

Indus

Cables (Pvt) Ltd.



INDUS CABLES



Product Catalogue



www.induscables.net



INTRODUCTION

INTRODUCTION:

Ever since founded in 1993, We INDUS CABLES (PVT) have mainly manufactured cables such as PVC Insulated, PVC Sheathed, Telephone Cables, Control Cables, Coaxial Cables and Power Cables, but from 1995, produced PVC Insulated PVC Sheathed Steel Wire Armored Cables and Auto Cables. To meet the requirement of Local industry in which the requirement is rapidly growing.

In addition, we have favorably commented upon our CABLES covered in right dimension and added the facilities to manufacture Jelly Filled Telephone Cables & Rubber Insulated and Rubber Sheathed Cable.

Our products realized its quality by our customers who are satisfied with our quality that we have manufactured by the accumulated technology and experience over the period of 20 years that met the wide range of specification around the world.

COMPANY'S PROFILE

COMPANY'S PROFILE:

- 1993 Started production of cables as proprietary concern for PVC Cables.
- 1995 Installed Armoring and Jelly filled cables units.
- 1996 Rubber Insulated and sheathed cables added.
- 1997 TIP approved to manufacture Switch Brand cables.
- 1998 ISO certification obtained.
- 1999 Auto Cable production started.
- 2000 Approval to manufacture cables for house hold appliance.
- 2001 CTI certification received.
- 2002 Fire Resistant Cables produced and marketed.
- 2006 Started construction of new factory at Korangi.
- 2007 Incorporated as INDUS CABLES (Pvt) Ltd.
- 2008 First Export Order received.
- 2009 Approval from WAPDA, NESPAK, DGDP & CAA.
- 2010 Started Production of Low Smoke Zero Halogen Cables.
- 2011 Export order for Warning Tapes and Earthing Braids received.

PRODUCT RANGE:

Auto Cables
Coaxial Cables
Control Cables
Instrumentation Cables
Jelly Filled Armor Telephone and Control Cables
Low smoke FR Cables 105 °C.
Power Cable
Rubber insulated & Sheathed Cables
Signal Cables
Telephone Cables
Welding Cable
Cables for special application

PRODUCT RANGE



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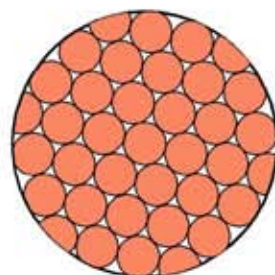
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Bare Annealed Copper

STRANDED PLAIN ANNEALED COPPER CONDUCTOR (SINGLE CORE)

IEC60228, BS EN 60228



CONSTRUCTION

Conductor: Plain Annealed Copper, Class 2 Stranded Circular or Compacted

Minimum Bending Radius: 3D for D < 10mm
4D for 10mm D < 25mm
6D for D ≥ 25mm

REFERENCE STANDARDS

Conductor: IEC60228, BS EN60228

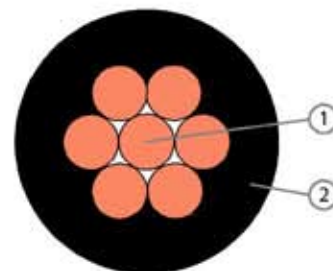
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Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Nominal Diameter of Conductor (mm)	Maximum Conductor Resistance at 20°C (D/km)	Nominal Weight per km of Conductor (kg/km)
1.0	7 / 0.43	1.29	18.1	9.2
1.5	7 / 0.53	1.59	12.1	14.0
2.5	7 / 0.67	2.01	7.41	22.4
4	7 / 0.85	2.55	4.61	36.1
6	7 / 1.04	3.12	3.08	54.0
10	7 / 1.35	4.05	1.83	90.8
16	7 / 1.70	5.10	1.15	145.0
25	7 / 2.14	6.42	0.727	229.0
35	7 / 2.52	7.56	0.524	317.0
50	19 / 1.78	8.90	0.387	429.0
70	19 / 2.14	10.70	0.268	620.0
95	19 / 2.52	12.60	0.193	860.0
120	37 / 2.03	14.21	0.153	1086.0
150	37 / 2.25	15.75	0.124	1334.0
185	37 / 2.52	17.64	0.0991	1673.0
240	61 / 2.25	20.25	0.0754	2199.0
300	61 / 2.52	22.68	0.0601	2759.0
400	61 / 2.85	25.65	0.0470	3528.0
500	61 / 3.20	28.80	0.0366	4448.0
630	127 / 2.52	32.76	0.0283	5744.0
800	127 / 2.85	37.05	0.0221	7346.0
1000	127 / 3.20	41.60	0.0176	9260.0



CU / PVC (SINGLE CORE)

PVC Insulated, Non-Sheathed Cable, 450 / 750V, SS358, BS6004, IEC60227



Component
1. Plain Annealed Copper Wire
2. PVC Compound

CONSTRUCTION

Conductor: Plain Annealed Copper, Class 2 Stranded Circular or Compacted

Insulation: Polyvinyl Chloride (PVC) Compound Type C

Insulation Colour: Black, Green/Yellow, Red, Yellow, Blue, White, Brown, Grey or Others

REFERENCE STANDARDS

Design Specification: SS358, BS6004, IEC60227

Conductor: IEC60228, BS EN60228

Flame Retardancy: IEC60332-1, BS EN60332-1

ELECTRICAL CHARACTERISTICS

Operating Voltage, U₀/U: 450/750V

Operating Temperature: -15°C to 70°C

Final Short Circuit Temperature: 160°C for cable < 300mm²
140°C for cable > 300mm²

Test Voltage: 2.5kV for 5 minutes

INSTALLATION REFERENCE

Min. Bending Radius (mm): 6 x cable overall diameter

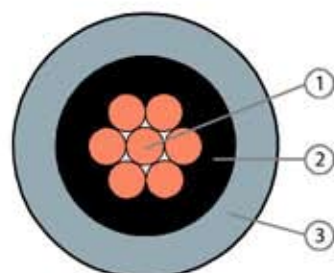
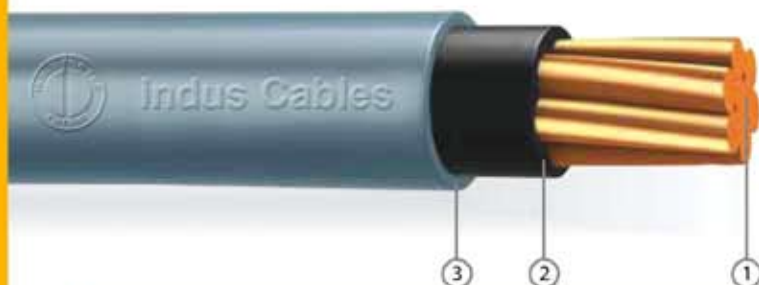
Max. Pulling Tension (N/mm²): 50

SINGLE CORE	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Mean Overall Diameter (Upper Limit) (mm)	Approximate Weight (kg/km)
	1 x 1.5	7 / 0.53	0.7	3.4	22.7
	1 x 2.5	7 / 0.67	0.8	4.2	34.0
	1 x 4	7 / 0.85	0.8	4.8	50.0
	1 x 6	7 / 1.04	0.8	5.4	70.9
	1 x 10	7 / 1.35	1.0	6.8	117.5
	1 x 16	7 / 1.70	1.0	8.0	177.4
	1 x 25	7 / 2.14	1.2	9.8	282.0
	1 x 35	7 / 2.52	1.2	11.0	380.3
	1 x 50	19 / 1.78	1.4	13.0	515.8
	1 x 70	19 / 2.14	1.4	15.0	726.4
	1 x 95	19 / 2.52	1.6	17.0	1002.9
	1 x 120	37 / 2.03	1.6	19.0	1251.0
	1 x 150	37 / 2.25	1.8	21.0	1538.7
	1 x 185	37 / 2.52	2.0	23.5	1927.9
	1 x 240	61 / 2.25	2.2	26.5	2522.6
	1 x 300	61 / 2.52	2.4	29.5	3155.2
	1 x 400	61 / 2.85	2.6	33.5	4018.0
	1 x 500	61 / 3.20	2.8	37.0	5044.9
	1 x 630	127 / 2.52	2.8	41.0	6443.4



CU / PVC / PVC (SINGLE CORE)

PVC Insulated, PVC Sheathed Cable, 0.6/1 kV, IEC60502



Component
1. Plain Annealed Copper Wire
2. PVC Compound
3. PVC Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular or Compacted
Insulation:	Polyvinyl Chloride (PVC) Compound Type A
Insulation Colour:	Red or Black
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST 1
Outer Sheath Colour:	Grey

REFERENCE STANDARDS

Design Specification:	IEC60502-1
Conductor:	IEC60228, BS EN60228
Flame Retardancy:	IEC60332-1, BS EN60332-1

ELECTRICAL CHARACTERISTICS

Operating Voltage, Uo/U:	0.6/1KV
Operating Temperature:	-15°C to 70°C
Final Short Circuit Temperature:	160°C for cable < 300mm ² 140°C for cable > 300mm ²
Test Voltage:	3.5kV for 5 minutes

INSTALLATION REFERENCE

Min. Bending Radius (mm):	6 x cable overall diameter
Max. Pulling Tension (N/mm ²):	50

