

2010

ASEC INDUSTRIES PTE LTD

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[CABLE CATALOGUE]

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A. Cables

H07RN-F 450/750V (Flexible rubber insulated and sheathed cables)



Specifications & Standards

D 22.4 S3, BS 7919
IN VDE 0282 part 4

CONSTRUCTION

Conductors:	Annealed flexible stranded bare or tinned coated copper class 5 to HD 383 ,DIN VDE 0295
Insulation:	Ethylene-propylene rubber (EPR)
Circuit identification:	Colour coding of power conductors comply to HD 308 , DIN VDE 0293-308
Twin:	Blue and brown
3-core:	Green-yellow, blue, brown
4-core:	Green-yellow, brown, black, grey
5-core:	Green-yellow, blue, brown, black, grey
Above 5-core:	Green-yellow, other cores black with white numbering
Internal jacket:	A synthetic thermosetting compound type EM3 to HD 22.1 S4 (above 2,3,4,5 x 6 mm ² and 1 x 50 mm ²)
Outer jacket:	A synthetic thermosetting compound type EM2 to HD 22.1 S4
Colour of outer jacket:	Black or colours can be provided

<u>FEATURES</u>	<u>APPLICATION</u>
<ul style="list-style-type: none">• Excellent flexibility• water resistant and flame retardant• Rated and flexible at -25°C• Ozone, sunlight, oil, resistant• Ink jet printed for easy identification	<ul style="list-style-type: none">• heavy-duty flexible cables for medium mechanical stress in dry and wet, suitable for large boiling installations, heating plates, Inspection lamps, electrical tools such as drills circular saws, Domestic electric tools, transportable motors etc.• other industrial applications

Standard length cable packing:

500m, 1000m drums. 100m coils.

Other forms of packing and delivery are available on request.

H07RN-F 450/750V

Size (n x mm ²)	Max. Current rating in free air 30°C (A)	Approx. Overall Diameter (mm)	Approx. weight of cable (kg/km)	Max. Conductor resistance at 20°C (Ω/km)
1 x 1.5	23			
1 x 2.5	32			
1 x 4	43			
1 x 6	56			
1 x 10	77			
1 x 16	102	11.4	254	1.24
1 x 25	136	13.3	363	0.795
1 x 35	168	14.7	469	0.565
1 x 50	203	16.9	644	0.393
1 x 70	254	18.8	821	0.277
1 x 95	315	21.3	1091	0.210
1 x 120	363	23.4	1390	0.164
1 x 150	416	26.1	1740	0.132
1 x 185	475	28.6	2098	0.108
1 x 240	559	31.6	2736	0.0817
1 x 300	637	35.1	3326	0.0654
1 x 400	746	40.1	4461	0.0495
2 x 1.5	23	10.2	122	1.37
2 x 2.5	32	11.6	163	0.821
2 x 4	43	13.0	238	5.09
2 x 6	56	14.2	314	
2 x 10	77	16.6	457	1.95
2 x 16	102	20.2	683	1.24
2 x 25	136	24.0	988	0.795
2 x 35	168	26.8	1276	0.565
2 x 50	203	31.3	1761	0.393
2 x 70	254	34.8	2235	0.277
2 x 95	315	40.0	2997	0.210
2 x 120	363	44.2	3770	0.164
2 x 150	416	49.7	4750	0.132
2 x 185	475	54.6	5781	0.108
3 x 1.5	23	10.7	141	1.37
3 x 2.5	32	12.2	192	0.821
3 x 4	43	13.7	276	5.09
3 x 6	56	15.2	384	3.39
3 x 10	77	17.7	566	1.95
3 x 16	102	21.4	838	1.24
3 x 25	136	25.6	1224	0.795
3 x 35	168	28.6	1603	0.565
3 x 50	203	33.5	2237	0.393
3 x 70	254	37.2	2830	0.277
3 x 95	315	42.9	3823	0.210
3 x 120	363	47.4	4831	0.164
3 x 150	416	53.2	6120	0.132
3 x 185	475	58.1	7350	0.108

Note: Permissible current -ratings capacity (amperes) are dependent on de-rating I correcting factors:

Ambient temperature, conductor operating temperature, installations methods & conditions open air / on surface / cable trays ladders / enclosed conduit, perforated troughs, cable trays, numbers of single core / multi cores cables, grouping factors in contact or space apart, number of reeled layers on drums.

Please refer to Singapore Standards CP 5: 1998, code of practice for electrical installations, pages 233 -242.

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H07RN-F 450/750V

Size (n x mm ²)	Max. Current rating in free air 30°C (A)	Approx. Overall Diameter (mm)	Approx. weight of cable (kg/km)	Max. Conductor resistance at 20°C (Ω/km)
4x1.5	23	12.2	185	13.7
4x2.5	32	13.5	237	8.21
4x4	43	15.1	350	5.09
4x6	56	16.7	476	3.39
4x10	77	19.5	707	1.95
4x16	102	23.7	1060	1.24
4x25	136	28.5	1562	0.795
4x35	168	31.7	2031	0.565
4x50	203	37.2	2836	0.393
4x70	254	41.4	3611	0.277
4x95	315	47.7	4875	0.210
4x120	363	52.9	6191	0.164
4x150	416	59.1	7807	0.132
4x185	475	64.4	9350	0.108
5x1.5	23	13.5	254	13.7
5x2.5	32	15.0	337	8.21
5x4	43	16.6	445	5.09
5x6	56	18.3	578	3.39
5x10	77	21.4	867	1.95
5x16	102	26.1	1291	1.24
5x25	136	31.5	1918	0.795
5x35	168	35.2	2499	0.565
5x50	203	41.4	3507	0.393
5x70	254	46.0	4459	0.277
5x95	315	53.0	6064	0.210
5x120	363	58.1	7555	0.164
6x1.5	23	13.9	288	13.7
6x2.5	32	16.6	412	8.21
6x4	43	18.8	567	5.09
7x1.0	18	13.6	265	20.0
7x1.5	23	14.8	327	13.7
7x2.5	32	17.5	471	8.21
7x4	43	20.1	650	5.09
7x6	56	22.4	855	3.39
7x10	77	27.7	1349	1.95
8x1.5	23	16.2	395	13.7
8x2.5	32	19.1	569	8.21
8x4	43	22.2	795	5.09
9x1.5	23	17.3	403	13.7
9x2.5	32	20.6	587	8.21
10x1.0	18	15.9	342	20.0
10x1.5	23	17.5	432	13.7
10x2.5	32	20.6	620	8.21
10x4	43	23.9	866	5.09

Note: Permissible current -ratings capacity (amperes) are dependent on de-rating I correcting factors:

Ambient temperature, conductor operating temperature, installations methods & conditions open air / on surface / cable trays ladders / enclosed conduit, perforated troughs, cable trays, numbers of single core / multi cores cables, grouping factors in contact or space apart, number of reeled layers on drums.

Please refer to Singapore Standards CP 5: 1998, code of practice for electrical installations, pages 233 -242.

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PVC Cables SS 358 (Power Cable Single Core)

<u>Construction</u>	<u>Technical Data</u>	
1. Conductor : Plain Annealed Copper 2. Insulation : PVC Compound Type C 3. Colour : Red, Yellow, Blue, Black, Green, White, or Green/Yellow	Voltage U ₀ /U : 450 / 750 V Conductor Standing : Class 2 stranded circular or compacted conductors Operating Temperature : Maximum 70 °C Minimum Bending Radius : 3D for D < 10 mm 4D for 10 mm < D < 25 mm 6D for D > 25 mm	


Nominal Conductor Area (mm ²)	Diameter of Wire (no./mm)	Thickness Insulation (mm)	Overall Diameter (Upper Limit) (mm)	Approx. Weight (kg/km)	Insulation Resistance at 70°C (mΩ/km)
1.5	7 / 0.53	0.7	3.4	22.7	0.010
2.5	7 / 0.67	0.8	4.2	34.0	0.009
4	7 / 0.85	0.8	4.8	50.0	0.0077
6	7 / 1.04	0.8	5.4	70.9	0.0065
10	7 / 1.35	1.0	6.8	117.5	0.0065
16	7 / 1.70	1.0	8.0	177.4	0.0050
25	7 / 2.14	1.2	9.8	279.5	0.0050
35	7 / 2.52	1.2	11.0	372.0	0.0040
50	19 / 1.78	1.4	13.0	504.5	0.0045
70	19 / 2.14	1.4	15.0	710.6	0.0035
95	19 / 2.52	1.6	17.0	980.8	0.0035
120	37 / 2.03	1.6	19.0	1216.0	0.0032
150	37 / 2.25	1.8	21.0	1498.0	0.0032
185	37 / 2.52	2.0	23.5	1874.0	0.0032
240	61 / 2.25	2.2	26.5	2444.4	0.0032
300	61 / 2.52	2.4	29.5	3059.5	0.0030
400	61 / 2.85	2.6	33.5	3897.0	0.0028
500	61 / 3.20	2.8	37.0	4940.0	0.0028
630	127 / 2.52	2.8	41.0	6295.0	0.0025

PVC / PVC Cables IEC 60502 (Power Cable 1 & 2 Cores)

<u>Construction</u>	<u>Technical Data</u>	
<ol style="list-style-type: none"> 1. Conductor : Plain Annealed Copper 2. Insulation : PVC Compound Type A 3. Sheath : PVC Compound Type ST1 4. Colour : Insulation: 1 Core – Black 2 Cores – Red & Black Sheath: 1 Core – Gray 2 Cores – Black 	<p>Voltage U₀/U : 600 / 1000 V</p> <p>Conductor Standing : Class 2 stranded circular or compacted conductors</p> <p>Operating Temperature : Maximum 70 °C</p> <p>Minimum Bending Radius :</p> <p>1 Core – 8D for 1.5 mm² to 1000 mm² 2 Cores – 8D for 1.5 mm² to 300 mm²</p>	


Nominal Conductor Area (mm ²)	No. and Diameter of Wire (no./mm)	Radial Thickness of Insulation (mm)	Approx. Overall Diameter (mm)	Approx. Weight (kg/km)
1.5	7 / 0.53	0.8	6.3	55
2.5	7 / 0.67	0.8	6.7	70
4	7 / 0.85	1.0	7.6	100
6	7 / 1.04	1.0	8.2	125
10	7 / 1.35	1.0	9.2	175
16	7 / 1.70	1.0	10.2	240
25	7 / 2.14	1.2	11.9	350
35	7 / 2.52	1.2	13.1	460
50	19 / 1.78	1.4	14.8	595
70	19 / 2.14	1.4	16.6	810
95	19 / 2.52	1.6	19.2	1110
120	37 / 2.03	1.6	20.8	1360
150	37 / 2.25	1.8	23.0	1670
185	37 / 2.52	2.0	25.4	2070
240	61 / 2.25	2.2	28.7	2690
300	61 / 2.52	2.4	31.7	3340
400	61 / 2.85	2.6	35.3	4230
500	61 / 3.20	2.8	39.5	5290
630	127 / 2.52	2.8	43.2	6680
800	127 / 2.85	2.8	47.7	8460
1000	127 / 3.20	3.0	53.0	10545
2 x 1.5	7 / 0.53	0.8	10.4	145
2 x 2.5	7 / 0.67	0.8	11.2	180
2 x 4	7 / 0.85	1.0	13.1	255
2 x 6	7 / 1.04	1.0	14.2	285
2 x 10	7 / 1.35	1.0	16.1	395
2 x 16	7 / 1.70	1.0	18.2	590
2 x 25	7 / 2.14	1.2	21.8	900
2 x 35	7 / 2.52	1.2	24.0	1160
2 x 50	(5) 19 / 1.78	1.4	23.0	1260
2 x 70	(5) 19 / 2.14	1.4	26.0	1700
2 x 95	(5) 19 / 2.52	1.6	30.0	2310
2 x 120	(5) 37 / 2.03	1.6	32.0	2880
2 x 150	(5) 37 / 2.25	1.8	36.0	3520
2 x 185	(5) 37 / 2.52	2.0	40.0	4290
2 x 240	(5) 61 / 2.25	2.2	44.0	5570
2 x 300	(5) 61 / 2.52	2.4	49.0	6970

