8	27	1800	1000
0.2	1.9	31	2350	1000
0.2	2.1	35	3275	500
0.5	2.3	41	4725	500
0.5	2.4	45	5800	500
0.5	2.6	49	7050	500
0.5	2.7	54	8650	500
0.5	2.9	60	11075	500
0.5	3.1	66	13600	250
0.5	3.4	75	17250	250
0.8	3.7	84	22475	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S) — UNARMOURED

Nominal Area	No. of wires	Approx. Conductor diameter	Nominal Insulation thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.	mm	mm	mm	mm	Kg/Km	meters
1x16 rm	7	5.0	0.7	1.4	10	110	1000
1x25 rm	7	6.30	0.9	1.4	11	150	1000
1x35 rm	7	7.41	0.9	1.4	12	200	1000
1x50 rm	19	8.75	1.0	1.4	14	250	1000
1x70 rm	19	10.55	1.1	1.4	16	325	1000
1x95 rm	19	12.4	1.1	1.5	18	425	1000
1x120 rm	37	14.0	1.2	1.5	20	525	1000
1x150 rm	37	15.5	1.4	1.6	22	650	1000
1x185 rm	37	17.4	1.6	1.6	24	775	1000
1x240 rm	61	19.9	1.7	1.7	27	1000	500
1x300 rm	61	22.2	1.8	1.8	30	1200	500
1x400 rm	61	25.2	2.0	1.9	33	1525	500
1x500 rm	61	28.6	2.2	2.0	37	1925	500
1x630 rm	91	32.6	2.4	2.2	42	2475	500

CABLE CORE(S) — UNARMOURED

2x16 rm	7	5	0.7	1.8	19	450	1000
2x25 rm	7	6.30	0.9	1.8	23	625	1000
2x35 rm	7	7.41	0.9	1.8	25	775	1000

CABLE CORE(S) — UNARMOURED

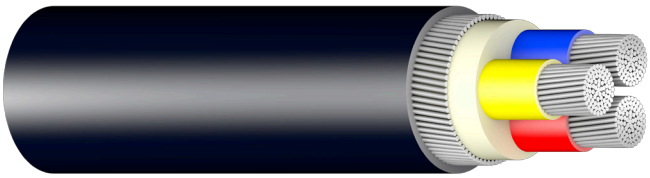
3x16 rm	7	5	0.7	1.8	20	500	1000
3x25 rm	7	6.30	0.9	1.8	24	700	1000
3x35 rm	7	7.41	0.9	1.8	26	750	1000
3x50 rm	19	8.75	1.0	1.8	30	925	500
3x70 rm	19	10.55	1.1	1.9	35	1270	500
3x95 rm	19	12.4	1.1	2.0	39	1620	500
3x120 rm	37	14.0	1.2	2.1	43	1975	500
3x150 rm	37	15.47	1.4	2.3	48	2445	500
3x185 rm	37	17.36	1.6	2.4	53	3000	250
3x240 rm	61	19.89	1.7	2.6	60	3825	250
3x300 rm	61	22.23	1.8	2.8	66	4640	250
3x400 rm	61	25.2	2.0	3.1	73	5845	250
3x500 rm	61	28.62	2.2	3.3	83	7405	250

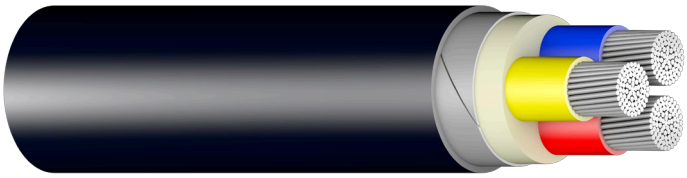
rm : Round Stranded
sm : Sectoral Stranded

Colour code (1)
1 Cores : Black (Red on request)
2 Cores : Red, Black
3 Cores : Red, Yellow, Blue

Colour code (2)
1 Cores : Brown or Blue
2 Cores : Brown, Blue
3 Cores : Brown, Black, Grey

Single core cables are Aluminium Armoured as per IEC 60502-1 recommendation.
For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228