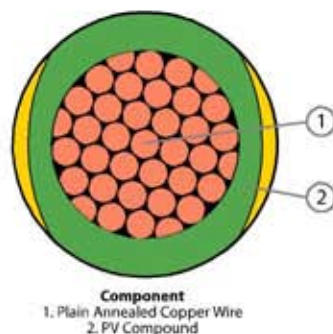
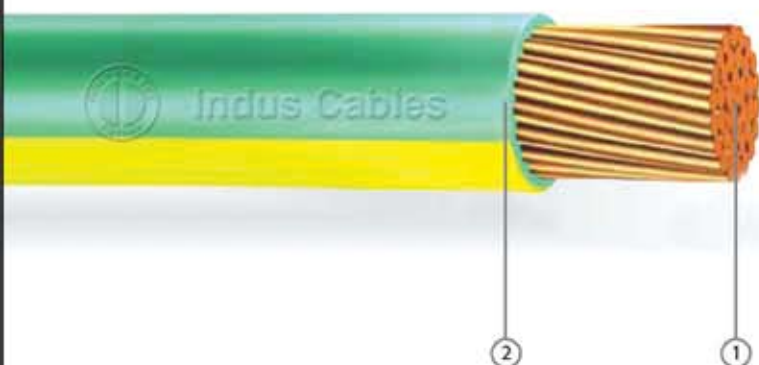
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SINGLE CORE	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
	1 x 1.5	7 / 0.53	0.8	6.3	68
	1 x 2.5	7 / 0.67	0.8	6.7	80
	1 x 4	7 / 0.85	1.0	7.7	108
	1 x 6	7 / 1.04	1.0	8.2	133
	1 x 10	7 / 1.35	1.0	9.2	180
	1 x 16	7 / 1.70	1.0	10.2	245
	1 x 25	7 / 2.14	1.2	11.9	357
	1 x 35	7 / 2.52	1.2	13.1	460
	1 x 50	19 / 1.78	1.4	14.8	604
	1 x 70	19 / 2.14	1.4	16.6	818
	1 x 95	19 / 2.52	1.6	19.1	1113
	1 x 120	37 / 2.03	1.6	20.7	1363
	1 x 150	37 / 2.25	1.8	22.9	1668
	1 x 185	37 / 2.52	2.0	25.3	2077
	1 x 240	61 / 2.25	2.2	28.6	2692
	1 x 300	61 / 2.52	2.4	31.6	3345
	1 x 400	61 / 2.85	2.6	35.2	4228
	1 x 500	61 / 3.20	2.8	38.9	5275
	1 x 630	127 / 2.52	2.8	43.1	6682
	1 x 800	127 / 2.85	2.8	47.6	8407
	1 x 1000	127 / 3.20	3.0	52.9	10535



CU / PVC (SWITCHBOARD WIRES SINGLE CORE)

PVC Insulated, Non-Sheathed Cable, 0.6 /1 kV, B56231



CONSTRUCTION

Conductor: Plain Annealed Copper, Class 5
Stranded Circular or Compacted

Insulation: Polyvinyl Chloride (PVC)
Compound Type T11

Insulation Colour: Black, Green/Yellow, Red, Yellow,
Blue, White, Brown, Grey or Others

REFERENCE STANDARDS

Design Specification: B56231

Conductor: IEC60228, BS EN60228

Flame Retardancy: IEC60332-1, BS EN60332-1

ELECTRICAL CHARACTERISTICS

Operating Voltage, U_0/U : 0.6/1KV

Operating Temperature: -15°C to 70°C

Final Short Circuit Temperature: 160°C

Test Voltage: 3.5kV for 5 minutes

INSTALLATION REFERENCE

Min. Bending Radius (mm): 6 x cable overall diameter

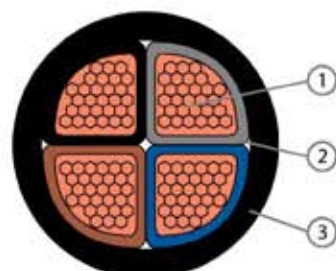
Max. Pulling Tension (N/mm²): 50

SINGLE CORE	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Mean Overall Diameter (Upper Limit) (mm)	Approximate Weight (kg/km)	Minimum Insulation Resistance at 70°C (MD • km)
	1 x 0.5	16 / 0.2	0.8	2.6	11.3	0.0161
	1 x 0.75	24 / 0.2	0.8	2.8	14.5	0.0141
	1 x 1.0	32 / 0.2	0.8	3.0	17.5	0.0128
	1 x 1.5	30 / 0.25	0.8	3.3	23.0	0.0111
	1 x 2.5	50 / 0.25	0.8	3.7	34.0	0.0094
	1 x 4	56 / 0.3	0.8	4.3	50.2	0.0077
	1 x 6	84 / 0.3	0.8	4.9	71.0	0.0059
	1 x 10	80 / 0.4	1.0	6.3	119.3	0.0058
	1 x 16	128 / 0.4	1.0	7.4	181.3	0.0048
	1 x 25	200 / 0.4	1.2	9.1	280.9	0.0047
	1 x 35	280 / 0.4	1.2	10.3	382.3	0.0040
	1 x 50	400 / 0.4	1.4	12.2	544.1	0.0039
	1 x 70	356 / 0.5	1.4	13.8	739.9	0.0033
	1 x 95	485 / 0.5	1.6	16.1	1005.2	0.0032
	1 x 120	614 / 0.5	1.6	17.6	1255.7	0.0029
	1 x 150	765 / 0.5	1.8	19.7	1565.6	0.0029
	1 x 185	994 / 0.5	2.0	22.3	2028.7	0.0029
	1 x 240	1125 / 0.5	2.2	23.9	2304.1	0.0028



CU / PVC / PVC (2 CORES - 5 CORES)

PVC Insulated, PVC Sheathed Cable, 0.6/1 kV, IEC60502



Component
1. Plain Annealed Copper Wire
2. PVC Compound
3. PVC Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular, Compacted or Sectored
Insulation:	Polyvinyl Chloride (PVC) Compound Type A
Insulation Colour:	2 Cores: Brown, Blue or Red, Black 3 Cores: Brown, Black, Grey or Red, Yellow, Blue 4 Cores: Brown, Black, Grey, Blue or Red, Yellow, Blue, Black 5 Cores: Brown, Black, Grey, Blue, Green/Yellow or Red, Yellow, Blue, Black, Green/Yellow or White with Black numbering or Others
Assembly:	Cores cabled together with filler and covered with Polyester (PET) Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST 1
Outer Sheath Colour:	Black

ELECTRICAL CHARACTERISTICS

Operating Voltage, U_0/U :	0.6/1KV
Operating Temperature:	-15°C to 70°C
Final Short Circuit Temperature:	160°C for cable < 300mm ² 140°C for cable > 300mm ²
Test Voltage:	3.5kV for 5 minutes

REFERENCE STANDARDS

Design Specification:	IEC60502-1
Conductor:	IEC60228, BS EN60228
Flame Retardancy:	IEC60332-1, BS EN60332-1

INSTALLATION REFERENCE

Min. Bending Radius (mm):	8 x cable overall diameter
Max. Pulling Tension (N/mm ²):	50

2 CORES	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
	2 x 1.5	7 / 0.53	0.8	10.4	153
	2 x 2.5	7 / 0.67	0.8	11.2	183
	2 x 4	7 / 0.85	1.0	13.3	250
	2 x 6	7 / 1.04	1.0	14.4	304
	2 x 10	7 / 1.35	1.0	16.3	409
	2 x 16	7 / 1.70	1.0	18.4	552
	2 x 25	7 / 2.14	1.2	21.8	789
	2 x 35	7 / 2.52	1.2	24.1	1007
	2 x 50 (S)	19 / 1.78	1.4	24.1	1278
	2 x 70 (S)	19 / 2.14	1.4	26.8	1731
	2 x 95 (S)	19 / 2.52	1.6	30.6	2323
	2 x 120 (S)	37 / 2.03	1.6	33.1	2851
	2 x 150 (S)	37 / 2.25	1.8	36.7	3467
	2 x 185 (S)	37 / 2.52	2.0	40.6	4302
	2 x 240 (S)	61 / 2.25	2.2	45.3	5536
	2 x 300 (S)	61 / 2.52	2.4	50.1	6868



CU / PVC / PVC (2 CORES - 5 CORES)

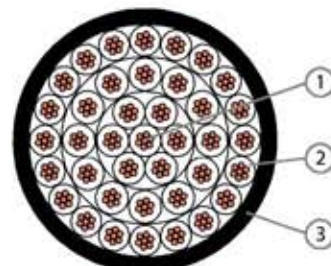
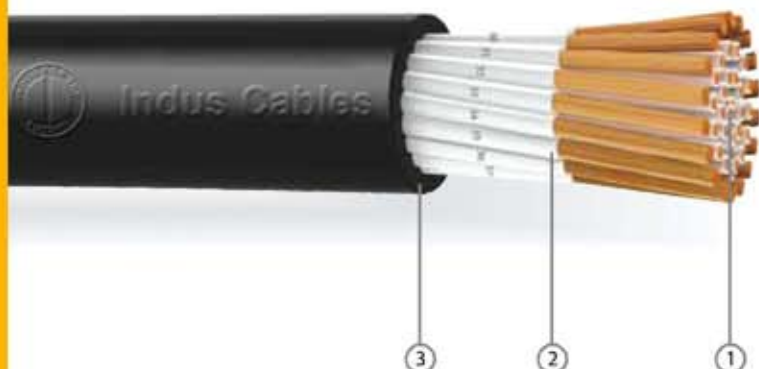
PVC Insulated, PVC Sheathed Cable, 0.6/1 kV, IEC60502