PVC / PVC Cables IEC 60502 (Power Cable 3 & 4 Cores)

<u>Construction</u>	<u>Technical Data</u>	
<ol style="list-style-type: none"> 1. Conductor : Plain Annealed Copper 2. Insulation : PVC Compound Type A 3. Sheath : PVC Compound Type ST1 4. Colour : Insulation: 3 Core – Red, Yellow, Blue 4 Cores – Red, Yellow, Blue, Black Sheath: Black 	<p>Voltage U₀/U : 600 / 1000 V</p> <p>Conductor Standing : Class 2 stranded circular or compacted conductors</p> <p>Operating Temperature : Maximum 70 °C</p> <p>Minimum Bending Radius : 8D for 1.5 mm² to 300 mm²</p>	

Nominal Conductor Area (mm ²)	No. and Diameter of Wire (no./mm)	Radial Thickness of Insulation (mm)	Approx. Overall Diameter (mm)	Approx. Weight (kg/km)
3 x 1.5	7 / 0.53	0.8	10.9	165
3 x 2.5	7 / 0.67	0.8	11.8	210
3 x 4	7 / 0.85	1.0	13.8	305
3 x 6	7 / 1.04	1.0	15.0	370
3 x 10	7 / 1.35	1.0	17.1	515
3 x 16	7 / 1.70	1.0	19.3	740
3 x 25	7 / 2.14	1.2	23.2	1160
3 x 35	7 / 2.52	1.2	25.7	1520
3 x 50 (S)	19 / 1.78	1.4	26.0	1750
3 x 70 (S)	19 / 2.14	1.4	29.0	2435
3 x 95 (S)	19 / 2.52	1.6	34.0	3360
3 x 120 (S)	37 / 2.03	1.6	37.0	4140
3 x 150 (S)	37 / 2.25	1.8	40.0	5070
3 x 185 (S)	37 / 2.52	2.0	45.0	6330
3 x 240 (S)	61 / 2.25	2.2	51.2	8265
3 x 300 (S)	61 / 2.52	2.4	56.0	10355
4 x 1.5	7 / 0.53	0.8	11.7	200
4 x 2.5	7 / 0.67	0.8	12.8	255
4 x 4	7 / 0.85	1.0	15.0	375
4 x 6	7 / 1.04	1.0	16.4	455
4 x 10	7 / 1.35	1.0	18.6	665
4 x 16	7 / 1.70	1.0	21.2	930
4 x 25	7 / 2.14	1.2	25.6	1465
4 x 35	7 / 2.52	1.2	28.4	1920
4 x 35 (S)	7 / 2.52	1.2	26.0	1740
4 x 50 (S)	19 / 1.78	1.4	29.0	2320
4 x 70 (S)	19 / 2.14	1.4	33.0	3215
4 x 95 (S)	19 / 2.52	1.6	39.0	4400
4 x 120 (S)	37 / 2.03	1.6	42.5	5440
4 x 150 (S)	37 / 2.25	1.8	47.0	6675
4 x 185 (S)	37 / 2.52	2.0	52.0	8360
4 x 240 (S)	61 / 2.25	2.2	58.2	10870
4 x 300 (S)	61 / 2.52	2.4	65.0	13650

PVC / SWA / PVC Cables BS 6346 (Power Cable 2 - 4 Cores)

<u>Construction</u>	<u>Technical Data</u>	
<ol style="list-style-type: none"> 1. Conductor : Plain Annealed Copper 2. Insulation : PVC Compound Type T11 3. Bedding : PVC Compound Type TM1 or Lapped PVC Tape 4. Armour Galvanised Steel Wire 5. Sheath : PVC Compound Type TM1 6. Colour : Insulation: 2 Core - Red, Black 3 Cores - Red, Yellow, Blue 4 Cores - Red, Yellow, Blue, Black Sheath: Black 	<p>Voltage U₀/U : 600 / 1000 V</p> <p>Conductor Standing : Class 2 stranded circular or compacted conductors</p> <p>Operating Temperature : Maximum 70 °C</p> <p>Minimum Bending Radius : 6D for 1.5 mm² to 16 mm 8D for 2.5 mm² and above</p>	

Nominal Conductor Area (mm ²)	No. and Diameter of Wire (no./mm)	Radial Thickness of Insulation (mm)	Redaction approx. Overall Diameter (mm)	Approx. Weight (kg/km)
2 x 1.5	7 / 0.53	0.6	12.3	270
2 x 2.5	7 / 0.67	0.7	13.6	340
2 x 4	7 / 0.85	0.8	15.1	450
2 x 6	7 / 1.04	0.8	16.5	550
2 x 10	7 / 1.35	1.0	20.1	750
2 x 16	7 / 1.70	1.0	21.9	960
2 x 25	7 / 2.14	1.2	26.7	1400
2 x 35	7 / 2.52	1.2	29.4	1750
2 x 50 (S)	19 / 1.78	1.4	27.4	1990
2 x 70 (S)	19 / 2.14	1.4	30.0	2500
2 x 95 (S)	19 / 2.52	1.6	34.7	2460
2 x 120 (S)	37 / 2.03	1.6	37.2	4120
2 x 150 (S)	37 / 2.25	1.8	40.5	4890
2 x 185 (S)	37 / 2.52	2.0	45.2	6250
2 x 240 (S)	61 / 2.25	2.2	50.0	7860
2 x 300 (S)	61 / 2.52	2.4	54.8	9480
3 x 1.5	7 / 0.53	0.6	12.8	350
3 x 2.5	7 / 0.67	0.7	14.1	400
3 x 4	7 / 0.85	0.8	15.8	520
3 x 6	7 / 1.04	0.8	18.0	730
3 x 10	7 / 1.35	1.0	21.2	1010
3 x 16	7 / 1.70	1.0	23.1	1180
3 x 25	7 / 2.14	1.2	28.2	1760
3 x 35	7 / 2.52	1.2	30.8	2170
3 x 50 (S)	19 / 1.78	1.4	30.1	2560
3 x 70 (S)	19 / 2.14	1.4	34.2	3520
3 x 95 (S)	19 / 2.52	1.6	38.5	4640
3 x 120 (S)	37 / 2.03	1.6	41.4	5500
3 x 150 (S)	37 / 2.25	1.8	46.3	6970
3 x 185 (S)	37 / 2.52	2.0	50.7	8400
3 x 240 (S)	61 / 2.25	2.2	56.2	10550
3 x 300 (S)	61 / 2.52	2.4	61.6	12800
4 x 1.5	7 / 0.53	0.6	13.5	345
4 x 2.5	7 / 0.67	0.7	15.0	440
4 x 4	7 / 0.85	0.8	17.8	710
4 x 6	7 / 1.04	0.8	19.2	810
4 x 10	7 / 1.35	1.0	22.8	1130
4 x 16	7 / 1.70	1.0	26.3	1550
4 x 25	7 / 2.14	1.2	30.7	2150
4 x 35	7 / 2.52	1.2	33.7	2670
4 x 35 (S)	7 / 2.52	1.2	29.9	2510
4 x 50 (S)	19 / 1.78	1.4	34.6	3410
4 x 70 (S)	19 / 2.14	1.4	38.4	4400
4 x 95 (S)	19 / 2.52	1.6	43.5	5830
4 x 120 (S)	37 / 2.03	1.6	48.1	7400
4 x 150 (S)	37 / 2.25	1.8	52.4	8810
4 x 185 (S)	37 / 2.52	2.0	57.4	10660
4 x 240 (S)	61 / 2.25	2.2	64.1	13430
4 x 300 (S)	61 / 2.52	2.4	70.4	16330

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XLPE / PVC & XLPE / SWA / PVC Cables IEC 60502 (Power Cable 2 -4 Cores)

<u>Construction</u>	<u>Technical Data</u>	
<ol style="list-style-type: none"> 1. Conductor : Plain Annealed Copper 2. Insulation : XLPE Compound 3. Bedding : PVC Compound Type ST2 or Lapped PVC Tape 4. Armour Galvanised Steel Wire 5. Sheath : PVC Compound Type ST2 6. Colour : Insulation: 2 Core - Red, Black 3 Cores - Red, Yellow, Blue 4 Cores - Red, Yellow, Blue, Black Sheath: Black 	<p>Voltage U₀/U : 600 / 1000 V</p> <p>Conductor Standing : Class 2 stranded circular or compacted conductors</p> <p>Operating Temperature : Maximum 90 °C</p> <p>Minimum Bending Radius : 6D for 1.5 mm² to 16 mm 8D for 2.5 mm² and above</p>	