ALUMINIUM WIRE ARMOURED

Nominal Alum/Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
1.25	1.8	19	500	1000
1.25	1.8	21	600	500
1.25	1.8	23	725	500
1.6	1.8	26	900	500
1.6	1.8	27	1025	500
1.6	1.8	30	1225	500
1.6	1.9	33	1475	500
1.6	1.9	35	1725	500
2.0	2.1	40	2275	500
2.0	2.2	44	2750	250
2.0	2.3	49	3350	250

ALUMINIUM TAPE ARMOURED

Nominal Alum/Steel tape thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
0.5	1.8	19	450	500
0.5	1.8	21	550	500
0.5	1.8	23	675	500
0.5	1.8	24	775	500
0.5	1.8	26	900	500
0.5	1.8	29	1075	500
0.5	1.8	31	1300	500
0.5	1.9	34	1550	500
0.5	2.0	38	1950	500
0.5	2.1	42	2400	250
0.5	2.3	47	3000	250

STEEL WIRE ARMOURED

1.25	1.8	22	850	1000
1.6	1.8	26	1265	1000
1.6	1.8	28	1475	500

STEEL TAPE ARMOURED

0.2	1.8	20	550	1000
0.2	1.8	24	750	1000
0.2	1.8	26	925	500

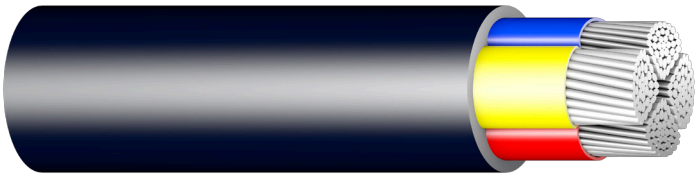
STEEL WIRE ARMOURED

1.25	1.8	23	925	1000
1.6	1.8	27	1375	1000
1.6	1.8	30	1475	500
1.6	1.9	33	1775	500
2.0	2.0	39	2540	500
2.0	2.2	43	3075	500
2.0	2.3	47	3565	500
2.5	2.5	53	4655	250
2.5	2.6	58	5460	250
2.5	2.8	65	6590	250
2.5	3.0	71	7665	250
2.5	3.3	79	9175	250
3.15	3.5	89	12240	250

STEEL TAPE ARMOURED

0.2	1.8	21	625	1000
0.2	1.8	25	850	1000
0.2	1.8	27	900	500
0.2	1.8	31	1100	500
0.2	2.0	36	1500	500
0.2	2.1	40	1880	500
0.5	2.3	45	2685	500
0.5	2.4	50	3210	250
0.5	2.6	55	3870	250
0.5	2.7	62	4780	250
0.5	2.9	68	5690	250
0.5	3.2	76	7020	250
0.5	3.4	85	8730	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%



CABLE CORE(S)

UNARMOURED

Nominal Area	No. of wires		Approx. Conductor diameter		Nominal Insulation thickness		Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm^2	No.		mm		mm		mm	mm	Kg/Km	meters
	Ph	Ne	Ph	Ne	Ph	Ne				
3x25 rm+16	7	7	6.3	4.98	0.9	0.7	1.8	25	775	1000
3x35 sm+16	6	7	-	4.98	0.9	0.7	1.8	25	750	500
3x50 sm+25	6	7	-	6.3	1.0	0.9	1.8	29	950	500
3x70 sm+35	12	7	-	7.41	1.1	0.9	1.9	33	1275	500
3x95 sm+50	15	19	-	8.75	1.1	1.0	2.1	37	1650	500
3x120 sm+70	15	19	-	10.55	1.2	1.1	2.2	40	2000	500
3x150 sm+70	15	19	-	10.55	1.4	1.1	2.3	45	2425	500
3x185 sm+95	30	19	-	12.4	1.6	1.1	2.5	50	3000	250
3x240 sm+120	30	37	-	14.0	1.7	1.2	2.7	55	3850	250
3x300 sm+150	30	37	-	15.47	1.8	1.4	2.9	61	4650	250
3x400 sm+185	53	37	-	17.36	2.0	1.6	3.1	68	5875	250
3x500 sm+240	53	61	-	19.89	2.2	1.7	3.4	76	7425	250