	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
3 CORES	3 x 1.5	7 / 0.53	0.8	10.9	182
	3 x 2.5	7 / 0.67	0.8	11.8	223
	3 x 4	7 / 0.85	1.0	14.1	311
	3 x 6	7 / 1.04	1.0	15.3	388
	3 x 10	7 / 1.35	1.0	17.3	535
	3 x 16	7 / 1.70	1.0	19.6	737
	3 x 25	7 / 2.14	1.2	23.3	1075
	3 x 35	7 / 2.52	1.2	25.7	1389
	3 x 50 (S)	19 / 1.78	1.4	28.3	1825
	3 x 70 (S)	19 / 2.14	1.4	31.7	2491
	3 x 95 (S)	19 / 2.52	1.6	36.4	3378
	3 x 120 (S)	37 / 2.03	1.6	39.5	4158
	3 x 150 (S)	37 / 2.25	1.8	43.8	5064
	3 x 185 (S)	37 / 2.52	2.0	48.5	6292
	3 x 240 (S)	61 / 2.25	2.2	54.5	8144
	3 x 300 (S)	61 / 2.52	2.4	60.1	10086
	3 x 400 (S)	61 / 2.85	2.6	68.2	12800
4 CORES	4 x 1.5	7 / 0.53	0.8	11.8	216
	4 x 2.5	7 / 0.67	0.8	12.8	267
	4 x 4	7 / 0.85	1.0	15.3	379
	4 x 6	7 / 1.04	1.0	16.7	477
	4 x 10	7 / 1.35	1.0	18.9	669
	4 x 16	7 / 1.70	1.0	21.5	932
	4 x 25	7 / 2.14	1.2	25.6	1372
	4 x 35	7 / 2.52	1.2	28.4	1785
	4 x 50 (S)	19 / 1.78	1.4	32.7	2388
	4 x 70 (S)	19 / 2.14	1.4	36.7	3269
	4 x 95 (S)	19 / 2.52	1.6	42.2	4437
	4 x 120 (S)	37 / 2.03	1.6	45.9	5469
	4 x 150 (S)	37 / 2.25	1.8	51.1	6690
	4 x 185 (S)	37 / 2.52	2.0	56.3	8287
	4 x 240 (S)	61 / 2.25	2.2	63.3	10766
	4 x 300 (S)	61 / 2.52	2.4	70.2	13373
	4 x 400 (S)	61 / 2.85	2.6	79.7	16968
	4 x 500 (S)	61 / 3.20	2.8	88.0	21161
5 CORES	5 x 1.5	7 / 0.53	0.8	12.7	250
	5 x 2.5	7 / 0.67	0.8	13.8	313
	5 x 4	7 / 0.85	1.0	16.6	448
	5 x 6	7 / 1.04	1.0	18.2	569
	5 x 10	7 / 1.35	1.0	20.7	804
	5 x 16	7 / 1.70	1.0	23.5	1129
	5 x 25	7 / 2.14	1.2	28.2	1672
	5 x 35	7 / 2.52	1.2	31.4	2198
	5 x 50 (S)	19 / 1.78	1.4	36.5	2946
	5 x 70 (S)	19 / 2.14	1.4	41.8	4068
	5 x 95 (S)	19 / 2.52	1.6	48.2	5506
	5 x 120 (S)	37 / 2.03	1.6	52.9	6820
	5 x 150 (S)	37 / 2.25	1.8	58.4	8306
	5 x 185 (S)	37 / 2.52	2.0	65.0	10331
	5 x 240 (S)	61 / 2.25	2.2	73.7	13425
	5 x 300 (S)	61 / 2.52	2.4	81.7	16683



CU / PVC / PVC (MULTI-CORES)

PVC Insulated, PVC Sheathed Cable, 0.6/1kV, BS6346



Component
1. Plain Annealed Copper Wire
2. PVC Compound
3. PVC Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular or Compacted
Insulation:	Polyvinyl Chloride (PVC) Compound Type T11
Insulation Colour:	2 Cores: Brown, Blue or Red, Black 3 Cores: Brown, Black, Grey or Red, Yellow, Blue 4 Cores: Brown, Black, Grey, Blue or Red, Yellow, Blue, Black 5 Cores: Brown, Black, Grey, Blue, Green/Yellow or Red, Yellow, Blue, Black, Green/Yellow or White with Black numbering or Others 7 Cores & above: White with Black numbering or Others
Assembly:	Cores cabled together and covered with Polyester (PET) Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type TM 1
Outer Sheath Colour:	Black

ELECTRICAL CHARACTERISTICS

Operating Voltage, U_0/U :	0.6/1KV
Operating Temperature:	-15°C to 70°C
Final Short Circuit Temperature:	160°C
Test Voltage:	3.5kV for 5 minutes

REFERENCE STANDARDS

Design Specification:	BS6346, In-House
Conductor:	IEC60228, BS EN60228
Flame Retardancy:	IEC60332-1, BS EN60332-1

INSTALLATION REFERENCE

Min. Bending Radius (mm):	8 x cable overall diameter
Max. Pulling Tension (N/mm ²):	50



CU / PVC / PVC (MULTI-CORES)

PVC Insulated, PVC Sheathed Cable, 0.6/1 kV, BS6346

No. of Cores	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
2	1.5	7 / 0.53	0.6	8.9	129
3		7 / 0.53	0.6	9.3	157
4		7 / 0.53	0.6	10.1	189
5		7 / 0.53	0.6	10.9	221
7		7 / 0.53	0.6	11.9	280
10		7 / 0.53	0.6	15.0	390
12		7 / 0.53	0.6	15.4	441
19		7 / 0.53	0.6	18.1	640
20		7 / 0.53	0.6	19.2	684
24		7 / 0.53	0.6	21.1	801
37		7 / 0.53	0.6	24.2	1149
2	2.5	7 / 0.67	0.7	10.5	177
3		7 / 0.67	0.7	11.1	219
4		7 / 0.67	0.7	12.0	266
5		7 / 0.67	0.7	13.0	313
7		7 / 0.67	0.7	14.1	399
10		7 / 0.67	0.7	17.6	548
12		7 / 0.67	0.7	18.2	626
19		7 / 0.67	0.7	21.4	918
20		7 / 0.67	0.7	22.7	979
24		7 / 0.67	0.7	25.1	1151
37		7 / 0.67	0.7	28.8	1667
2	4	7 / 0.85	0.8	12.0	232
3		7 / 0.85	0.8	12.7	294
4		7 / 0.85	0.8	13.8	361
5		7 / 0.85	0.8	15.0	430
7		7 / 0.85	0.8	16.4	556
10		7 / 0.85	0.8	20.8	780
12		7 / 0.85	0.8	21.5	896
19		7 / 0.85	0.8	25.3	1329
20		7 / 0.85	0.8	27.1	1426
24		7 / 0.85	0.8	29.9	1681
37		7 / 0.85	0.8	34.4	2454



Multicore cable

Flat Cable outdoor and indoor installations in damp and wet locations



Type : CU / PVC / PVC
 Standard : IEC 60502-1 Rated Voltage : 0.6 /1 KV
 Conductor : Soft annealed stranded copper wires(or solid copper)
 Insulation : PVC compound rated 70°C or 85°C (XLPE or LSHF)
 Jacketing : PVC compound (or LSHF)

TECHNICAL INFORMATION

Nominal Cross Section n x mm ²	Nominal Insulation Thickness mm	Nominal Sheath Thickness mm	Approx. overall Diameter mm	Approx. Cable Weight kg/km	Max DC Resistance at 20°C ohm/km	CURRENT RATING		
						Laid Direct in ground A	Laid in Ducts A	Laid in Free Air A
5*1.5	0.8	1.8	12.9	235	12.10	25	22	19
7*1.5	0.8	1.8	13.1	280	12.10	22	20	17
10*1.5	0.8	1.8	16.3	365	12.10	19	18	16
12*1.5	0.8	1.8	16.7	435	12.10	18	16	15
14*1.5	0.8	1.8	18.3	450	12.10	16	15	13
16*1.5	0.8	1.8	19.3	530	12.10	15	14	13
19*1.5	0.8	1.8	19.4	610	12.10	14	13	11
24*1.5	0.8	1.8	22.6	725	12.10	12	11	11
30*1.5	0.8	1.8	23.9	865	12.10	11	11	9
37*1.5	0.8	1.8	25.7	1045	12.10	10	9	8
5*2.5	0.8	1.8	14.1	300	7.41	33	29	25
7*2.5	0.8	1.8	15.2	360	7.41	30	26	22
10*2.5	0.8	1.8	18.3	480	7.41	27	23	20
12*2.5	0.8	1.8	19.4	535	7.41	25	22	19
14*2.5	0.8	1.8	19.6	640	7.41	22	20	17
16*2.5	0.8	1.8	20.5	705	7.41	20	18	15
19*2.5	0.8	1.8	22.5	835	7.41	19	17	15
24*2.5	0.8	1.8	25.1	985	7.41	18	16	13
30*2.5	0.8	1.8	26.8	1220	7.41	16	14	12
37*2.5	0.8	1.8	29.9	1520	7.41	14	13	11
5*2.5	1.0	1.8	17.9	525	4.61	42	36	34
7*4	1.0	1.8	19.3	645	4.61	38	33	30
10*4	1.0	1.8	22.6	720	4.61	34	30	27
12*4	1.0	1.8	24.5	470	4.61	31	27	25
14*4	1.0	1.8	25	950	4.61	28	24	22
16*4	1.0	1.8	25.85	1140	4.61	27	23	21
19*4	1.0	1.8	28.4	1510	4.61	25	21	20
24*4	1.0	1.9	31.3	1580	4.61	22	19	17
30*4	1.0	2.0	34.2	1965	4.61	20	17	15
37*4	1.0	2.1	37.1	2510	4.61	18	16	14