Nominal Conductor Area	No. and Diameter of Wire	Radial Thickness of Insulation	Cable Overall Diameter	Approx. Weight	Diameter Under Armour	Armour Wire Diameter	Cable Overall Diameter	Approx. Weight
(mm ²)	(no./mm)	(mm)	(mm)	(kg/km)	(mm)	(mm)	(mm)	(kg/km)
2 x 1.5	7 / 0.53	0.7	10.0	130	8.5	0.9	13.9	350
2 x 2.5	7 / 0.67	0.7	10.8	165	9.3	0.9	14.7	400
2 x 4	7 / 0.85	0.7	11.9	210	10.4	0.9	15.8	475
2 x 6	7 / 1.04	0.7	13.0	270	11.5	0.9	16.9	560
2 x 10	7 / 1.35	0.7	14.9	390	13.4	1.25	19.5	810
2 x 16	7 / 1.70	0.7	17.0	450	15.5	1.25	21.6	980
2 x 25	7 / 2.14	0.9	20.4	820	18.9	1.6	25.7	1410
2 x 35	7 / 2.52	0.9	22.7	1065	21.2	1.6	28.0	1930
2 x 50 (S)	19 / 1.78	1.0	21.0	1140	19.2	1.6	26.0	1880
2 x 70 (S)	19 / 2.14	1.1	24.0	1560	22.3	1.6	29.5	2420
2 x 95 (S)	19 / 2.52	1.1	26.9	2130	25.3	2.0	33.5	3360
2 x 120 (S)	37 / 2.03	1.2	29.9	2640	28.1	2.0	36.5	3980
2 x 150 (S)	37 / 2.25	1.4	33.4	3270	30.9	2.0	39.5	4730
2 x 185 (S)	37 / 2.52	1.6	37.1	4040	36.0	2.0	45.0	6245
2 x 240 (S)	61 / 2.25	1.7	45.0	5150	41.6	2.5	52.0	7820
2 x 300 (S)	61 / 2.52	1.8	50.0	6560	47.4	2.5	58.0	9390
3 x 1.5	7 / 0.53	0.7	10.5	150	9.0	0.9	14.4	390
3 x 2.5	7 / 0.67	0.7	11.4	195	9.9	0.9	15.3	450
3 x 4	7 / 0.85	0.7	12.5	255	11.0	0.9	16.4	540
3 x 6	7 / 1.04	0.7	13.8	330	12.3	0.9	17.7	745
3 x 10	7 / 1.35	0.7	15.8	490	14.3	1.25	20.4	950
3 x 16	7 / 1.70	0.7	18.0	700	16.5	1.25	22.6	1250
3 x 25	7 / 2.14	0.9	21.7	1000	20.2	1.6	27.0	1840
3 x 35	7 / 2.52	0.9	24.2	1300	23.0	1.6	29.8	2280
3 x 50 (S)	19 / 1.78	1.0	25.0	1600	23.0	1.6	30.0	2550
3 x 70 (S)	19 / 2.14	1.1	29.0	2240	27.0	2.0	35.0	3500
3 x 95 (S)	19 / 2.52	1.1	32.0	3050	30.1	2.0	38.5	4500
3 x 120 (S)	37 / 2.03	1.2	36.5	3800	34.4	2.0	43.0	5700
3 x 150 (S)	37 / 2.25	1.4	39.0	4640	37.5	2.5	47.5	6800
3 x 185 (S)	37 / 2.52	1.6	44.0	5870	41.3	2.5	51.5	8200
3 x 240 (S)	61 / 2.25	1.7	49.0	7670	46.4	2.5	57.0	10300
3 x 300 (S)	61 / 2.52	1.8	55.0	9460	52.0	2.5	63.0	12500
4 x 1.5	7 / 0.53	0.7	11.3	175	10.0	0.9	15.4	430
4 x 2.5	7 / 0.67	0.7	12.3	225	10.8	0.9	16.2	505
4 x 4	7 / 0.85	0.7	13.6	305	12.1	0.9	17.5	710
4 x 6	7 / 1.04	0.7	15.0	405	13.5	1.25	19.6	855
4 x 10	7 / 1.35	0.7	17.2	600	15.7	1.25	21.8	1120
4 x 16	7 / 1.70	0.7	19.7	870	18.2	1.6	25.0	1600
4 x 25	7 / 2.14	0.9	23.9	1325	22.4	1.6	29.2	2160
4 x 35	7 / 2.52	0.9	26.6	1760	25.1	1.6	32.1	2750
4 x 35 (S)	7 / 2.52	0.9	25.0	1600	24.0	1.6	31.0	2500
4 x 50 (S)	19 / 1.78	1.0	28.5	2200	26.8	1.6	34.0	3100
4 x 70 (S)	19 / 2.14	1.1	32.0	3050	30.6	2.0	39.0	4400
4 x 95 (S)	19 / 2.52	1.1	37.0	4070	34.4	2.0	43.0	5610
4 x 120 (S)	37 / 2.03	1.2	42.0	5195	36.0	2.5	46.0	7400
4 x 150 (S)	37 / 2.25	1.4	46.0	6350	38.3	2.5	48.5	8300
4 x 185 (S)	37 / 2.52	1.6	50.0	7890	46.4	2.5	57.0	10400
4 x 240 (S)	61 / 2.25	1.7	55.0	10400	51.0	2.5	62.0	13000
4 x 300 (S)	61 / 2.52	1.8	63.0	12810	56.6	2.5	68.0	15900

H05VV-F 300/500V (PVC insulated and sheathed flexible cords)



Specifications & Standards

DIN VDE 0281-5
BS 6500, BS 7919
NF C 32-201-5
PN-E-90500-5

CONSTRUCTION

Conductors:	Annealed copper, class 5 flexible conductor acc. to HD 383
Insulation:	PVC type T12
Sheath:	PVC type TM2
Colour of Insulation:	twin core - blue and brown 3-core " green/yellow, blue and brown 4-core -green/yellow, brown, black, grey 5-core -green/yellow, blue, brown, black, grey
Test voltage 50Hz:	2000V
Maximum conductor operating temperature:	+70 °C
Lowest ambient temperature for fixed installation:	-40°C
Lowest installation temperature:	-5°C
Maximum short-circuit conductor temperature:	+150°C
Minimum bending radius :	6 x cable diameter

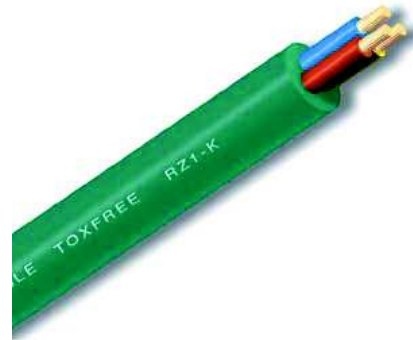
Application

In domestic premises, kitchens, offices; for household appliances, including in damp premises; for medium duties (eg. Washing machine, spin dryers and refrigerators)

Conductor cross section (mm ²)	Current rating (A)	
	Single phase	Three phase
0.5	3	3
0.75	6	6
1	10	10
1.5	16	16
2.5	25	20
4	32	25

H05VVF 300/500V

Number and cross-sectional area of conductor (n x mm ²)	Maximum diameter of wires in conductor (mm)	Nominal thickness of insulation (mm)	Nominal thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. net weight of cables (kg/km)	Max. Conductor resistance at temperature 20°C (Ω/km)
2x 0,75	0,21	0,6	0,8	6,1	51	26,0
2x	0,21	0,6	0,8	6,3	57	19,5
2x 1,5	0,26	0,7	0,8	7,3	78	13,3
2x 2,5	0,26	0,8	1,0	9,1	122	7,98
2x 4	0,31	0,8	1,1	10,2	164	4,95
3x 0,75	0,21	0,6	0,8	6,5	61	26,0
3x 1	0,21	0,6	0,8	6,6	69	19,5
3x 1,5	0,26	0,7	0,9	7,9	153	13,3
3x 2,5	0,26	0,8	1,1	9,8	153	7,98
3x 4	0,31	0,8	1,2	11,0	209	4,95
4x 0,75	0,21	0,6	0,8	7,1	73	26,0
4x 1	0,21	0,6	0,9	7,5	87	19,5
4x 1,5	0,26	0,7	1,0	8,9	124	13,3
4x 2,5	0,26	0,8	1,1	10,7	187	7,98
4x 4	0,31	0,8	1,2	12,1	257	4,95
5x 0,75	0,21	0,6	0,9	7,9	93	26,0
5x 1	0,21	0,6	0,9	8,2	106	19,5
5x 1,5	0,26	0,7	1,1	9,9	156	13,3
5x 2,5	0,26	0,8	1,2	12,0	236	7,98
5x 4	0,31	0,8	1,4	13,6	328	4,95



Characteristics

1.-Does not emit toxic substances:

The gases and acids emitted by the combustion of a cable containing halogens are highly toxic for the people exposed to these gases, possibly resulting in death due to poisoning. The Toxfree ZH RZ1-K (AS) cable does not emit any of these substances, thereby considerably improving the overall safety of the installation.

2.-Does not emit corrosive substances:

The hydrochloric acid (HC1) given off by the combustion of a cable containing halogens is highly corrosive and seriously affects electronic and computer equipment. The Toxfree ZH RZ1-K (AS) does not emit hydrochloric acid (HC1), thereby avoiding this type of damage

3.-Low smoke emission:

This cable avoids loss of visibility due to smoke produced by cable combustion, thereby making the evacuation of people and the performance of rescue personnel easier.

4.-Great power:

The cross linked polyethylene insulation (XLPE) allows greater power transmission as well as a higher resistance to overloads. Additionally, it raises the maximum conductor temperature to 90° C (vs. 70°C in type NYY or VV cables).

5.-Fire proof properties:

The no fire propagation properties of the Toxfree RZ1-K (AS) cable contributes towards improving the overall safety of the installation.

6.-Ecological:

The Toxfree ZH RZ1-K (AS) cable does not contain any halogenated materials, thereby avoiding dioxin emissions into the atmosphere

Application

The Toxfree RZ1-K (AS) cable with zero halogens is a high security cable. In case of fire, it does not emit toxic or corrosive gases, thereby protecting public health and avoiding any possible damage to electronic equipment. For this reason, its use is recommended in public places such as: hospitals, schools, museums, airports, bus terminals, shops in general, tunnels, the underground, etc., as well as in calculation centres, offices, production plants, laboratories, etc

Conductor cross section (mm ²)	Current rating (A)	
	Single phase	Three phase
0.5	3	3
0.75	6	6
1	10	10
1.5	16	16
2.5	25	20
4	32	25

Dimensions					
Cross-section mm ²	Diameter Ø mm	Weight kg/km	Open air at 30°C A	Buried at 20 °C A	Voltage drop V/A · km
1 x 1.5	5.7	46	21	22	29.5
1 x 2.5	6.1	67	29	29	17.7
1 x 4	6.7	73	40	37	11.8
1 x 6	7.2	94	53	46	7.32
1 x 10	8.1	130	74	61	4.23
1 x 16	9.1	182	101	79	2.68
1 x 25	11.0	260	135	101	1.73
1 x 35	12.1	390	160	122	1.23
1 x 50	13.8	520	207	144	0.800
1 x 70	15.9	716	268	178	0.603
1 x 95	17.6	924	328	211	0.457
1 x 120	19.4	1.167	383	240	0.387
1 x 150	21.3	1.456	444	271	0.288
1 x 185	24.1	1.762	510	304	0.235
1 x 240	26.9	2.263	607	351	0.178
1 x 300	29.6	2.832	703	398	0.142
1 x 400	33.9	3.735	823	464	0.108
1 x 500	38.0	4.845	940	525	0.085
1 x 630	43.1	6.311	1.068	598	0.064
2 x 1.5	6.3	97	26	26	14.6
2 x 2.5	6.2	127	30	30	20.4
2 x 4	10.1	167	49	44	12.7
2 x 6	11.2	219	63	56	8.45
2 x 10	13.0	323	80	73	4.89
2 x 16	15.8	460	115	95	3.16
3 G 1.5	8.8	114	26	26	14.6
3 G 2.5	8.8	151	36	34	20.4
3 G 4	11	206	49	44	12.7
3 G 6	12	271	63	56	8.45
3 G 10	14.1	412	80	73	4.89
3 x 16	16.9	624	100	79	2.68
3 x 25	20.8	947	127	101	1.73
3 x 35	23.4	1.270	150	122	1.23
3 x 50	26.8	1.752	192	144	0.800
3 x 70	31.5	2.430	240	178	0.603
3 x 100	36.1	493	315	240	0.423
3 x 16/16	18.6	724	100	79	2.68
3 x 25/16	21.8	1.091	127	101	1.73
3 x 35/16	24.1	1.406	150	122	1.23
3 x 50/25	28.1	1.968	192	144	0.800
3 x 70/35	32.8	2.722	240	178	0.603
3 x 95/50	37.0	3.598	298	211	0.457
3 x 120/70	41.3	4.609	340	240	0.387
3 x 150/70	44.9	5.579	389	271	0.288
3 x 185/95	51.5	8.006	456	304	0.235
3 x 240/120	58.8	10.030	528	351	0.178
4 G 1.5	9.7	130	23	22	29.5
4 G 2.5	10.6	182	32	29	17.7
4 G 4	12.0	252	42	37	11.8
4 G 6	13.3	330	54	46	7.32
4 G 10	15.4	513	70	61	4.23
4 x 16	18.7	763	100	79	2.68
4 x 25	23.1	1.196	127	101	1.73
4 x 35	25.5	1.616	150	122	1.23
4 x 50	30.3	2.242	192	144	0.800
4 x 70	35.1	3.118	240	178	0.603
4 x 95	39.4	4.037	298	211	0.457
4 x 120	43.8	5.104	340	240	0.387
4 x 150	49.8	6.509	389	271	0.288
4 x 185	56.5	8.063	456	304	0.235
4 x 240	63.1	10.421	528	351	0.178
5 G 1.5	10.3	130	23	22	29.5
5 G 2.5	11.8	217	32	29	17.7
5 G 4	13.0	302	42	37	11.8
5 G 6	14.8	400	54	46	7.32
5 G 10	16.3	525	70	61	4.23
5 G 16	20.4	800	100	79	2.68
5 G 25	25.1	1.459	127	101	1.73
5 G 35	28.1	1.981	150	122	1.23
5 G 50	33.7	2.779	192	144	0.800