CABLE CORE(S)

UNARMOURED

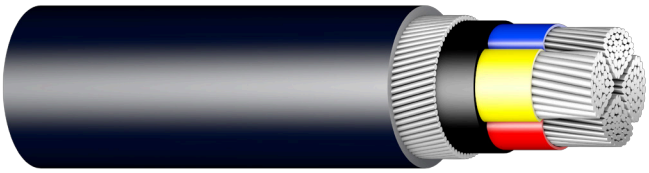
4x16 rm	7	4.98	0.7	1.8	22	600	1000
4x25 rm	7	6.30	0.9	1.8	26	850	1000
4x35 sm	6	-	0.9	1.8	26	800	500
4x50 sm	6	-	1.0	1.9	30	1025	500
4x70 sm	12	-	1.1	2.0	34	1375	500
4x95 sm	15	-	1.1	2.1	38	1775	500
4x120 sm	15	-	1.2	2.3	43	2200	500
4x150 sm	15	-	1.4	2.4	47	2675	500
4x185 sm	30	-	1.6	2.6	52	3275	250
4x240 sm	30	-	1.7	2.8	58	4225	250
4x300 sm	30	-	1.8	3.0	64	5100	250
4x400 sm	53	-	2.0	3.3	73	6550	250
4x500 sm	53	-	2.2	3.5	80	8175	250

re : Round Solid
rm : Round Stranded
sm : Sectoral Stranded
Ph : Phase Conductor
Ne : Neutral Conductor

Colour code (1)
3 1/2 Cores : Red, Yellow, Blue, Black
4 cores : Red, Yellow, Blue, Black

Colour code (2)
3 1/2 Cores : Blue, Brown, Black, Grey
4 cores : Blue, Brown, Black, Grey

For 3 1/2 cores, neutral conductors are round stranded.
For sectoral conductors, number of wires mentioned is minimum number of wires in accordance with IEC 60228



STEEL WIRE ARMOURED

Steel Wire dia.	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	mm	mm
1.6	1.8	28	1475	500
1.6	1.8	28	1450	500
1.6	1.9	32	1775	500
2.0	2.1	37	2475	500
2.0	2.2	41	2975	500
2.0	2.4	45	3500	500
2.5	2.5	50	4510	250
2.5	2.7	55	5300	250
2.5	2.9	61	6400	250
2.5	3.0	66	7400	250
3.15	3.4	76	9875	250
3.15	3.6	83	11875	250

STEEL TAPE ARMOURED

Steel Tape Thickness	Nominal Sheath thickness	Approx. Overall diameter	Approx. Weight	Packing
mm	mm	mm	Kg/Km	meters
0.2	1.8	26	925	500
0.2	1.8	26	885	500
0.2	1.9	30	1125	500
0.2	2.0	34	1485	500
0.5	2.2	39	2225	500
0.5	2.3	43	2650	500
0.5	2.5	47	3175	250
0.5	2.6	52	3800	250
0.5	2.8	58	4725	250
0.5	3.0	63	5625	250
0.5	3.3	71	7000	250
0.5	3.5	78	8650	250

STEEL WIRE ARMOURED

1.6	1.8	25	1200	1000
1.6	1.8	29	1575	500
1.6	1.9	30	1550	500
1.6	2.0	33	1875	500
2.0	2.2	39	2650	500
2.0	2.3	43	3175	500
2.5	2.5	48	4175	250
2.5	2.6	52	4850	250
2.5	2.8	57	5650	250
2.5	3.0	64	6900	250
2.5	3.2	70	8175	250
3.15	3.5	80	10950	250
3.15	3.8	88	13000	250

STEEL TAPE ARMOURED

0.2	1.8	23	725	1000
0.2	1.8	27	1000	500
0.2	1.8	27	950	500
0.2	1.9	31	1200	500
0.2	2.1	35	1600	500
0.5	2.3	41	2400	500
0.5	2.4	45	2875	250
0.5	2.6	50	3450	250
0.5	2.7	54	4000	250
0.5	2.9	60	5150	250
0.5	3.1	66	6125	250
0.5	3.4	75	7700	250
0.8	3.7	84	10250	250