Multicore cable

Flat Cable outdoor installations in damp and wet locations



Type : CU/ PVC STA / PVC
 Standard : IEC 60502-1 Rated Voltage: 0.6 / 1 KV
 Conductor : Soft annealed stranded copper wires(or solid copper)
 Insulation : PVC compound rated 70°C or 85°C (XLPE or LSHF)
 Bedding : PVC compound (or LSHF)
 Armouring : Steel Tape
 Jacketing : PVC compound (or LSHF)

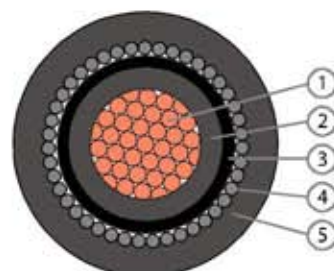
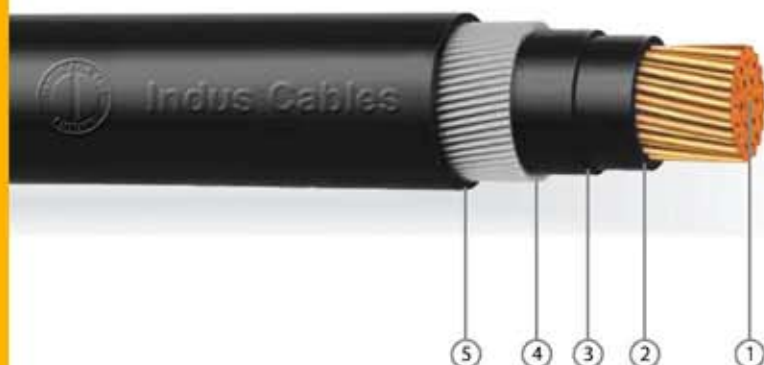
TECHNICAL INFORMATION

Nominal Cross Section	Nominal Insulation Thickness	Nominal S.Wire Diameter	Nominal Sheath Thickness	Approx overall Diameter	Approx Cable Weight	Max DC Resistance at 20°C	CURRENT RATING		
							Laid Direct in ground	Laid in Ducts	Laid in Free Air
nXmm ²	mm	mm	mm	mm	kg/km	ohm/km	A	A	A
7*15	0.8	0.9	1.8	16.9	590	12.10	22	20	17
10*1.5	0.8	0.9	1.8	20.0	760	12.10	19	18	16
12*1.5	0.8	0.9	1.8	20.5	845	12.10	18	16	15
14*1.5	0.8	1.6	1.8	24.6	1140	12.10	16	15	13
16*1.5	0.8	1.6	1.8	25.8	1205	12.10	15	14	13
19*1.5	0.8	1.6	1.8	27.8	1365	12.10	14	13	11
24*1.5	0.8	1.6	1.8	29.1	1555	12.10	12	11	11
30*1.5	0.8	1.6	1.8	31.1	1735	12.10	11	11	9
37*1.5	0.8	1.6	1.8	17.1	2145	12.10	10	9	8
5*2.5	0.8	0.9	1.8	18.2	615	7.41	33	29	25
7*2.5	0.8	0.9	1.8	21.7	705	7.41	30	26	22
10*2.5	0.8	0.9	1.8	22.4	875	7.41	27	23	20
12*2.5	0.8	0.9	1.8	24.6	970	7.41	25	22	19
14*2.5	0.8	1.6	1.8	25.8	1430	7.41	22	20	17
16*2.5	0.8	1.6	1.8	26.9	1510	7.41	20	18	15
19*2.5	0.8	1.6	1.9	31.2	1615	7.41	19	17	15
24*2.5	0.8	1.6	1.9	32.1	2190	7.41	18	16	13
30*2.5	0.8	1.6	2.0	34.5	2450	7.41	16	14	12
37*2.5	0.8	1.6	1.8	19.7	2555	7.41	14	13	11
5*4	1.0	0.9	1.8	21.1	820	4.61	42	36	34
7*4	1.0	0.9	1.8	26.9	955	4.61	38	33	30
10*4	1.0	1.6	1.8	27.7	1490	4.61	34	30	27
12*4	1.0	1.6	1.8	28.8	1805	4.61	31	27	25
14*4	1.0	1.6	1.8	30.2	1805	4.61	28	24	22
16*4	1.0	1.6	1.8	31.8	2040	4.61	27	23	21
19*4	1.0	1.6	1.9	37.9	2260	4.61	25	21	20
24*4	1.0	2.0	2.1	37.7	2985	4.61	22	19	17
30*4	1.0	2.0	2.1	39.8	3560	4.61	20	17	15
37*4	1.0	2.0	2.2	42.4	3920	4.61	18	16	14



CU / PVC / PVC / AWA / PVC (SINGLE CORE)

PVC Insulated, PVC Bedded, Aluminium Wire Armoured, PVC Sheathed Cable, 0.6 /1 kV, BS6346

**Component**

1. Plain Annealed Copper Wire
2. PVC Compound
3. PVC Compound
4. Aluminium Wire Armoured
5. PVC Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular or Compacted
Insulation:	Polyvinyl Chloride (PVC) Compound Type TI1
Insulation Colour:	Black
Bedding:	Polyvinyl Chloride (PVC) Compound Type TM 1
Bedding Colour:	Black
Armour:	Aluminium Wire Armoured (AWA)
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type TM 1
Outer Sheath Colour:	Black

ELECTRICAL CHARACTERISTICS

Operating Voltage, U ₀ /U:	0.6/1KV
Operating Temperature:	-15°C to 70°C
Final Short Circuit Temperature:	160°C for cable < 300mm ² 140°C for cable > 300mm ²
Test Voltage:	3.5kV for 5 minutes

REFERENCE STANDARDS

Design Specification:	BS6346
Conductor:	IEC60228, BS EN60228
Flame Retardancy:	IEC60332-1, BS EN60332-1

INSTALLATION REFERENCE

Min. Bending Radius (mm):	8 x cable overall diameter
Max. Pulling Tension (N/mm ²):	50

Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Diani Under Armour (mm)	Armour Wire Diameter (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
1 x 50	19 / 8	1.4	13.5	1.25	19.1	169
1 x 70	19 / 2.14	1.4	15.3	1.25	21.1	1018
1 x 95	19 / 2.52	1.6	17.6	1.25	23.4	1328
1 x 120	37 / 2.03	1.6	19.6	1.60	26.3	1686
1 x 150	37 / 2.25	1.8	21.6	1.60	28.3	2006
1 x 185	37 / 2.52	2.0	23.8	1.60	30.7	2443
1 x 240	61 / 2.25	2.2	26.9	1.60	34.0	3101
1 x 300	61 / 2.52	2.4	29.7	1.60	36.8	3719
1 x 400	61 / 2.85	2.6	33.5	2.00	41.8	4861
1 x 500	61 / 3.20	2.8	37.0	2.00	45.3	5956
1 x 630	127 / 2.52	2.8	41.0	2.00	49.5	7453
1 x 800	127 / 2.85	2.8	45.7	2.50	55.6	9523
1 x 1000	127 / 3.20	3.0	50.6	2.50	60.7	11749

SINGLE CORE



Control Flexible Cable



Application

Used as interconnecting cable for measuring, controlling or regulation in control equipment for assembly and production lines, conveyors and for computer units. Suitable for fixed installations or for flexible use in conditions of light mechanical stress. Can be used outdoors when protected, and in dry or moist conditions indoors.

Standards

Generally to BS6500 and VD E0250

Technical Data

Conductor
Class 5 flexible plain copper conductors

Temperature Rating
Fixed: -35°C to + 70°C
Flexing: -5°C to + 70°C

Insulation
PVC (Polyvinyl Chloride)

Minimum Bending Radius
10 x overall diameter

Sheath
PVC (Polyvinyl Chloride)

Core Identification
Black with White numbers
(3 cores and above includes
Green/Yellow)
Coloured cores available

Sheath Colour
Grey

Voltage Rating
300/500V

Dimensions

No. of Cores x Nominal Cross Sectional Area # x mm ²	Thickness of Insulation mm	Thickness of Outer Sheath mm	Nominal Overall Diameter mm	Nominal Weight kg/ Km
YY Control Flexible Cable - 2 Cores				
2 x 0.50	0.5	0.8	5.20	39.33
2 x 0.75	0.5	0.8	5.70	48.01
2 x 1.00	0.5	0.8	5.90	54.61
2 x 1.50	0.6	0.9	7.10	78.21
2 x 2.50	0.7	0.9	8.30	113.08
YY Control Flexible Cable - 3 Cores				
3 x 0.50	0.5	0.8	5.50	46.67
3 x 0.75	0.5	0.8	6.04	57.36
3 x 1.00	0.5	0.8	6.26	66.26
3 x 1.50	0.6	0.9	7.54	94.77
3 x 2.50	0.7	1.0	9.04	143.57
3 x 4.00	0.8	1.1	10.90	213.90
3 x 6.00	0.8	1.2	12.40	292.40
3 x 10.00	1.0	1.3	15.50	477.80
3 x 16.00	1.0	1.5	18.40	705.60



Lszh Rubber Cable



Application

For installation where fire, smoke emission and toxic fumes create a potential threat to life and equipment. Examples of use include supplying mobile power units, UPS installations, stage lighting and audio visual equipment. This cable will withstand medium mechanical stresses and is suitable for both installation indoors and outdoors.