H05RN-F 300/500V (ERP insulated and neoprene rubber sheathed flexible cords)



Specifications & Standards

DIN VDE 0282-4

BS 6500

NF C 32-201-4

HD 22.4 S3

CONSTRUCTION

Conductors:	Tinned annealed copper conductor flexible class 5 acc. to HD 383
Insulation:	EPR rubber
Sheath:	Oil resisting and flame retardant rubber type EM 2
Colour of Sheath:	Black
Core identification:	Acc. To HD 308 S2 and BS 6500 2-core - blue and brown 3-core -green/yellow, blue and brown
Test voltage 50Hz:	2000V
Maximum conductor operating temperature:	+60 °C
Lowest ambient temperature for fixed installation:	-30°C
Lowest installation temperature:	-25°C
Maximum short-circuit conductor temperature:	+200°C
Minimum bending radius :	6 x Overall diameter cable
Flame propagation:	EN 50265-2-1, BS EN 50265-2-1 (IEC 60332-1)

Application

For use in domestic premises, kitchens, offices and for supplying portable or light mobile appliances which are subject to low mechanical stresses (eg. Vacuum cleaner, electric irons and cooking appliances).

Standard length cable packing:

100 m in coils, other forms of packaging and delivery are available on request.

Number and cross-sectional area of conductor (n x mm ²)	Maximum diameter of wires in conductor (mm)	Nominal thickness of insulation (mm)	Nominal thickness of sheath (mm)	Approx. overall diameter (mm)	Approx. net weight (kg/km)	Maximum resistance of conductor at temperature 20°C (Ω/km)	Current ¹ rating (A)
2 x 0.75	0.21	0.6	0.8	6.1	56	26.7	6
2 x 1	0.21	0.6	0.9	6.6	66	20	10
3 x 0.75	0.21	0.6	0.9	6.7	69	26.7	6
3 x 1	0.21	0.6	0.9	6.9	78	20	10

¹ As defined in HD 516 S2; DIN VDE 0298-4.

These values apply to the majority of cases. Further information should be sought in unusual cases eg.:

- when high ambient temperatures are involved, ie. above 30°C
- where long lengths are used
- where ventilation is restricted
- where the cords are used for other purposes, eg. internal wiring of apparatus.

H05V-K 300/500V (Single Core PVC insulated non sheathed cables for general purposes)



Specifications & Standards

DIN VDE 0281-3

BS 6004

HD 21.3

CONSTRUCTION

Conductors:	Annealed copper, class 5 flexible (H05V-K) conductor acc. to HD 383
Insulation:	PVC compound type TI I
Colour of Insulation:	Green/yellow, blue, black, brown or other colours
Maximum conductor operating temperature:	+70 °C
Lowest ambient temperature for fixed installation:	-30°C
Lowest installation temperature:	-5°C
Maximum short-circuit conductor temperature:	+160°C
Test voltage 50Hz:	2000V
Minimum bending radius :	4 x diameter cable
Flame propagation:	EN 50265-2-1 (IEC 60332-1)

Application

Fixed protected installation inside appliances and in, or on, lighting fittings. Suitable for installation in surface mounted or embedded conduits, only for signaling or control circuits.

Standard length cable packing:

100 m in rings or on spools, or in cardboard boxes. Other forms of packaging and delivery are available on request.

Nominal cross-sectional area of conductor (mm ²)	Maximum diameter of wires in conductor (mm)	Radial thickness of insulation (mm)	Approx. overall diameter (mm)	Approx. net weight (kg/km)	Maximum resistance of conductor at temperature 20°C (Ω/km)	Minimum insulation resistance at temperature 70°C (MΩ.km)
0.5	0.26	0.6	2.2	8	39	0.013
0.75	0.26	0.6	2.2	11	26	0.011
1	0.31	0.6	2.2	13	19.5	0.010

H07V-K 450/750V (Single Core PVC insulated non sheathed cables for general purposes)



Specifications & Standards

DIN VDE 0281-3

BS 6004

HD 21.3

CONSTRUCTION

Conductors:	Annealed copper, class 5 flexible (H07V-K) conductor acc. to HD 383
Insulation:	PVC compound type TI I
Colour of Insulation:	Green/yellow, blue, black, brown or other colours
Maximum conductor operating temperature:	+70 °C
Lowest ambient temperature for fixed installation:	-30°C
Lowest installation temperature:	-5°C
Maximum short-circuit conductor temperature:	+160°C
Test voltage 50Hz:	2500V
Flame propagation:	EN 50265-2-1 (IEC 60332-1)
Minimum bending radius :	

<u>Minimum bending radius:</u>	<u>For cable diameter D mm</u>			
	<u>D ≤ 8</u>	<u>8 < D ≤ 12</u>	<u>12 < D ≤ 20</u>	<u>D > 20</u>
Normal use	4D	5D	6D	6D
Careful bending at termination	2D	3D	4D	4D

Application

Installation in surface mounted or embedded conduits, or similar closed systems. Suitable for fixed protected installation in, or on, lighting or control gear for voltages up to 1000V a.c. or, up to 750V d.c. to earth.

Standard length cable packing:

100 m in rings or on spools, or 500 m on drums. Other forms of packing and delivery are available on request.

H07V-K 450/750V

Nominal cross-sectional area of conductor (mm ²)	Maximum diameter of wires in conductor (mm)	Radial thickness of insulation (mm)	Approx. overall diameter (mm)	Approx. net weight (kg/km)	Maximum resistance of conductor at temperature 20°C (Ω/km)	Minimum insulation resistance at temperature 70°C (MΩ.km)
1.5	0.26	0.7	2.9		13.3	0.010
2.5	0.26	0.8	3.6	30	7.98	0.0095
4	0.31	0.8	4.1	45	4.95	0.0078
6	0.31	0.8	4.6	63	3.30	0.0068
10	0.41	1.0	6.0	109	1.91	0.0065
16	0.41	1.0	7.1	163	1.21	0.0053
25	0.41	1.2	8.7	255	0.780	0.0050
35	0.41	1.2	9.4	341	0.554	0.0043
50	0.41	1.4	11.8	487	0.386	0.0042
70	0.51	1.4	13.6	677	0.272	0.0036
95	0.51	1.6	16.1	906	0.206	0.0036
120	0.51	1.6	17.2	1136	0.161	0.0032
150	0.51	1.8	19.4	1411	0.129	0.0032
185	0.51	2.0	22.1	1725	0.106	0.0032
240	0.51	2.2	24.0	2259	0.0801	0.0031

XLPE / PVC / AWA (or SWA) / PVC 600/1000V (XLPE insulated, PVC sheathed, round wire armoured cables)



Specifications & Standards
BS 5467

CONSTRUCTION

Conductors:	Annealed copper conductor, circular, circular compacted or shaped stranded class 2 acc. to BS 6360
Insulation:	Cross-linked polyethylene XLPE type GP8 acc. to BS 7655-1.3
Bedding:	PVC compound
Armour:	For single-core cables -single layer of aluminum wires applied spirally over the bedding (AWA) For two or more cores cables -single layer of galvanized steel wires applied spirally over the bedding (SWA)
Outer sheath:	Black PVC compound Type 9 acc. to BS 7655-4.2
Core identification:	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) auxiliary cables (white with black numbering)
Maximum conductor operating temperature:	+90 °C
Lowest installation temperature:	0°C
Minimum operating temperature:	-30°C
Maximum short-circuit conductor temperature:	+250°C
Minimum bending radius :	6 x D for cables with circular copper conductors and 8 x D for cables with shaped copper conductors; D - overall diameter of the cable

Application

For use in fixed installations in industrial areas, buildings and similar applications.

XLPE / PVC / AWA / PVC 600/1000V

Number and cross-sectional area of conductor (n x mm ²)	Nominal thickness of insulation (mm)	Thickness of extruded bedding (mm)	Nominal aluminium armour wire diameter (mm)	Nominal thickness of outer sheath (mm)	Approx. overall diameter (mm)	Approx. net weight (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Maximum armour resistance at 20°C (Ω.km)
1x 50	1.0	0.8	0.9	1.5	16.4	679	0.387	1.3
1x 70	1.1	0.8	1.25	1.5	19.0	944	0.268	0.75
1x 95	1.1	0.8	1.25	1.6	20.7	1223	0.193	0.67
1x 120	1.2	0.8	1.25	1.6	22.7	1494	0.153	0.61
1x 150	1.4	1.0	1.6	1.7	25.5	1881	0.124	0.42
1x 185	1.6	1.0	1.6	1.8	28.1	2288	0.0991	0.38
1x 240	1.7	1.0	1.6	1.8	30.7	2867	0.0754	0.34
1x 300	1.8	1.0	1.6	1.9	33.4	3494	0.0601	0.31
1x 400	2.0	1.2	2.0	2.0	39.4	4573	0.0470	0.22
1x 500	2.2	1.2	2.0	2.1	43.3	5714	0.0366	0.20