Tolerence range :
Overall diameter -2%, +8%
Packing ± 5%

LOW VOLTAGE SINGLE CORE CABLE
(IN TREFOIL FORMATION)
LINEAR RESISTANCE , REACTANCE AND VOLTAGE DROP
XLPE INSULATED (90 °C) COPPER CONDUCTOR

SIZE mm²	R (DC) 20	R (DC) 90	R (AC) 90	X	Z 90	VD
1.5	12.1	15.43	15.43	0.165	15.43	21.43
2.5	7.41	9.45	9.45	0.149	9.45	13.85
4	4.61	5.88	5.88	0.143	5.88	8.30
6	3.08	3.93	3.93	0.134	3.93	5.58
10	1.83	2.333	2.333	0.132	2.337	3.37
16	1.15	1.466	1.466	0.124	1.471	2.16
25	0.727	0.927	0.927	0.121	0.935	1.41
35	0.524	0.668	0.669	0.115	0.679	1.046
50	0.387	0.493	0.494	0.111	0.506	0.800
70	0.268	0.342	0.343	0.105	0.359	0.584
95	0.193	0.246	0.248	0.103	0.269	0.451
120	0.153	0.195	0.197	0.100	0.221	0.377
150	0.124	0.158	0.160	0.100	0.189	0.326
185	0.0991	0.126	0.129	0.099	0.163	0.282
240	0.0754	0.0961	0.0993	0.097	0.139	0.238
300	0.0601	0.0766	0.0812	0.096	0.126	0.212
400	0.0470	0.0599	0.0636	0.094	0.114	0.186
500	0.0366	0.0467	0.0513	0.092	0.105	0.167
630	0.0283	0.0361	0.0420	0.091	0.100	0.153

LOW VOLTAGE MULTI CORE CABLE
LINEAR RESISTANCE , REACTANCE AND VOLTAGE DROP
XLPE INSULATED (90 °C) COPPER CONDUCTOR

SIZE mm²	R (DC) 20	R (DC) 90	R (AC) 90	X	Z 90	VD
1.5	12.1	15.43	15.43	0.165	15.43	21.55
2.5	7.41	9.45	9.45	0.143	9.45	13.24
4	4.61	5.88	5.88	0.132	5.88	8.28
6	3.08	3.93	3.93	0.121	3.93	5.57
10	1.83	2.333	2.333	0.109	2.336	3.35
16	1.15	1.466	1.466	0.106	1.470	2.14
25	0.727	0.927	0.927	0.103	0.933	1.39
35	0.524	0.668	0.669	0.098	0.676	1.03
50	0.387	0.493	0.494	0.098	0.504	0.786
70	0.268	0.342	0.343	0.095	0.356	0.574
95	0.193	0.246	0.248	0.093	0.264	0.440
120	0.153	0.195	0.197	0.091	0.217	0.370
150	0.124	0.158	0.160	0.091	0.184	0.316
185	0.0991	0.126	0.129	0.091	0.1579	0.273
240	0.0754	0.0961	0.0993	0.090	0.1340	0.231
300	0.0601	0.0766	0.0812	0.090	0.1212	0.206
400	0.0470	0.0599	0.0636	0.089	0.1094	0.181
500	0.0366	0.0467	0.0513	0.088	0.1019	0.163
630	0.0283	0.0361	0.0420	0.088	0.0975	0.150

R(DC) 20 : Direct Current Resistance at 20 °C, Ohm/Km

R(DC) 90 : Direct Current Resistance at 90 °C, Ohm/Km

R(AC) 90 : Alternating Current Resistance at 90 °C, Ohm/Km

X : Reactance,Ohm / Km

Z : Impedance, Ohm / Km

VD : Voltage Drop (Phase to Phase), V/A.Km

LOW VOLTAGE SINGLE CORE CABLE
(IN TREFOIL FORMATION)
LINEAR RESISTANCE , REACTANCE AND VOLTAGE DROP
XLPE INSULATED (90 °C) ALUMINIUM CONDUCTOR