Standards

CENELEC HD22-13, NFC 032-131, IEC 60332-3

Technical Data

Conductor
Class 5 flexible plain copper
to BS EN 60228:2005 (previously BS6360).

Temperature Rating
Conductor operating temperature
-25°C to +60°C (85°C max)

Insulation
Halogen-free elastomer

Minimum Bending Radius
Fixed: 4 x overall diameter
Flexing: 6 x overall diameter

Sheath
Halogen-free elastomer

Core Identification
2 Cores: Blue, Brown
3 Cores: Green/Yellow, Blue, Brown
4 Cores: Green/Yellow, Brown, Black, Grey
5 Cores: Green/Yellow, Blue, Brown, Black, Grey
6 Cores and above: Black with White numerals, Green/Yellow

Sheath Colour
Black

Voltage Rating
450/750V

Dimensions

No. of Cores x Nominal Cross Sectional Area mm ²	Nominal Overall Diameter mm	Nominal Weight kg/Km
H07ZZ-F Cable - 1 Core		
1 x 1.5	7.1	63.0
1 x 2.5	7.9	76.0
1 x 4.0	9.0	107.0
1 x 6.0	9.8	140.0
1 x 10.0	11.9	213.0
1 x 16.0	13.4	291.0
1 x 25.0	15.8	415.0
1 x 35.0	17.9	539.0
1 x 50.0	20.6	740.0
1 x 70.0	23.3	989.0
1 x 95.0	26.0	1290.0
1 x 120.0	28.6	1592.0
1 x 150.0	31.5	1957.0
1 x 185.0	34.4	2350.0
1 x 240.0	38.3	3099.0
1 x 300.0	41.9	3687.0
1 x 400.0	46.8	4850.0
1 x 500.0	52.0	5998.0



No. of Cores x Nominal Cross Sectional Area mm ²	Nominal Overall Diameter mm	Nominal Weight kg/Km
H07ZZ-F Cable - 2 Cores		
2 x 1.0	10.0	112.0
2 x 1.5	11.0	135.0
2 x 2.5	13.1	190.0
2 x 4.0	15.1	255.0
2 x 6.0	16.8	335.0
2 x 10.0	22.8	590.0
2 x 16.0	25.7	821.0
2 x 25.0	30.7	1172.0
H07ZZ-F Cable - 3 Cores		
3 x 1.0	10.7	125.0
3 x 1.5	11.9	129.0
3 x 2.5	14.0	250.0
3 x 4.0	16.2	330.0
3 x 6.0	18.0	440.0
3 x 10.0	24.2	800.0
3 x 16.0	27.6	1150.0
3 x 25.0	33.0	1680.0
3 x 35.0	52.0	2170.0
H07ZZ-F Cable - 4 Cores		
4 x 1.0	12.5	170.0
4 x 1.5	13.1	196.0
4 x 2.5	15.5	275.0
4 x 4.0	17.9	388.0
4 x 6.0	20.0	515.0
4 x 10.0	26.5	882.0
4 x 16.0	30.1	1234.0
4 x 25.0	36.6	1811.0
4 x 35.0	41.1	2365.0
4 x 50.0	47.5	3212.0
4 x 70.0	54.5	4320.0
4 x 95.0	60.5	5572.0
4 x 120.0	65.0	6930.0
4 x 150.0	74.0	8419.0
4 x 185.0	79.5	10165.0
4 x 240.0	90.0	13420.0
H07ZZ-F Cable - 5 Cores		
5 x 1.0	13.5	205.5
5 x 1.5	14.4	242.0
5 x 2.5	17.0	341.0
5 x 4.0	19.9	495.0
5 x 6.0	22.2	642.0
5 x 10.0	29.1	1090.0
5 x 16.0	33.3	1534.0
5 x 25.0	40.4	2291.0
5 x 50.0	53.0	3950.0
H07ZZ-F Cable - 7 Cores		
7 x 1.5	18.5	355.0
H07ZZ-F Cable - 12 Cores		
12 x 1.5	22.4	660.0
H07ZZ-F Cable - 19 Cores		
19 x 1.5	27.5	788.0
H07ZZ-F Cable - 27 Cores		
21 x 1.5	31.5	1077.0
H07ZZ-F Cable - 37 Cores		
37 x 1.5	36.5	1358.0



SY Control Flexible Cable to BS6500



Application

Used as interconnecting cable for measuring, controlling or regulation in control equipment for assembly and production lines, conveyors and for computer units. Suitable for fixed installations or for flexible use in conditions of light mechanical stress. Can be used outdoors when protected, and in dry or moist conditions indoors.

The braided screen offers the best possible protection against mechanical damage and offers a level of Electro-magnetic shielding. The galva nised coating helps protect against corrosion.

Standards

Generally to BS6500 and VDE0250

Technical Data

Conductor

Class 5 flexible plain copper conductors to BS EN 60228:2005 (previously BS6360), VDE0295, IEC 60228

Voltage Rating
300/500V

Insulation

PVC (Polyvinyl Chloride) Type T1 2 complying with BS EN 50363-3:2005

Operating Temperature
-15°C to +70°C

Bedding

PVC (Polyvinyl Chloride) TM2 as speci?ed in BS EN 50363-4-1:2005

Short Circuit Temperature
+160°C

Braiding

GSWB (Galvanised Steel Wire Braid)
Minimum coverage of braiding shall be 50%

Minimum Installation Radius
10 x overall diameter

Sheath

PVC (Polyvinyl Chloride) conforming to TM 2 as speci?ed in BS EN 50363-4-1:2005

Core Identification

Black with White numbers. (3 Cores and above to include Green/Yellow) Coloured cores available

Note

SY Cables are not suitable for direct connection to the public mains supply.

Sheath Colour
Transparent

Dimensions

No. of Cores x Nominal Cross Sectional Area # x mm ²	Nominal Overall Diameter mm	Nominal Weight kg/Km
SY Control Flexible Cable - 2 Cores		
2 x 0.75	7.2	79
2 x 1.00	7.6	91
2 x 1.50	8.4	112
SY Control Flexible Cable - 3 Cores		
3 x 0.75	7.5	91
3 x 1.00	7.9	104
3 x 1.50	8.8	130
3 x 2.50	10.3	184
3 x 4.00	11.9	253
3 x 6.00	13.8	355
3 x 10.00	16.8	545
3 x 16.00	19.8	849
3 x 25.00	24.2	1298
3 x 35.00	26.3	1626



No. of Cores x Nominal Cross Sectional Area # x mm ²	Nominal Overall Diameter mm	Nominal Weight kg/Km
SY Control Flexible Cable - 4 Cores		
4 x 0.75	8.1	106
4 x 1.00	8.7	127
4 x 1.50	9.4	154
4 x 2.50	11.1	220
4 x 4.00	12.9	308
4 x 6.00	15.0	435
4 x 10.00	18.3	673
4 x 16.00	21.9	1004
4 x 25.00	26.4	1607
4 x 35.00	30.2	2054
4 x 50.00	34.3	2605
4 x 70.00	38.5	3453
4 x 95.00	43.0	4544
* Also available with a Black sheath.		
SY Control Flexible Cable - 5 Cores		
5 x 0.75	8.9	128
5 x 1.00	9.4	148
5 x 1.50	10.4	186
5 x 2.50	12.2	267
5 x 4.00	13.9	366
5 x 6.00	16.5	530
5 x 10.00	20.0	825
5 x 16.00	23.9	1217
5 x 25.00	28.8	1941
5 x 35.00	32.7	2559
SY Control Flexible Cable - 7 Cores		
7 x 0.75	9.5	152
7 x 1.00	10.4	187
7 x 1.50	11.7	242
7 x 2.50	13.5	340
SY Control Flexible Cable - 8 Cores		
8 x 0.75	10.5	181
8 x 1.00	10.8	203
8 x 1.50	12.4	302
SY Control Flexible Cable - 12 Cores		
12 x 0.75	13.0	273
12 x 1.00	13.2	303
12 x 1.50	15.1	398
12 x 2.50	17.6	571
SY Control Flexible Cable - 18 Cores		
18 x 0.75	15.0	370
18 x 1.00	15.9	437
18 x 1.50	17.6	553
18 x 2.50	20.6	803
SY Control Flexible Cable - 25 Cores		
25 x 0.75	17.6	504
25 x 1.00	18.4	586
25 x 1.50	20.6	753
25 x 2.50	24.2	1101



CY Control Flexible Cable to BS6500



Application

Used as interconnecting cable for measuring, controlling or regulation in control equipment for assembly and production lines, conveyors and for computer units. Suitable for fixed installations or for flexible use when temporarily moved, and in conditions of medium mechanical stress. Can be used outdoors when protected, and in dry or moist conditions indoors.