XLPE / PVC / SWA / PVC 600/1000V

Number and cross-sectional area of conductor (n x mm ²)	Nominal thickness of insulation (mm)	Thickness of extruded bedding (mm)	Nominal steel armour wire diameter (mm)	Nominal thickness of outer sheath (mm)	Approx. overall diameter (mm)	Approx. net weight (kg/km)	Maximum conductor resistance at 20°C (Ω/km)	Maximum armour resistance at 20°C (Ω.km)
2x 1.5	0.6	0.8	0.9	1.3	11.1	270	12.1	10.2
2x 2.5	0.7	0.8	0.9	1.4	12.6	340	7.41	8.8
2x 4	0.7	0.8	0.9	1.4	13.7	409	4.61	7.9
2x 6	0.7	0.8	0.9	1.4	14.8	490	3.08	7.0
2x 10	0.7	0.8	0.9	1.5	16.4	632	1.83	6.0
2x 16	0.7	0.8	1.25	1.5	19.0	932	1.15	3.7
2x 25	0.9	0.8	1.25	1.6	22.5	1297	0.727	3.7
2x 35	0.9	1.0	1.6	1.7	25.7	1768	0.524	2.6
3x 1.5	0.6	0.8	0.9	1.3	11.6	293	12.1	9.5
3x 2.5	0.7	0.8	0.9	1.4	13.1	376	7.41	8.2
3x 4	0.7	0.8	0.9	1.4	14.3	459	4.61	7.5
3x 6	0.7	0.8	0.9	1.4	15.5	561	3.08	6.7
3x 10	0.7	0.8	1.25	1.5	17.9	846	1.83	4.0
3x 16	0.7	0.8	1.25	1.6	20.2	1114	1.15	3.5
3x 25	0.9	1.0	1.6	1.7	24.8	1711	0.727	2.5
3x 35 1)	0.9	1.0	1.6	1.8	27.2	2134	0.524	2.3
3x 35 2)	0.9	1.0	1.6	1.8	24.7	1884	0.524	2.3
3x 50	1.0	1.0	1.6	1.8	27.1	2329	0.387	2.0
3x 70	1.1	1.0	1.6	1.9	30.6	3083	0.268	1.8
3x 95	1.1	1.2	2.0	2.1	35.1	4261	0.193	1.3
3x 120	1.2	1.2	2.0	2.2	38.1	5122	0.153	1.2
3x 150	1.4	1.4	2.5	2.3	43.4	6588	0.124	0.78
3x 185	1.6	1.4	2.5	2.4	47.2	7876	0.0991	0.71
3x 240	1.7	1.4	2.5	2.6	52.1	9813	0.0754	0.63
4x 1.5	0.6	0.8	0.9	1.3	12.3	331	12.1	8.8
4x 2.5	0.7	0.8	0.9	1.4	14.0	427	7.41	7.7
4x 4	0.7	0.8	0.9	1.4	15.3	530	4.61	6.8
4x 6	0.7	0.8	1.25	1.5	17.5	763	3.08	4.3
4x 10	0.7	0.8	1.25	1.5	19.2	988	1.83	3.7
4x 16	0.7	0.8	1.25	1.6	21.8	1322	1.15	3.1
4x 25 1)	0.9	1.0	1.6	1.7	26.8	2037	0.727	2.3
4x 25 2)	0.9	1.0	1.6	1.7	24.5	1844	0.727	2.3
4x 35 1)	0.9	1.0	1.6	1.8	29.5	2554	0.524	2.0
4x 35 2)	0.9	1.0	1.6	1.8	27.3	2330	0.524	2.0
4x 50	1.0	1.0	1.6	1.9	30.2	2929	0.387	1.8
4x 70	1.1	1.2	2.0	2.1	35.6	4209	0.268	1.2
4x 95	1.1	1.2	2.0	2.2	39.2	5405	0.193	1.1
4x 120	1.2	1.4	2.5	2.3	44.4	6970	0.153	0.76
4x 150	1.4	1.4	2.5	2.4	48.4	8309	0.124	0.68
4x 185	1.6	1.4	2.5	2.6	52.9	10024	0.0991	0.61
4x 240	1.7	1.6	2.5	2.7	58.7	12578	0.0754	0.54

1) Sector compacted circular stranded conductors (class 2).

2) Sector shaped stranded conductor (class 2).

Other numbers are permitted subject to agreement between the purchaser and manufacturer

XLPE / PVC / SWA / PVC 600/1000V

Number and cross-sectional area of conductor (n x mm ²)	Nominal thickness of insulation (mm)	Thickness of extruded bedding (mm)	Nominal aluminium armour wire diameter (mm)	Nominal thickness of outer sheath (mm)	Approx. overall diameter (mm)	Approx. net weight (kg/km)	Maximum conductor resistance at 20°C	Maximum armour resistance at 20°C (Ω.km)
5x 1,5	0,6	0,8	0,9	1,4	13,3	382	12,1	8,2
5x 2,5	0,7	0,8	0,9	1,4	14,9	492	7,41	6,8
5x 4	0,7	0,8	0,9	1,5	16,6	621	4,61	6,2
5x 6	0,7	0,8	1,25	1,5	18,8	879	3,08	3,9
5x 10	0,7	0,8	1,25	1,6	20,9	1168	1,83	3,4
5x 16	0,7	1,0		1,7	24,6	1731	1,15	2,2
7x 1,5	0,6	0,8	0,9	1,4	14,1	437	12,1	7,5
7x 2,5	0,7	0,8	0,9	1,4	16,0		7,41	6,3
7x 4	0,7	0,8	1,25		18,4	837	4,61	4,0
12x 1,5	0,6	0,8	1,25	1,5	18,1	729	12,1	4,0
12x 2,5	0,7	0,8	1,25	1,6	20,9	971	7,41	3,5
12x 4	0,7	1,0	1,6	1,6	24,0	1384	4,61	2,3
19x 1,5	0,6	0,8	1,25	1,6	20,6	944	12,1	3,5
19x 2,5	0,7	1,0	1,6	1,7	24,9	1430	7,41	2,3
19x 4	0,7	1,0	1,6	1,7	27,5	1841	4,61	2,0
27x 1,5	0,6	1,0	1,6	1,7	24,9	1380	12,1	2,3
27x 2,5	0,7	1,0	1,6	1,8	28,9	1849	7,41	
37x 1,5	0,6	1,0	1,6	1,7	27,2	1646	12,1	2,0
37x 2,5	0,7	1,2	1,6	1,8	31,8	2257	7,41	1,7
48x 1,5	0,6	1,0	1,6	1,8	30,6	1992	12,1	1,8
48x 2,5	0,7	1,2	2,0	2,0	37,3	3084	7,41	1,2

1) Sector compacted circular stranded conductors (class 2).

2) Sector shaped stranded conductor (class 2).

Other numbers are permitted subject to agreement between the purchaser and manufacturer

CURRENT RATINGS

Cable installed in free air, ambient air temperature 30°C

Nominal area of conductor	Single core				Two core		Three and four core	
	Two cables spaced		Three cables trefoil		Current rating	Volt drop per amp per metre	Current rating	Volt drop per amp per metre
	Current rating	Volt drop per amp metre	Current rating	Volt drop per amp metre				
mm ²	A	mV	A	mV	A	mV	A	mV
1,5					29	31	25	27
2,5	—	—	—	—	39	19	33	16
4	—	—	—	—	52	12	—	10
6	—	—	—	—	66	7,9	56	6,8
10	—	—	—	—	90	4,7	78	4,0
16	—	—	—	—	115	2,9	99	2,5
25	—	—	—	—	152	1,90	131	1,65
35	—	—	—	—	188	1,35	162	1,15
50	266	1,00	222	0,87	228	1,00	197	0,87
70	337	0,75	285	0,62	291	0,69	251	0,60
95	412	0,60	346	0,47	354	0,52	304	0,45
120	477	0,51	402	0,39	410	0,42	353	0,37
150	539	0,45	463	0,33	472	0,35	406	0,30
185	614	0,40	529	0,28	359	0,29	463	0,26
240	714	0,35	625	0,24	636	0,24	546	0,21
300	805	0,32	720	0,21	—	—	—	—
400	889	0,30	815	0,195	—	—	—	—
500	989	0,29	918	0,180	—	—	—	—

Cable laid direct in ground / run in single way ducts.

Ground temperature 15°C. Ground thermal resistivity 1,2 Km/W, depth of laying 0,5 m. All circuits thermally independent. Single core cables solidly bonded.

Nominal area of conductor	Single core								Two core		Three and four core		
	Two cables spaced				Three cables trefoil touching				Current rating	Volt drop per amp per metre	Current rating	Volt drop per amp per metre	
	Current rating		Volt drop per amp per metre		Current rating		Volt drop per amp per metre						
	In ground	In duct	In ground	In duct	In ground	In duct	In ground	In duct	In ground	In duct			
mm ²	A		mV		A		mV		A		mV		
1,5									38	31	32	26	27
2,5	—	—	—	—	—	—	—	—	49	41	42	34	17
4	—	—	—	—	—	—	—	—	65	53	55	45	10
6	—	—	—	—	—	—	—	—	81	67	69	56	6,80
10	—	—	—	—	—	—	—	—	109	89	92	75	4,10
16	—	—	—	—	—	—	—	—	141	115	119	96	2,50
25	—	—	—	—	—	—	—	—	183	148	152	124	1,65
35	—	—	—	—	—	—	—	—	219	178	182	149	1,15
50	274	252	1,00	1,10	231	231	0,87	0,93	259	211	217	177	0,87
70	337	305	0,71	0,80	284	278	0,62	0,70	317	260	266	218	0,60
95	403	360	0,55	0,65	340	327	0,47	0,56	381	313	319	263	0,45
120	458	404	0,45	0,55	386	366	0,39	0,48	433	357	363	300	0,37
150	510	439	0,38	0,50	431	396	0,33	0,43	485	401	406	338	0,30
185	574	486	0,31	0,45	485	437	0,28	0,39	547	455	458	382	0,26
240	661	546	0,28	0,40	558	489	0,24	0,35	632	527	529	442	0,21
300	739	597	0,26	0,37	623	534	0,21	0,32	—	—	—	—	—
400	820	638	0,22	0,35	691	567	0,195	0,30	—	—	—	—	—
500	910	694	0,21	0,33	765	615	0,180	0,28	—	—	—	—	—

Rating factors for air temperature

Ambient air temperature, °C	25	30	35	40	45	50	55
Rating factors	1.02	1.0	0.96	0.91	0.87	0.82	0.76

Rating factors for ground temperature

Ground temperature, °C	15	20	25	30	35	40	45
Rating factors	1.0	0.97	0.93	0.89	0.86	0.82	0.76

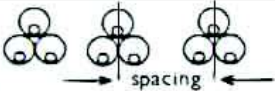
Rating factors for depth of laying (to centre of cable or trefoil group of cables)

Depth of laying [m]	0.50	0.60	0.80	1.00	0.125	1.50	1.75	2.00	2.50	3.00
Rating factor										
up to 50 mm ²	1.00	0.99	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89
70 mm ² – 300 mm ²	1.00	0.98	0.96	0.93	0.92	0.90	0.89	0.88	0.87	0.85
above 300 mm ²	1.00	0.97	0.94	0.92	0.89	0.87	0.86	0.86	0.84	0.82

Rating factors for variation in thermal resistivity of soil (average values)


Size of cable [mm ²]	Soil thermal resistivity in K·m/W					
	0.8	0.9	1.0	1.5	2.0	2.5
Single core cables up to 150	1.15	1.11	1.06	0.91	0.81	0.73
from 185 to 300	1.17	1.12	1.07	0.90	0.80	0.72
from 400 to 630	1.17	1.12	1.07	0.90	0.79	0.71
Multicore cables up to 16	1.09	1.06	1.04	0.93	0.84	0.77
from 25 to 150	1.12	1.09	1.05	0.92	0.82	0.75
from 185 to 400	1.14	1.10	1.06	0.92	0.81	0.74

Group rating factors for single core cables in trefoil single way ducts, horizontal formation (average values)



Number of circuits	Spacing		
	Touching	0.45	0.60
	m		
2	0.86	0.90	0.93
3	0.77	0.83	0.87
4	0.73	0.81	0.85
5	0.70	0.78	0.83
6	0.68	0.77	0.82

Group ratings for multicore cables in single way ducts horizontal formation (average values)



Number of cables in group	Spacing			
	Touching	0.30	0.45	0.60
	m			
2	0.90	0.93	0.95	0.96
3	0.82	0.87	0.90	0.93
4	0.78	0.85	0.89	0.91
5	0.75	0.82	0.87	0.90
6	0.72	0.81	0.86	0.90

CABLES INSTALLED IN DUCTS

The term ducts applies to single earthenware, fibre or ferrous pipes.