SIZE mm²	R (DC) 20	R (DC) 90	R (AC) 90	X	Z 90	VD
16	1.91	2.449	2.449	0.124	2.452	3.522
25	1.20	1.539	1.539	0.121	1.544	2.258
35	0.868	1.113	1.113	0.115	1.119	1.662
50	0.641	0.822	0.822	0.111	0.829	1.254
70	0.443	0.568	0.568	0.105	0.578	0.896
95	0.320	0.410	0.411	0.103	0.424	0.677
120	0.253	0.324	0.325	0.100	0.340	0.554
150	0.206	0.264	0.265	0.100	0.283	0.471
185	0.164	0.210	0.211	0.099	0.233	0.395
240	0.125	0.160	0.162	0.097	0.189	0.325
300	0.100	0.128	0.130	0.096	0.162	0.280
400	0.0778	0.100	0.102	0.094	0.139	0.239
500	0.0605	0.078	0.081	0.092	0.123	0.208
630	0.0469	0.060	0.064	0.091	0.111	0.183

LOW VOLTAGE MULTI CORE CABLE
(IN TREFOIL FORMATION)
LINEAR RESISTANCE , REACTANCE AND VOLTAGE DROP
XLPE INSULATED (90 °C) ALUMINIUM CONDUCTOR

SIZE mm²	R (DC) 20	R (DC) 90	R (AC) 90	X	Z 90	VD
16	1.91	2.449	2.449	0.106	2.451	3.504
25	1.20	1.539	1.539	0.103	1.542	2.240
35	0.868	1.113	1.113	0.098	1.117	1.644
50	0.641	0.822	0.822	0.098	0.828	1.241
70	0.443	0.568	0.568	0.095	0.576	0.886
95	0.320	0.410	0.411	0.093	0.421	0.666
120	0.253	0.324	0.325	0.091	0.337	0.545
150	0.206	0.264	0.265	0.091	0.280	0.462
185	0.164	0.210	0.211	0.091	0.230	0.387
240	0.125	0.160	0.162	0.090	0.185	0.318
300	0.100	0.128	0.130	0.090	0.158	0.274
400	0.0778	0.100	0.102	0.089	0.135	0.234
500	0.0605	0.078	0.081	0.088	0.120	0.204
630	0.0469	0.060	0.064	0.088	0.109	0.180

R(DC) 20 : Direct Current Resistance at 20 °C, Ohm/Km

R(DC) 90 : Direct Current Resistance at 90 °C, Ohm/Km

R(AC) 90 : Alternating Current Resistance at 90 °C, Ohm/Km

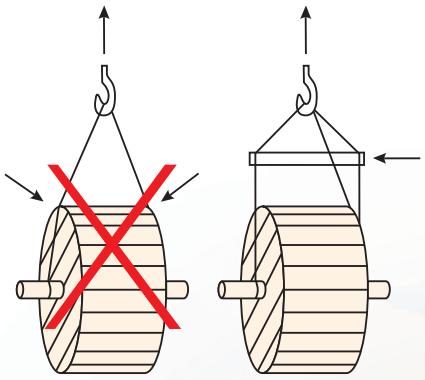
X : Reactance,Ohm / Km

Z : Impedance, Ohm / Km

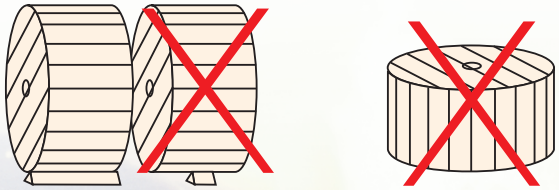
VD : Voltage Drop (Phase to Phase), V/A.Km