Standards

Generally to BS6500

Technical Data

Conductor
Stranded Class 5 copper conductors to
EN 60228

Insulation
PVC (Polyvinyl Chloride)

Binding Tape
Plastic core wrap

Screen
LIYCY: TCWB (Tinned Copper Wire Braid)

Sheath
PVC (Polyvinyl Chloride)
Ral 7001 acc to VDE0207

Sheath Colour
Grey

Voltage Rating
300/500V

Temperature Rating
Fixed: -35°C to +70°C
Flexing: -15°C to +70°C

Minimum Bending Radius
10 x overall diameter

Core Identification
Black with White numbers
(3 cores and above to include
Green/Yellow)

20

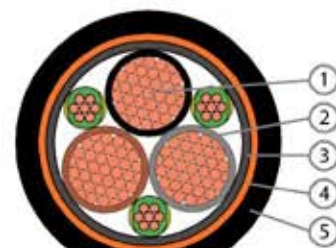
Dimensions

No. of Cores x Nominal Cross Sectional Area # x mm ²	Nominal Overall Diameter mm	Nominal Weight kg/Km
CY Control Flexible Cable - 2 Cores		
2 x 0.50	5.7	44.5
2 x 0.75	6.1	50.5
2 x 1.00	6.3	56.5
2 x 1.50	7.3	75.0
2 x 2.50	8.7	107.0
CY Control Flexible Cable - 3 Cores		
3 x 0.50	6.0	52.5
3 x 0.75	6.4	62.5
3 x 1.00	6.6	72.0
3 x 1.50	7.7	95.0
3 x 2.50	9.2	140.0



CU / XLPE / PVC / CT / PVC (3 CORES + 3 EARTH)

XLPE Insulated, PVC Bedded, Copper Tape Screened, PVC Sheathed Cable, 0.6 / 1 kV, IEC60502



Component

1. Plain Annealed Copper Wire
2. Cross-linked Polyethylene Compound
3. PVC Compound
4. Copper Tape
5. PVC Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular or Compacted
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Colour:	Brown, Black, Grey, Green/Yellow (x3) or Red, Yellow, Blue, Green/Yellow (x3) or Others
Assembly:	Cores cabled together with filler and covered with Polyester (PET) Tape
Bedding:	Polyvinyl Chloride (PVC) Compound Type ST2
Bedding Colour:	Black
Screen:	Copper Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black

ELECTRICAL CHARACTERISTICS

Operating Voltage, U ₀ /U:	0.6/1KV
Operating Temperature:	-15°C to 70°C
Final Short Circuit Temperature:	160°C
Test Voltage:	3.5kV for 5 minutes

REFERENCE STANDARDS

Design Specification:	IEC60502-1
Conductor:	IEC60228, BS EN60228
Flame Retardancy:	IEC60332-1, BS EN60332-1

INSTALLATION REFERENCE

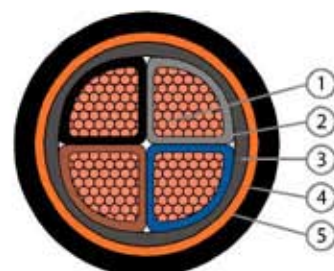
Min. Bending Radius (mm):	8 x cable overall diameter
Max. Pulling Tension (N/mm ²):	50

	Nominal Conductor Area (mm ²)	Combined Earth Size (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Diameter Under Screen (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
(3 CORES + 3 EARTH)	3 x 1.5	4.5 (3 x 1.5)	7 / 0.53	0.7	11.7	16.8	490
	3 x 2.5	4.5 (3 x 1.5)	7 / 0.67	0.7	12.3	17.4	537
	3 x 4	4.5 (3 x 1.5)	7 / 0.85	0.7	13.1	18.2	606
	3 x 6	7.5 (3 x 2.5)	7 / 1.04	0.7	14.6	19.7	736
	3 x 10	12 (3 x 4)	7 / 1.35	0.7	16.8	21.9	964
	3 x 16	18 (3 x 6)	7 / 1.70	0.7	19.2	24.3	1263
	3 x 25	30 (3 x 10)	7 / 2.14	0.9	23.2	28.3	1782
	3 x 35	30 (3 x 10)	7 / 2.52	0.9	24.9	30.0	2111
	3 x 50	30 (3 x 10)	19 / 1.78	1.0	27.4	32.5	2554
	3 x 70	48 (3 x 16)	19 / 2.14	1.1	32.4	37.9	3544
	3 x 95	48 (3 x 16)	19 / 2.52	1.1	35.2	41.3	4569
	3 x 120	75 (3 x 25)	37 / 2.03	1.2	40.5	46.8	5791
	3 x 150	75 (3 x 25)	37 / 2.25	1.4	43.8	50.3	6785
	3 x 185	105 (3 x 35)	37 / 2.52	1.6	49.0	55.9	8415
	3 x 240	150 (3 x 50)	61 / 2.25	1.7	56.0	63.3	10837
	3 x 300	150 (3 x 50)	61 / 2.52	1.8	60.0	67.9	13082



CU / XLPE / PVC / CT / PVC (4 CORES)

XLPE Insulated, PVC Bedded, Copper Tape Screened, PVC Sheathed Cable, 0.6 / 1 kV, IEC60502



Component

1. Plain Annealed Copper Wire
2. Cross-linked Polyethylene Compound
3. PVC Compound
4. Copper Tape
5. PVC Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular or Compacted
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Colour:	Brown, Black, Grey, Green/Yellow (x3) or Red, Yellow, Blue, Green/Yellow (x3) or Others
Assembly:	Cores cabled together with filler and covered with Polyester (PET) Tape
Bedding:	Polyvinyl Chloride (PVC) Compound Type ST2
Bedding Colour:	Black
Screen:	Copper Tape
Outer Sheath:	Polyvinyl Chloride (PVC) Compound Type ST2
Outer Sheath Colour:	Black

ELECTRICAL CHARACTERISTICS

Operating Voltage, U ₀ /U:	0.6/1KV
Operating Temperature:	-15°C to 70°C
Final Short Circuit Temperature:	160°C
Test Voltage:	3.5kV for 5 minutes

REFERENCE STANDARDS

Design Specification:	IEC60502-1
Conductor:	IEC60228, BS EN60228
Flame Retardancy:	IEC60332-1, BS EN60332-1

INSTALLATION REFERENCE

Min. Bending Radius (mm):	8 x cable overall diameter
Max. Pulling Tension (N/mm ²):	50

4 CORES	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Diameter Under Screen (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
	4 x 1.5	7 / 0.53	0.7	9.7	14.1	392
	4 x 2.5	7 / 0.67	0.7	10.7	15.1	460
	4 x 4	7 / 0.85	0.7	12.0	16.4	559
	4 x 6	7 / 1.04	0.7	13.4	17.8	679
	4 x 10	7 / 1.35	0.7	15.6	20.0	905
	4 x 16	7 / 1.70	0.7	18.2	22.6	1207
	4 x 25	7 / 2.14	0.9	22.3	26.7	1721
	4 x 35	7 / 2.52	0.9	25.1	29.5	2178
	4 x 50 (S)	19 / 1.78	1.0	25.4	30.0	2736
	4 x 70 (S)	19 / 2.14	1.1	29.8	34.6	3748
	4 x 95 (S)	19 / 2.52	1.1	33.5	39.1	5047
	4 x 120 (S)	37 / 2.03	1.2	37.3	43.1	6256
	4 x 150 (S)	37 / 2.25	1.4	42.8	49.0	7634
	4 x 185 (S)	37 / 2.52	1.6	47.4	53.8	9361
	4 x 240 (S)	61 / 2.25	1.7	54.7	61.5	12023
	4 x 300 (S)	61 / 2.52	1.8	60.6	68.2	15025



CYMY

Flat webbed cable

Usage:

For fixed installation under plaster, in conduit and in installation strips.



Construction:

- 1 Copper conductor, round solid (RE)
- 2 Core insulation (PVC)
- 3 Sheath (PVC black, UV-resistant)



Rated voltage: 300/500 V



Test voltage: 2500 V_{eff}



Temperature range:

laying temperature: min. +4 °C

operating temperature: -50 °C to +70 °C

conductor temperature: max. +70 °C

short-circuit temperature: max. +160 °C/5 s



Bending radius (min.): 6 x cable height or 6 x cable width



Core identification: coloured (HD 308 S2)



Fire properties:
flame retardant (EN 50265-2-1,
IEC 60332-1)

Number of cores x nominal cross section (mm ²)	Max. conductor resistance (Ω/km)	Current carrying capacity in the air I ₁ (A)	Cable width (mm) ca.	Cable height (mm) ca.	Metal weight (kg/km)	Total weight (kg/km) ca.	Standard lengths/ packing (m)
2 x 1.5 RE	12.531	22	9.6	3.3	29	49.0	100 R
3 x 1.5 RE	12.531	22	15.9	3.3	44	75.0	100 R
2 x 2.5 RE	7.520	30	12.0	4.0	49	83.0	100 R
3 x 2.5 RE	7.520	30	20.0	4.0	74	120.0	100 R



BS5308 Instrumentation Cable Part 1 Type 1



Application

BS5308 cables are designed to carry communication and control signals in a variety of installation types including those found in the petrochemical industry. The signals can be of analogue, data or voice type and from a variety of transducers such as pressure, proximity or microphone. BS 5308 cables are designed to form part of an intrinsically safe system and the technical information required to determine their suitability for this application is contained within the datasheet. Part 1 Type 1 cables are generally designed for indoor use and in environments where mechanical protection is not required. Being BS 5308 Part 1 the insulation material is either PE or XLPE. The PVC sheathing material has an OI >30% and HCL <15% and the LSZH material is of type LTS3. Collectively and individually screened pairs are available within the range where further signal security is required.