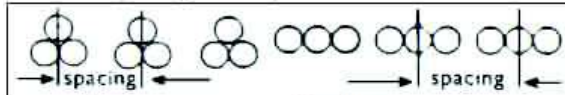
Rating factors for ground temperature. Note: same as for direct in ground

Depth of laying [m]		0.50	0.60	0.80	1.00	1.25	1.50	1.75	2.00	2.50	3.00
Rating factor	single core	1,00	0,96	0,95	0,93	0,90	0,89	0,88	0,87	0,86	0,85
	multicore	1,00	0,99	0,97	0,96	0,95	0,94	0,94	0,93	0,92	0,91

Rating factor for variation in thermal resistivity of soil (average values)


Size of cable [mm ²]	Soil thermal resistivity in K·m/W					
	0,8	0,9	1,0	1,5	2,0	2,5
Single core cables up to 150	1,08	1,06	1,04	0,94	0,86	0,60
from 185 to 300	1,01	1,07	1,04	0,93	0,85	0,78
from 380 to 1000	1,11	1,08	1,05	0,93	0,83	0,76
Multicore cables up to 16	1,03	1,02	1,02	0,97	0,91	0,87
from 25 to 150	1,05	1,03	1,02	0,95	0,89	0,83
from 185 to 400	1,07	1,05	1,03	0,94	0,86	0,81

Group rating factors for single core cables in trefoil single way ducts, horizontal formation (average values)



Number of circuits	Spacing					
	Touching		0,15*	0,30	0,45	0,60
	Trefoil	Laid flat	m			
2	0,77	0,80	0,82	0,88	0,90	0,93
3	0,65	0,68	0,72	0,79	0,83	0,87
4	0,59	0,63	0,67	0,75	0,81	0,85
5	0,55	0,58	0,63	0,72	0,78	0,83
6	0,52	0,56	0,60	0,70	0,77	0,82

Group ratings for multicore cables in single way ducts horizontal formation (average values)



Number of cables in group	Spacing				
	Touching	0,15	0,30	0,45	0,60
	m				
2	0,81	0,87	0,91	0,93	0,94
3	0,70	0,78	0,84	0,87	0,90
4	0,63	0,74	0,81	0,86	0,89
5	0,59	0,70	0,78	0,83	0,88
6	0,55	0,67	0,76	0,82	0,86

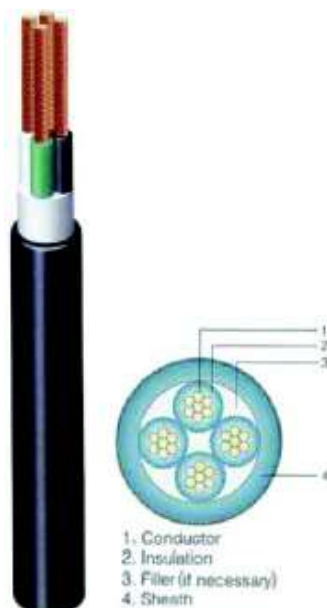
VCTF 300/500V PVC Insulated (PVC Sheathed Flexible Power Cable)

CONSTRUCTION

Conductors:	Flexible Stranded Annealed Copper (Class 5)
Insulation:	PVC (Poly Vinyl Chloride. 70°C)
Assembly:	Multi-cores of cable shall be assembled to form a circular cable
Armour:	For single-core cables -single layer of aluminum wires applied spirally over the bedding (AWA) For two or more cores cables -single layer of galvanized steel wires applied spirally over the bedding (SWA)
Sheath:	PVC (Black) The Sheath may fill the interstices between the cores but it shall not adhere to the cores
Core identification:	2-core (Black, White) 3-core (Black, White, Red or Black, White, Green) 4-core (Black, White, Red, Green)
Maximum allowable temperature:	70 °C
Lowest installation temperature:	0°C
Minimum operating temperature:	-30°C
Maximum short-circuit conductor temperature:	+250°C
Minimum bending radius :	6 x D for cables with circular copper conductors and 8 x D for cables with shaped copper conductors; D - overall diameter of the cable



Application

This cable is generally used for connecting mobile electric apparatus under AC 0.6/1 KV as power source lead wire in factory, mine area and farm.



STANDARD: KS C 3602

CERTIFICATE:

-  CERTIFICATE Korean Industrial Standards
-  Safety Certification for Electric and Electronic Appliance

VCTF 300/500Y (2 core)

Conductor			Insulation Thickness (mm)	Sheath Thickness (mm)	Mean Overall Diameter (mm)	Max. Conductor Resistance at 20°C		Test Voltage	Approx. weight (kg/km)
Nominal Sectional Area (mm ²)	Maximum Diameter of Wire (mm)	Approx. Diameter (mm)				Copper (Ω/km)	Tin-Coated Copper (Ω/km)		
2 × 0.75	0.2	1.2	0.7	1.7	9.9	19.4	19.9	3.5	119
2 × 1.25	0.23	1.5	0.7	1.7	10.4	13.2	13.6		128
2 × 2.0	0.24	2.0	0.7	1.7	11.4	7.97	8.2		159
2 × 3.5	0.29	2.5	0.9	1.7	13.4	4.94	5.08		219

VCTF 300/500Y (3 core)

Conductor			Insulation Thickness (mm)	Sheath Thickness (mm)	Mean Overall Diameter (mm)	Max. Conductor Resistance at 20°C		Test Voltage	Approx. weight (kg/km)
Nominal Sectional Area (mm ²)	Maximum Diameter of Wire (mm)	Approx. Diameter (mm)				Copper (Ω/km)	Tin-Coated Copper (Ω/km)		
3 × 0.75	0.2	1.2	0.7	1.7	10.4	19.4	19.9	3.5	139
3 × 1.25	0.23	1.5	0.7	1.7	10.9	13.2	13.6		159
3 × 2.0	0.24	2.0	0.7	1.7	11.9	7.97	8.2		199
3 × 3.5	0.29	2.5	0.9	1.7	13.9	4.94	5.08		279
3 × 5.5	0.29	3.5	0.9	1.7	15.9	3.29	3.38		369

VCTF 300/500Y (4 core)

Conductor			Insulation Thickness (mm)	Sheath Thickness (mm)	Mean Overall Diameter (mm)	Max. Conductor Resistance at 20°C		Test Voltage	Approx. weight (kg/km)
Nominal Sectional Area (mm ²)	Maximum Diameter of Wire (mm)	Approx. Diameter (mm)				Copper (Ω/km)	Tin-Coated Copper (Ω/km)		
4 × 0.75	0.2	1.2	0.7	1.7	10.9	19.4	19.9	3.5	169
4 × 1.25	0.23	1.5	0.7	1.7	11.9	13.2	13.6		189
4 × 2.0	0.24	2.0	0.7	1.7	12.9	7.97	8.2		239
4 × 3.5	0.29	2.5	0.9	1.7	14.9	4.94	5.08		339

60245 IEC 81 (NATURAL RUBBER SHEATHED WELDING CABLE)



CONSTRUCTION

Conductors:	Plain annealed copper stranded wires
Insulation:	Flame retardant oil resistant rubber
Colour of Insulation:	Black
Test voltage 50Hz:	1000V
Maximum conductor operating temperature:	+85°C
Lowest ambient temperature for fixed installation::	-40°C
Lowest installation temperature:	-25°C
Maximum short-circuit conductor temperature:	+250°C
Pulling strength:	The maximum static pulling strength may not exceed 15 N/mm ²

Minimum bending radius:	D -overall diameter of cable (mm)		
	8 < D ≤ 12	12 < D ≤ 20	D > 20
Free movement	4D	6D	6D
Under mechanical load	6D	4D	8D

Application

Designed for welding equipment and accessories; retain their high flexibility even under influence of ozone, light, oxygen, protective gases, oil and petrol: resistant to flame propagation, suitable for use in dry and damp conditions, outdoors and indoors.

Nominal sectional area	Conductor		Insulation thickness	Overall diameter (Min.)	Overall diameter (Max.)	Conductor resistance (20°C.)	Approx. Weight
	Conductor	Diameter					
mm ²	No / No / mm	mm	mm	mm	mm	Ω/km	kg/km
16	7 / 68 / 0.20A	5.70	2.0	9.2	11.5	1.21	230
25	7 / 105 / 0.20A	7.00	2.0	10.5	13.0	0.780	335
35	12 / 87 / 0.20A	8.70	2.0	11.5	14.5	0.554	435
50	19 / 78 / 0.20A	10.00	2.2	13.5	17.0	0.386	605
70	19 / 112 / 0.20A	11.80	2.4	15.5	19.5	0.272	835
95	37 / 80 / 0.20A	13.80	2.6	18.0	22.0	0.206	1110

SIHF 300/500V (Silicone multicore cable, flexible halogen-free)



Specifications & Standards
Adapted to DIN VDE 0250-816

CONSTRUCTION

Conductors:	Tinned annealed copper Class 5 flexible conductor acc. to DIN VDE 0295
Insulation:	Cross-linked polyethylene XLPE type GP8 acc. to BS 7655-1.3
Core identification:	Special silicone compound type EI2 DIN VDE 0293-308 twin core (blue, brown) 3-core (green-yellow, blue, brown) 4-core (green-yellow, brown, black, grey) 4-core* (green-yellow, black, blue, brown) 5-core (green-yellow, blue, brown, black, grey) * For certain applications only.
Outer sheath:	Special silicone compound type EI2
Colour of sheath:	Redbrown
Test voltage 50Hz:	2000V
Minimum bending radius:	7.5 x cable diameter
Maximum permissible load:	15 N/mm ² of the total copper cross-sectional area
Maximum conductor operating temperature:	+180 °C
Lowest ambient temperature for fixed installation (static):	-60°C
Lowest installation temperature (flexing):	-25°C
Maximum short-circuit conductor temperature:	+350°C

FEATURES

- flexibility and elasticity unaltered at extremely low temperatures (-60°C)
- preservation of mechanical characteristics within a wide range of temperatures (-60°C to +180°C)
- high auto ignition temperature
- flame resistant, during combustion emits a very low level of non-toxic and non-corrosive fumes
- very good low temperature flexibility
- good electrical properties with insignificant variations at a wide level of temperatures
- sunlight and weather resistant
- resistant to oxygen, ozone, fats from vegetables and animals, soap dilutions, alcohols, ammonium, diluted acids and alkalis, sea water.