Drum Handling Instructions

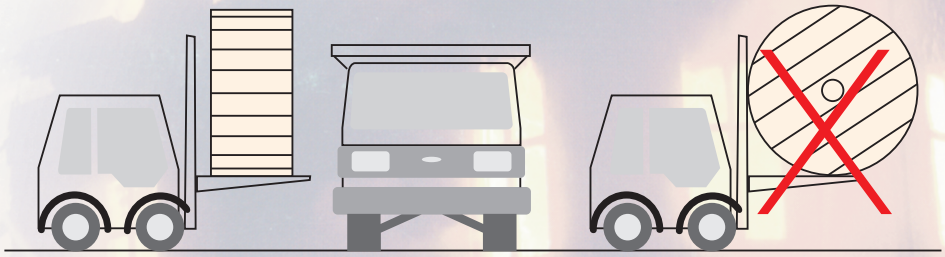
Cables and Conductors should be installed by trained personnel in accordance with good engineering practices, recognized codes of practice, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied in heavy cable reels and handling these reels can constitute a safety hazard. In particular, dangers may arise during the removal of steel binding straps and during the removal of retaining battens and timbers which may expose projecting nails.



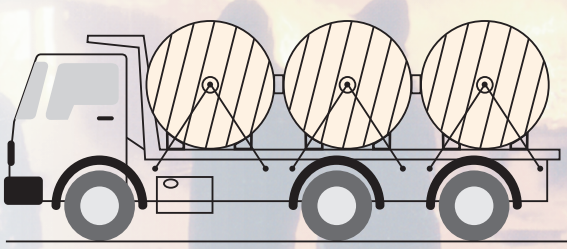
Lifting cable drums using crane.



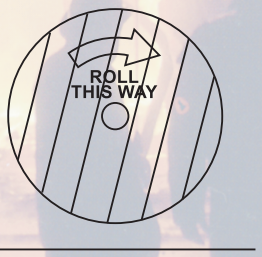
Do not lay drums flat on their sides, use proper stops to prevent drums rolling.



Lift drums on fork trucks correctly.



Secure drums adequately before transportation.