Standards

BS/PAS 5308, BS EN 60228, BS 6234, BS 50363, IEC 60332-1, IEC 60332-3-24

Technical Data

Conductor

Class 2 or 5 plain copper conductors

Sheath

PVC (Polyvinyl Chloride) or LSZH (Low Smoke Zero Halogen)

Pairing

Two insulated conductors uniformly twisted together

Sheath Colour

Blue or Black

Insulation

PE (Polyethylene) to BS6234 or XLPE (Cross Linked Polyethylene)

Voltage Rating

300/500V

Shielding

Aluminium / Polyester Tape

Temperature

Operating: +75°C

Installation: +50°C

Drain Wire

Tinned copper

Minimum Bend Radius

12 x Overall Diameter

Dimensions

Collectively Screened Cables

Insulation Type	No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Conductor Diameter mm ²	Minimum Average Thickness of Insulation mm	Nominal Overall Diameter over Insulation mm	Nominal Thickness of Sheath mm	Nominal Overall Diameter of Cable mm	Weight kg/km
XLPE	1	2	0.50	0.89	0.50	1.90	0.8	5.54	53
XLPE	1	2	0.75	1.14	0.50	2.14	0.8	6.03	65
PE	1	2	0.75	1.14	0.50	2.14	0.8	6.03	61
XLPE	1	2	1.50	1.55	0.45	2.44	0.8	6.64	94
XLPE	1	2	1.50	1.55	0.45	2.44	0.8	6.64	89
PE	-	4	0.50	0.89	0.50	1.90	0.8	6.92	74
XLPE	-	4	0.75	1.14	0.50	2.14	0.8	6.92	93
PE	-	4	1.50	1.55	0.45	2.44	0.8	7.65	136
XLPE	5	10	0.75	1.14	0.50	2.14	1.2	12.37	186
PE	10	20	0.75	1.14	0.50	2.14	1.3	17.30	325



Individually and Collectively Screened Cables

Insulation Type	No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Conductor Diameter mm ²	Minimum Average Thickness of Insulation mm	Nominal Overall Diameter over Insulation mm	Nominal Thickness of Sheath mm	Nominal Overall Diameter of Cable mm	Weight kg/km
PE	2	4	0.75	1.14	0.50	2.14	0.9	9.92	143
PE	5	10	1.50	1.55	0.45	2.44	1.2	14.79	338

Electrical Characteristics

Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Maximum DC Resistance per Core at 20°C ohms/Km	Maximum Insulation Resistance at 20°C G ohms/Km	Mutual Capacitance pF/m	L/R Ratio μH/ohm
1	2	0.50	39.70	> 5	115	25
1	2	0.75	26.50	> 5	115	25
1	2	0.75	26.50	> 5	115	25
1	2	1.50	12.30	> 5	120	40
1	2	1.50	12.30	> 5	120	40
1	4	0.50	39.70	> 5	115	25
1	4	0.75	26.50	> 5	115	25
1	4	1.50	12.30	> 5	120	40
5	10	0.75	26.50	> 5	75	25
10	20	0.75	26.50	> 5	75	25

Individually and Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Maximum DC Resistance per Core at 20°C ohms/Km	Maximum Insulation Resistance at 20°C G ohms/Km	Mutual Capacitance pF/m	L/R Ratio μH/ohm
1	4	0.75	26.50	> 5	115	25
1	10	1.50	12.30	> 5	120	40

Core Colours

Pair No	a Wire	b Wire	Pair No	a Wire	b Wire	Pair No	a Wire	b Wire
1	Black	Blue	18	Green	Orange	35	Orange	Grey
2	Black	Green	19	Brown	Orange	36	Yellow	Grey
3	Blue	Green	20	White	Orange	37	Black	Violet
4	Black	Brown	21	Red	Orange	38	Blue	Violet
5	Blue	Brown	22	Black	Yellow	39	Green	Violet
6	Green	Brown	23	Blue	Yellow	40	Brown	Violet
7	Black	White	24	Green	Yellow	41	White	Violet
8	Blue	White	25	Brown	Yellow	42	Red	Violet
9	Green	White	26	White	Yellow	43	Orange	Violet
10	Brown	White	27	Red	Yellow	44	Yellow	Violet
11	Black	Red	28	Orange	Yellow	45	Grey	Violet
12	Blue	Red	29	Black	Grey	46	Black	Turquoise
13	Green	Red	30	Blue	Grey	47	Blue	Turquoise
14	Brown	Red	31	Green	Grey	48	Green	Turquoise
15	White	Red	32	Brown	Grey	49	Brown	Turquoise
16	Black	Orange	33	White	Grey	50	White	Turquoise
17	Blue	Orange	34	Red	Grey			

Individually screened pairs will be number coded all with Pair 1 colouring

The information contained within this datasheet is for guidance only. When selecting accessories such as cleats, glands, etc please note that actual cable dimensions may vary due to manufacturing tolerances.



BS5308 Instrumentation Cable Part 1 Type 2



Application

BS5308 cables are designed to carry communication and control signals in a variety of installation types including those found in the petrochemical industry. The signals can be of analogue, data or voice type and from a variety of transducers such as pressure, proximity or microphone. BS 5308 cables are designed to form part of an intrinsically safe system and the technical information required to determine their suitability for this application is contained within the datasheet. Part 1 Type 2 cables are designed where a greater degree of mechanical protection is required namely outdoor / exposed or direct burial at suitable depth. Being BS 5308 Part 1 the insulation material is either PE or XLPE. The PVC sheathing material has an OI >30% and HCL <15% and the LSZH material is of type LTS3. Collectively and individually screened pairs are available within the range where further signal security is required.

Standards

BS/PAS 5308, BS EN 60228, BS 6234, BS 50363, IEC 60332-1, IEC 60332-3-24

Technical Data

Conductor

Class 2 or 5 plain copper conductors

Armouring

Galvanised SWA (Steel Wire Armour)

Pairing

Two insulated conductors uniformly twisted together

Sheath

PVC (Polyvinyl Chloride) or LSZH (Low Smoke Zero Halogen)

Insulation

PE (Polyethylene) or XLPE (Cross Linked Polyethylene)

Sheath Colour

Blue or Black

Shielding

Aluminium / Polyester Tape

Voltage Rating

300/500V

Drain Wire

Class 2 Tinned copper

Temperature Rating

Fixed: +90°C
Installation: +50°C

Bedding

PE (Polyethylene)

Minimum Bend Radius

18 x Overall Diameter

Dimensions

Collectively Screened Cables

Insulation Type	No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Conductor Diameter mm ²	Minimum Average Thickness of Insulation mm	Nominal Overall Diameter over Insulation mm	Nominal Thickness of Bedding mm	Nominal Overall Diameter of Bedding mm	Nominal Diameter of Armouring mm	Nominal Diameter Over Armour Wires mm	Nominal Thickness of Outer Sheath mm	Nominal Overall Diameter of Cable mm	Weight kg/km
XLPE	1	2	0.75	1.14	0.50	2.14	0.80	6.0	0.87	7.8	1.40	10.57	255
PE	1	2	0.75	1.14	0.50	2.14	0.80	6.0	0.87	7.8	1.40	10.57	240
PE	1	2	1.50	1.55	0.45	2.45	0.8	6.6	0.87	8.4	1.40	11.18	298
XLPE	1	2	1.50	1.55	0.45	2.45	0.8	6.6	0.87	8.4	1.40	11.18	318
XLPE	1	2	1.50	1.55	0.45	2.45	0.8	6.6	0.87	8.4	1.40	11.18	318
XLPE	-	3	1.50	1.55	0.45	2.45	0.89	7.0	0.87	8.8	1.40	11.56	410
XLPE	-	4	0.75	1.14	0.50	2.14	0.80	9.2	0.87	11.0	1.40	13.77	324
XLPE	-	4	0.75	1.14	0.50	2.14	0.80	9.2	0.87	11.0	1.40	13.77	324
PE	5	10	0.50	0.89	0.50	1.89	1.20	12.1	0.87	13.9	1.50	16.90	416
XLPE	5	10	0.75	1.14	0.50	2.14	1.2	12.4	0.87	14.1	1.50	17.11	700
PE	10	20	0.50	0.89	0.50	2.14	1.3	17.3	1.21	19.7	1.70	23.12	850
PE	10	20	0.75	1.14	0.50	2.14	1.3	17.3	1.21	19.7	1.70	23.12	1130



*Designates the sheath colour. For Black substitute * for BK and for Blue substitute * for BL
Individually and Collectively Screened Cables