Application

Silicone rubber insulated cables are intended for use wherever insulation is subjected to extreme temperature changes. These cables are highly flexible and their electrical and mechanical properties remain unaltered with time both at high and low temperatures, heat-resistant up to 180°C. Specially recommended for: household appliances, cooking surfaces, heating apparatus, industrial converters, radiators, ovens and ventilators, electric motors, lighting (halogen lamps etc.), high voltage electrical cabins and circuits, civil and industrial plant, the automobile industry, metallurgical facilities, steel mills, hot rolling mills and casting houses.

Standard length cable packing:

50 and 100m in rings or 500 and 1000m on spools.

Other forms of packing and delivery are available on request

SIHF 300/500V

Number and cross-sectional area of conductor (n x mm ²)	Maximum diameter of wires (mm)	Nominal thickness of insulation (mm)	Nominal thickness of Sheath (mm)	Approx. Overall Diameter (mm)	Approx. net weight (kg/km)	Max. Conductor resistance at temperature 20°C (Ω/km)
2x 0,5	0,21	0,6	0,8	5,8	39	40,1
2x 0,75	0,21	0,6	0,8	6,2	47	26,7
2x 1	0,21	0,6	0,9	6,6	55	20,0
2x 1,5	0,26	0,6	1,0	7,4	73	13,7
2x 2,5	0,26	0,7	1,1	9,0	110	8,21
2x 4	0,31	1,0	1,2	11,3	174	5,09
2x 6	0,31	1,0	1,3	12,7	232	3,39
2x 10	0,41	1,2	2,0	16,9	407	1,95
2x 16	0,41	1,2	2,2	19,6	578	1,24
3x 0,5	0,21	0,6	0,8	6,1	47	40,1
3x 0,75	0,21	0,6	0,9	6,8	59	26,7
3x 1	0,21	0,6	0,9	6,9	67	20,0
3x 1,5	0,26	0,6	1,0	7,8	89	13,7
3x 2,5	0,26	0,7	1,1	9,5	136	8,21
3x 4	0,31	1,0	1,2	12,0	216	5,09
3x 6	0,31	1,0	1,4	13,6	296	3,39
3x 10	0,41	1,2	2,2	18,3	522	1,95
3x 16	0,41	1,2	2,3	21,0	739	1,24
4x 0,5	0,21	0,6	0,9	6,9	58	
4x 0,75	0,21	0,6	0,9	7,4		26,7
4x 1	0,21	0,6	1,0	7,8	84	20,0
4x 1,5	0,26	0,6	1,1	8,7	112	13,7
4x 2,5	0,26	0,7	1,2	10,6	171	8,21
4x 4	0,31	1,0	1,3	13,3	271	5,09
4x 6	0,31	1,0	1,5	15,1	373	3,39
4x 10	0,41	1,2	2,2	20,0	645	1,95
4x 16	0,41	1,2	2,3	23,0	920	1,24
4x 25	0,41	1,4	2,7	27,6	1375	0,795
4x 35	0,41	1,4	2,9	29,7	1794	0,565
5x 0,75	0,21	0,6	1,0	8,2	91	26,7
5x 1	0,21	0,6	1,1	8,7	107	20,0
5x 1,5	0,26	0,6	1,2	9,7	141	13,7
5x 2,5	0,26	0,7	1,3	11,7	216	8,21
5x 4	0,31	1,0	1,4	14,8	342	5,09
5x 6	0,31	1,0	1,6	16,8	468	3,39

SIHF 300/500V

Current ratings for multicore silicone cables

Nominal cross-sectional area of conductor (mm ²)	Current rating *		Nominal cross-sectional area of conductor (mm ²)	Current rating*	
	Current-carrying capacity A	Protective Fuse A		Current-carrying capacity A	Protective Fuse A
0,5	7		6	44	50
0,75	12	6	10	61	63
	15	10	16	82	80
1,5	18	16	25	108	100
2,5	26	25	35	135	
4	34	35			

*As defined in DIN VDE 0298-4. Multi core cables laid in open air.

Power ratings for ambient temperature over 150°C. The following conversion factors are valid:

Ambient temperature °C	150	155	160	165	170	175
Correction factors	1.0	0.91	0.82	0.71	0.58	0.41

Conversion (actors for multicore cable (2:5 cores)

Number of loaded cores, n	5	7	10	14	19	24
Correction factors	0.75	0.65	0.55	0.50	0.45	0.40

SIF 300/500V (Single core silicone rubber insulated cable, halogen-free)



Specifications & Standards
Adapted to DIN VDE 0250

CONSTRUCTION

Conductors:	Tinned annealed copper Class 5 flexible conductor acc. to DIN VDE 0295
Insulation:	Special silicone compound type EI2
Core identification:	Natural, green/yellow, blue, black, brown or others colours
Test voltage 50Hz:	2000V
Minimum bending radius:	4 x cable diameter
Maximum conductor operating temperature:	+180 °C
Lowest ambient temperature for fixed installation (static):	-60°C
Lowest installation temperature (flexing):	-25°C
Maximum short-circuit conductor temperature:	+350°C

FEATURES

- flexibility and elasticity unaltered at extremely low temperatures (-60°C)
- preservation of mechanical characteristics within a wide range of temperatures (-60°C to +180°C)
- high auto ignition temperature
- flame resistant, during combustion emits a very low level of non-toxic and non-corrosive fumes
- very good low temperature flexibility
- good electrical properties with insignificant variations at a wide level of temperatures
- sunlight and weather resistant
- resistant to oxygen, ozone, fats from vegetables and animals, soap dilutions, alcohols, ammonium, diluted acids and alkalis, sea water.

Application

Silicone rubber insulated cables are intended for use wherever insulation is subjected to extreme temperature changes. These cables are highly flexible and their electrical and mechanical properties remain unaltered with time both at high and low temperatures, heat-resistant up to 180°C. Specially recommended for: household appliances, cooking surfaces, heating apparatus, industrial converters, radiators, ovens and ventilators, electric motors, lighting (halogen lamps etc.), high voltage electrical cabins and circuits, civil and industrial plant, the automobile industry, metallurgical facilities, steel mills, hot rolling mills and casting houses.

Standard length cable packing:

100 and 200m in rings or 500 and 1000m on spools.

Other forms of packing and delivery are available on request

SIHF 300/500V

Conductor cross-section (mm ²)	Maximum diameter of wires (mm)	Approx. Overall Diameter (mm)	Approx. net weight (kg/km)	Max. resistance of conductor at temperature 20°C (Ω/km)	Current rating* (A)
0.25	0.21	1.8	4.8	76.0	
0.35	0.21	2.0	6.5	57.0	5
0.5	0.21	2.1	7.8	40.1	10
0.75	0.21	2.3	10.5	26.7	15
1	0.21	2.4	12.6	20.0	19
1.5	0.26	2.7	17.4	13.7	24
2.5	0.26	3.4	28.1	8.21	32
4	0.31	4.1	42.6	5.09	42
6	0.31	4.6		3.39	54
10	0.41	6.1		1.95	73
16	0.41	7.2	157.6	1.24	98
25	0.41	10.3	271.1	0.795	129
35	0.41	11.6	374.9	0.565	158
50	0.41	13.9	528.4	0.393	198
70	0.51	16.0	730.2	0.277	245
95	0.51	18.4	952.7	0.210	292
120	0.51	20.0	1204.0	0.164	344

*As defined in DIN VDE 0298-4. Multi core cables laid in open air.

Power ratings for ambient temperature over 150°C. The following conversion factors are valid:

Ambient temperature °C	150	155	160	165	170	175
Correction factors	1.0	0.91	0.82	0.71	0.58	0.41

Fibre Cable - Multi Loose Tube Cable (Corrugated Steel Tape or Steel Wire Armoured)

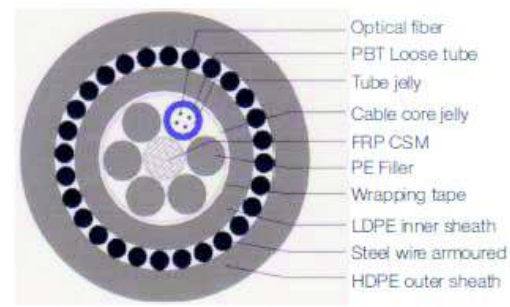


- **Central Strength Member**
Provides both tensile and anti-buckling to the cable. Available in metallic (phosphated steel wire) or non-metallic strength member (GRP).
- **Filled Buffer Tube**
Tubes made of PBT (polybutylene terephthalate), fully water-blocked with a thixotropic compound, stranded together around central strength member.
- **Filler**
Where necessary, number of fillers are placed among stranded tubes. Filler made of polyethylene or polymeric material.
- **Optical Fibers**
Available up to 12 colored fibers per tube, single mode or multi mode type.
- **Water Blocking Material**
Applied to cable core to prevent the ingress of water longitudinally, using swellable material for dry core or flooding compound for jelly filled design.
- **Peripheral Strength Member**
Where necessary, aramid or glass yarns added and distributed over the cable core to enhance its strain characteristic.
- **Wrapping Tape**
The cable core covered with plastic or swellable tape.
- **Sheath**
Polyethylene proven as a suitable material for sheathing since provides the cable with a tough, flexible, protective covering, able to withstand exposure to sunlight, the atmospheric temperature and stresses during installation and service. Alternative material also available upon request such as LSOH compound (low smoke zero halogen) in order to reduce flame propagation.
- **Armor**
Protects the cable from termite, rodent or mechanical disturbance such as crush and impact. Available in metallic (corrugated steel tape, steel wire armoured) or non-metallic armor (glass tape)
- **Ripcord**
It's made of nylon or aramid yarns, to provide a means for quick sheath removal.

Corrugated Steel Tape



Steel Wire Armoured



Feature / Benefits

- Fiber count up to 144
- Strain free fibers in a stranded loose tube design
- SZ stranding design allows for easy mid-span across and isolate fibers from installation and environment rigors
- Most common and widely used design
- Complies with international or national standard (IEC, STEL-K)
- Suitable for access and long distance applications

Multitight

Afume®, the special LSOH Prysmian compound, is attractive where the generation of smoke or toxic emissions is potentially hazardous to people or equipment.