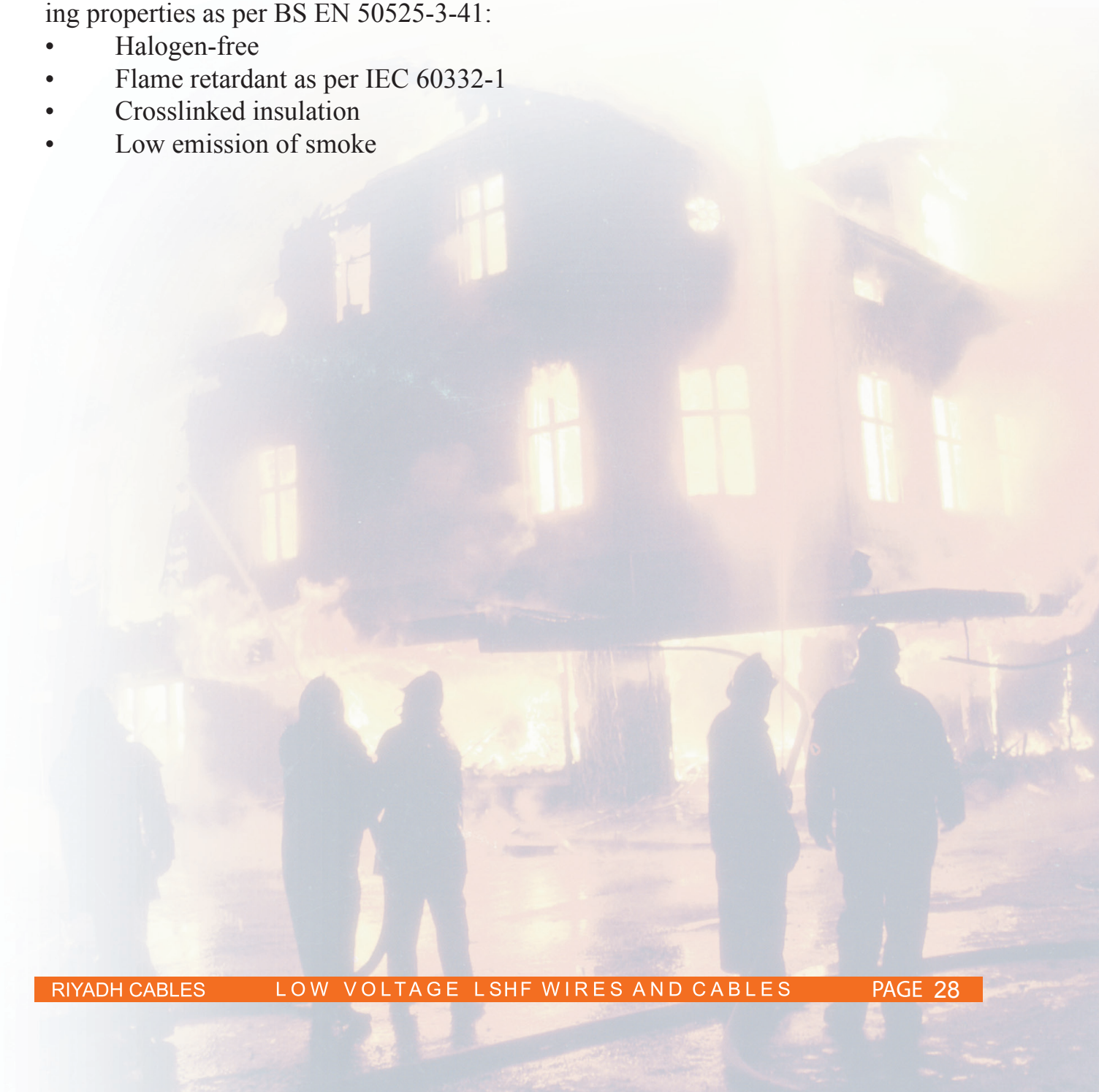


Roll in the direction shown by the arrow.

HALOGEN-FREE 450/750 V WIRES WITH CROSSLINKED INSULATION, AND LOW EMISSION OF SMOKE

This is to confirm that all Riyadh Cables' standard products of subject 450/750 V WIRES are according to BS EN 50525-3-41: "Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U): Cables with special fire performance - Single core non-sheathed cables".
According to BS EN 50525-3-41, the only given designation to insulation is "halogen-free crosslinked insulation, and low emission of smoke"; consequently, different descriptions such as LSF or FR-XLPE refer to the same wire types which have the following properties as per BS EN 50525-3-41:

- Halogen-free
- Flame retardant as per IEC 60332-1
- Crosslinked insulation
- Low emission of smoke



0.6/1.0 KV CABLES WITH LOW LEVELS OF SMOKE EMISSION AND HALOGEN-FREE GAS EMISSION

This is to confirm that all Riyadh Cables' standard products of subject cables are according to IEC 60502-1, and have the "properties of reduced flame spread, low levels of smoke emission and halogen-free gas emission when exposed to fire".

The only given designation for "cables which exhibit properties of reduced flame spread, low levels of smoke emission and halogen-free gas emission when exposed to fire" is defined as HALOGEN FREE type "ST8" in Table 4 of Clause 4.3 of IEC 60502-1:

Table 4 – Maximum conductor temperatures for different types of sheathing compound

Sheathing compound	Abbreviated designation	Maximum conductor temperature in normal operation °C
a) *Thermoplastic:*		
Polyvinyl chloride (PVC)	ST_1	80
	ST_2	90
Polyethylene	ST_3	80
	ST_7	90
Halogen free	ST_8	90
b) *Elastomeric:*		
Polychloroprene, chlorosulfonated polyethylene or similar polymers	SE_1	85

Common description of subject cables may be any of the followings:
- "LSF": low smoke and fumes
- "LSFR": low smoke and flame retardant
- "LSZH": low smoke zero halogen
- "LS0H": low smoke zero "0" halogen

Based on the above, different descriptions refer to the same cable types which have the following properties as per IEC 60502-1:
- HALOGEN FREE type where outer sheath is of Type "ST8" material.
- Inner sheath/separation sheath – as applicable – shall be of halogen free type material.
- Smoke emission: light transmittance ≥ 60% as per IEC 61034-2
- Maximum acid gas emission as per IEC 60754-1 is 0.5%.
- Cables are flame retardant as per IEC 60332-3-24 Cat.C

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