Copper Communication Cables – Indoor Distribution

- Conductor: Tinned copper 0.4 to 0.9mm
 - Insulation: PVC
- Cabling: Pair or quad; unit and sub-unit
 - Size: 1 to 400 pairs
- Screen: Polyester plated AL tape (if specified)
 - Sheath: PVC

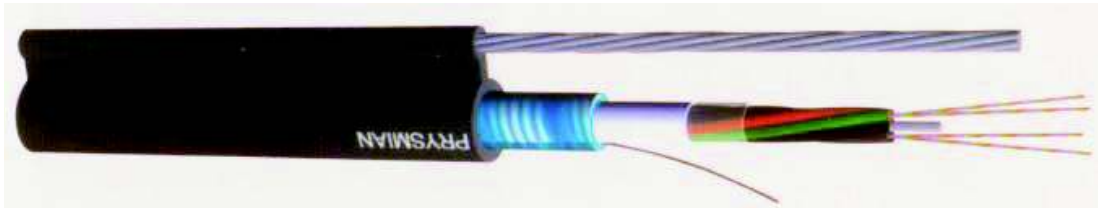


Copper Communication Cables – Outdoor Buried

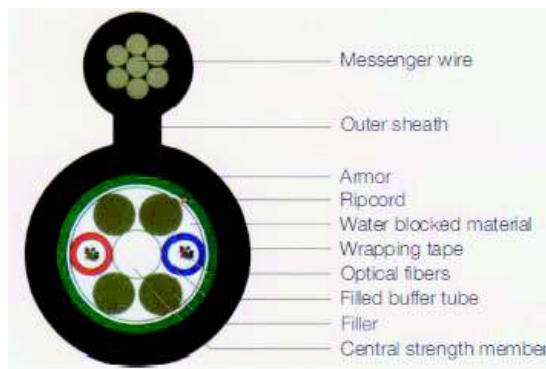
- Conductor: Plain copper 0.4 to 0.9mm
- Insulation: Solid, foam-skin, cellular PE
- Cabling: Pair or quad; unit and sub-unit
 - Size: 10 to 200 pairs
 - Supporting cord: Steel wires
- Screen/moisture: AL poly laminated tape
 - Barrier: Wrapped AL tapes
 - Sheath: PE
- Water penetration: Filling compound (if specified).



Figure-8 Cable



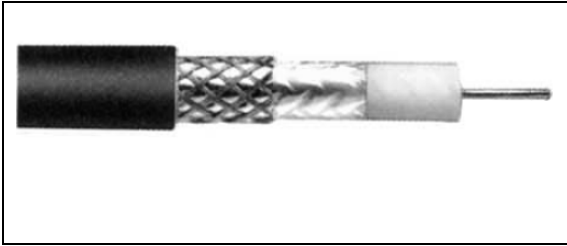
- **Central Strength Member**
Provides both tensile and anti-buckling to the cable. Available in metallic (phosphated steel wire) or non-metallic strength member (GRP).
- **Filled Buffer Tube**
Tubes made of PBT (polybutylene terephthalate), fully water-blocked with a thixotropic compound, stranded together around central strength member.
- **Filler**
Where necessary, number of fillers are placed among stranded tubes. Filler made of polyethylene or polymeric material.
- **Optical Fibers**
Available up to 12 colored fibers per tube, single mode or multi mode type.
- **Water Blocking Material**
Applied to cable core to prevent the ingress of water longitudinally, using swellable material for dry core or flooding compound for jelly filled design.
- **Peripheral Strength Member**
Where necessary, aramid or glass yarns added and distributed over the cable core to enhance its strain characteristic.
- **Wrapping Tape**
The cable core covered with plastic or swellable tape.
- **Sheath**
Polyethylene proven as a suitable material for sheathing since provides the cable with a tough, flexible, protective covering, able to withstand exposure to sunlight, the atmospheric temperature and stresses during installation and service.
- **Armor**
Protects the cable from termite, rodent or mechanical disturbance such as crush and impact. Available in metallic (corrugated steel tape) or non-metallic armor (glass tape)
- **Ripcord**
It's made of nylon or aramid yarns, to provide a means for quick sheath removal.
- **Messenger Wire**
Wire incorporated into the sheath to form a figure of 8 cross sectional design and must be strong enough to carry the weight of cable in all expected environmental conditions



Feature / Benefits

- Fiber count up to 144
- Also available unarmored and dry core design for easier handling design
- Low installation costs, using standard hardware and working methods
- Suitable for short or medium span routes
- Complies with international or national standard (IEC, STEL-K)

Coaxial Cables - RG 6/U (C0015)



APPLICATION

- for RF signal transmission
- local area network
- MATV
- CATV
- drop cable
- FM broadcast

Inner conductor type and size	Insulation, material and overall diameter	Outer conductor, material and % coverage	Outer jacket, nominal overall diameter	Nominal impedance at 200MHz	Nominal capacitance	Approximate attenuation	
						MHz	Dβ/100m
n x mm	mm	%	mm	Ω	pf/m		
BC 1 x 1.024	FPE 4.57	PES/AL + TC 100 + 61	PVC 6.9	75	57	50 100 200 500 900	4.7 6.9 10.1 17.2 24.6

Coaxial Cables - RG 11/U (C0110)

APPLICATION

- for RF signal transmission
- local area network
- MATV
- CB radio



Inner conductor type and size	Insulation, material and overall diameter	Outer conductor, material and % coverage	Outer jacket, nominal overall diameter	Nominal impedance at 200MHz	Nominal capacitance	Approximate attenuation	
						MHz	Dβ/100m
n x mm	mm	%	mm	Ω	pf/m		
BC 1 x 1.63	FPE 7.24	BC 95	PE 10.3	75	57	50 100 200 500 900	3.4 4.9 7.3 12.9 18.8

Standard length cable packing:

- 100m on coils or cardboard spools.
- Other forms of packing and delivery are available on request

BC = bare copper
 TC = tinned copper
 BCCS = bare copper covered steel
 FPE = foam polyethylene

PE = polyethylene
 PVC = polyvinylchloride
 PVC-I = non-contaminating PVC
 PES/AL = polyesterfoil coated with Aluminium

Specification subject to change without prior notice

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Website: www.asec.com.sg

Coaxial Cables - RG 58/U (C0210) JAN-C-17



APPLICATION

- for RF signal transmission

Inner conductor type and size	Insulation, material and overall diameter	Outer conductor, material and % coverage	Outer jacket, nominal overall diameter	Nominal impedance at 200MHz	Nominal capacitance	Approximate attenuation	
						MHz	Dβ/100m
n x mm	mm	%	mm	Ω	pf/m		
BC 1 x 0.81	FPE 2.95	TC 96	PVC-I 5.0	53.5	94	50 100 200 500 900	9.0 12.8 18.4 26.4 54.2

Coaxial Cables - RG 59B/U (C0340)

APPLICATION

- for RF signal transmission
- local area network
- MATV
- CATV
- CB radio



Inner conductor type and size	Insulation, material and overall diameter	Outer conductor, material and % coverage	Outer jacket, nominal overall diameter	Nominal impedance at 200MHz	Nominal capacitance	Approximate attenuation	
						MHz	Dβ/100m
n x mm	mm	%	mm	Ω	pf/m		
BC 1 x 0.58	PE 3.70	BC 95	PVC 6.2	75±3	66	50 100 200 400 600	7.7 11.0 15.7 22.6 28.0

Standard length cable packing:

- 100m on coils or cardboard spools.
- Other forms of packing and delivery are available on request

BC = bare copper
 TC = tinned copper
 BCCS = bare copper covered steel
 FPE = foam polyethylene

PE = polyethylene
 PVC = polyvinylchloride
 PVC-I = non-contaminating PVC
 PES/AL= polyesterfoil coated with Aluminium

Specification subject to change without prior notice

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Coaxial Cables - RG 213/U (C0510) MIL-C-17



APPLICATION

- for RF signal transmission
- close circuit TV

Inner conductor type and size	Insulation, material and overall diameter	Outer conductor, material and % coverage	Outer jacket, nominal overall diameter	Nominal impedance at 200MHz	Nominal capacitance	Approximate attenuation	
						MHz	Dβ/100m
n x mm	mm	%	mm	Ω	pf/m		
BC 7 x 0.75	PE 7.25	BC 95	PVC-I 10.3	50±2	101	50 100 200 400 600	4.5 6.5 9.4 13.7 21.6

Coaxial Cables - RG 214/U MIL-C-17

APPLICATION

- RF Equipment Interconnection
- RF TX/RX Antenna Feeder
- Antenna Jumpers/Computer Networks



Inner conductor type and size	Insulation, material and overall diameter	Outer conductor, material and % coverage	Outer jacket, nominal overall diameter	Nominal impedance at 200MHz	Nominal capacitance	Approximate attenuation	
						MHz	Dβ/100m
n x mm	mm	%	mm	Ω	pf/m		
BC 7 x 0.75	PE 7.25	BC 95	PVC-I 10.8±0.15	50±3	101	100 1000 2500	7.7 22.5 40.0

Standard length cable packing:

- 100m on coils or cardboard spools.
- Other forms of packing and delivery are available on request

BC = bare copper
 TC = tinned copper
 BCCS = bare copper covered steel
 FPE = foam polyethylene

PE = polyethylene
 PVC = polyvinylchloride
 PVC-I = non-contaminating PVC
 PES/AL= polyesterfoil coated with Aluminium

Coaxial Cables - RG 223/U MIL-C-17



APPLICATION

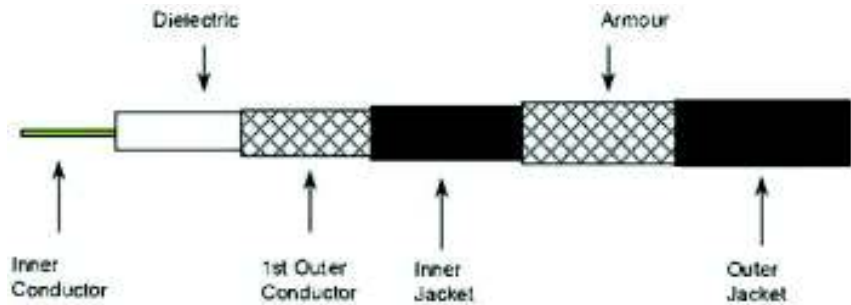
- RF Equipment Interconnection
- RF TX/RX Antenna Feeder
- Antenna Jumpers/Computer Networks

Inner conductor type and size	Insulation, material and overall diameter	Outer conductor, material and % coverage	Outer jacket, nominal overall diameter	Nominal impedance at 200MHz	Nominal capacitance	Approximate attenuation	
						MHz	Dβ/100m
n x mm	mm	%	mm	Ω	pf/m		
Cu Ag 0.90	Solid PE 2.95	Cu Ag > 95	PVC 54±0.1	50±2	100	50 100 200 1000	4.2 6.1 13.3 23.3

Coaxial Cables - RG 12/U

STANDARDS

- IEC 60332-1
- IEC 61034
- IEC 60754



Inner conductor	Dielectric	1st Outer conduct	Inner Jacket	Armour	Outer jacket	Characteristic impedance	Nominal capacitance	Approximate attenuation	
								MHz	Dβ/100m
mm	mm	mm	mm	mm	mm	Ω	pf/m		
BC 1.63	FPE 7.11	BC Braid 95%	Black LSOH 10.20	80% Galvanized Steel Wire 11.25	Black LSOH 13.60	75±3	53.2	10 50 100 200 400 700 900 1000	2.35 4.60 7.06 10.48 15.40 21.70 25.90 29.90

Standard length cable packing:

- 100m on coils or cardboard spools.
- Other forms of packing and delivery are available on request

BC = bare copper
 TC = tinned copper
 BCCS = bare copper covered steel
 FPE = foam polyethylene

PE = polyethylene
 PVC = polyvinylchloride
 PVC-I = non-contaminating PVC
 PES/AL= polyesterfoil coated with Aluminium