Insulation Type	No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Conductor Diameter mm ²	Minimum Average Thickness of Insulation mm	Nominal Overall Diameter over Insulation mm	Nominal Thickness of Bedding mm	Nominal Overall Diameter of Bedding mm	Nominal Diameter of Armouring mm	Nominal Diameter Over Armour Wires mm	Nominal Thickness of Outer Sheath mm	Nominal Overall Diameter of Cable mm	Weight kg/km
PE	2	4	0.75	1.14	0.50	2.14	0.9	9.9	0.87	11.7	1.4	14.5	240
XLPE	5	10	0.50	0.89	0.50	1.89	1.2	12.1	0.87	13.9	1.50	16.90	684
PE	5	10	0.75	1.14	0.50	2.14	1.2	13.3	0.87	15.1	1.50	18.10	714
PE	10	20	0.50	0.89	0.50	1.89	1.3	16.9	1.21	19.3	1.70	22.70	1104

Electrical Characteristics

Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Maximum DC Resistance per Core at 20°C ohms/Km	Maximum Insulation Resistance at 20°C G ohms/Km	Maximum Mutual Capacitance pF/m	Maximum L/R Ratio μH/ohm
1	2	0.75	26.50	>5	115	25
1	2	0.75	26.50	>5	115	25
2	4	0.75	26.50	>5	115	25
1	2	1.50	12.50	>5	120	40
1	2	1.50	12.30	>5	120	40
1	2	1.50	12.30	>5	120	40
-	3	1.50	12.30	>5	120	40
-	4	0.75	26.50	>5	75	25
-	4	0.75	26.50	>5	75	25
5	10	0.50	39.70	>5	75	25
5	10	0.75	26.50	>5	75	25
10	20	0.50	39.70	>5	75	25
10	20	0.75	26.50	>5	75	25

Individually and Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Maximum DC Resistance per Core at 20°C ohms/Km	Maximum Insulation Resistance at 20°C G ohms/Km	Maximum Mutual Capacitance pF/m	Maximum L/R Ratio μH/ohm
2	4	0.75	26.50	>5	115	25
5	10	0.50	39.70	>5	115	25
5	10	0.75	26.50	>5	115	25
10	20	0.50	39.70	>5	115	25



BS5308 Instrumentation Cable Part 2 Type 1



Application

BS5308 cables are designed to carry communication and control signals in a variety of installation types including the petrochemical industry. The signals can be of analogue, data or voice type and from a variety of transducers such as pressure, proximity or microphone. BS 5308 cables are designed to form part of an intrinsically safe system and the technical information required to determine their suitability for this application is contained within the datasheet. Part 2 Type 1 cables are generally designed for indoor use and in environments where mechanical protection is not required. Being BS 5308 Part 2 the insulation material is PVC. The PVC sheathing material has an OI >30% and HCL <15% and the LSZH material is of type LTS3. Individually and collectively screened pairs are available within the range where further signal security is required.

Standards

BS/PAS 5308, BS EN 60228, BS 6234, BS 50363, IEC 60332-1, IEC 60332-3-24

Technical Data

Conductor

Class 5 plain copper conductors

Sheath

PVC (Polyvinyl Chloride) to BS7655 or
LSZH (Low Smoke Zero Halogen)

Pairing

Two insulated conductors uniformly twisted together

Sheath Colour

Blue or Black

Insulation

PVC acc. BS5308 Part 2

Voltage Rating

300/500V

Shielding

Aluminium/Polyester Tape

Temperature Rating

Fixed: -30°C to +70°C
Flexing: -5°C to +50°C

Drain Wire

Tinned copper

Minimum Bend Radius

12 x Overall Diameter

Dimensions

Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Conductor Diameter mm ²	Minimum Average Thickness of Insulation mm	Nominal Overall Diameter over Insulation mm	Nominal Thickness of Sheath mm	Nominal Overall Diameter of Cable mm	Weight kg/km
1	2	0.75	1.14	0.50	2.14	0.80	6.03	65
-	3	1.50	1.55	0.45	2.45	0.80	7.02	171
-	4	0.75	1.14	0.50	2.14	0.80	6.92	101
5	10	0.75	1.14	0.50	2.14	1.00	11.39	186

*Designates the sheath colour. For Black substitute * for BK and for Blue substitute * for BL

BS5308 Instrumentation Cable Part 2 Type 2



Application

BS5308 cables are designed to carry communication and control signals in a variety of installation types including the petrochemical industry. The signals can be of analogue, data or voice type and from a variety of transducers such as pressure, proximity or microphone. BS 5308 cables are designed to form part of an intrinsically safe system and the technical information required to determine their suitability for this application is contained within the datasheet. Part 2 Type 2 cables are designed where a greater degree of mechanical protection is required namely outdoor / exposed or direct burial at suitable depth. Being BS 5308 Part 2 the insulation material is PVC, whilst the PVC sheathing material has an OI >30% and HCL <15% and the LSZH material is of type LTS3. Individually and collectively screened pairs are available within the range where further signal security is required.

Standards

BS/PAS 5308, BS EN 60228, BS 6234, BS 50363, IEC 60332-1, IEC 60332-3-24

Technical Data

Conductor

Class 5 plain copper conductors

Armouring

Galvanised SWA (Steel Wire Armour)

Pairing

Two insulated conductors uniformly twisted together

Sheath

PVC (Polyvinyl Chloride) OI >30% HCL <15%

Insulation

PVC (Polyvinyl Chloride)

Sheath Colour

Blue or Black

Drain Wire

Tinned copper

Voltage Rating

300/500V

Screen

Aluminium/Polyester tape

Temperature Rating

Fixed: -30°C to +70°C
Flexing: -5°C to +50°C

Bedding

PVC (Polyvinylchloride)

Minimum Bend Radius

18 x Overall Diameter

Dimensions

Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Conductor Diameter mm	Minimum Average Thickness of Insulation mm	Nominal Overall Diameter over Insulation mm	Nominal Thickness of Bedding mm	Nominal Overall Diameter of Bedding mm	Nominal Diameter of Armouring mm	Nominal Diameter Over Armour Wires mm	Nominal Thickness of Outer Sheath mm	Nominal Overall Diameter of Cable mm	Weight kg/km
1	2	0.75	1.14	0.50	2.14	0.8	0 6.0	0.87	7.8	1.40	10.57	255
-	4	0.75	1.14	0.50	2.14	0.90	8.8	0.87	10.5	1.40	13.34	324
10	20	0.75	1.14	0.50	2.14	1.20	16.2	1.21	18.7	1.60	21.87	1207

*Designates the sheath colour. For Black substitute * for BK and for Blue substitute * for BL



Individually and Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Conductor Diameter mm	Minimum Average Thickness of Insulation mm	Nominal Overall Diameter over Insulation mm	Nominal Thickness of Bedding mm	Nominal Overall Diameter of Bedding mm	Nominal Diameter of Armouring mm	Nominal Diameter Over Armour Wires mm	Nominal Thickness of Outer Sheath mm	Nominal Overall Diameter of Cable mm	Weight kg/km
2	4	0.75	1.14	0.50	2.14	0.90	9.5	0.87	11.2	1.40	14.00	454
5	10	0.75	1.14	0.50	2.14	1.20	12.7	0.87	14.5	1.50	17.50	760

Electrical Characteristics

Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Maximum DC Resistance per Core at 20°C ohms/Km	Maximum Insulation Resistance at 20°C G ohms/Km	Maximum Mutual Capacitance pF/m	Maximum L/R Ratio μH/ohm
1	2	0.75	26.50	>25	250	25
-	4	0.75	26.50	>25	250	25
10	20	0.75	26.50	>25	250	25

Individually and Collectively Screened Cables

No. of Pairs	No. of Cores	Nominal Cross Sectional Area mm ²	Maximum DC Resistance per Core at 20°C ohms/Km	Maximum Insulation Resistance at 20°C G ohms/Km	Maximum Mutual Capacitance pF/m	Maximum L/R Ratio μH/ohm
2	4	0.75	26.50	>25	250	25
10	20	0.75	26.50	>25	250	25

Core Colours

Pair No	a Wire	b Wire	Pair No	a Wire	b Wire	Pair No	a Wire	b Wire
1	White	Blue	18	Yellow	Green	35	Blue-black	Grey
2	White	Orange	19	Yellow	Brown	36	Yellow-Blue	Blue
3	White	Green	20	Yellow	Grey	37	Yellow-Blue	Orange
4	White	Brown	21	White - blue	Blue	38	Yellow-Blue	Green
5	White	Grey	22	White - blue	Orange	39	Yellow-Blue	Brown
6	Red	Blue	23	White - blue	Green	40	Yellow-Blue	Grey
7	Red	Orange	24	White - blue	Brown	41	White-Orange	Blue
8	Red	Green	25	White - blue	Grey	42	White-Orange	Orange
9	Red	Brown	26	Rd-Blue	Blue	43	White-Orange	Green
10	Red	Grey	27	Rd-Blue	Orange	44	White-Orange	Brown
11	Black	Blue	28	Rd-Blue	Green	45	White-Orange	Grey
12	Black	Orange	29	Rd-Blue	Brown	46	Orange-Red	Blue
13	Black	Green	30	Rd-Blue	Grey	47	Orange-Red	Orange
14	Black	Brown	31	Blue-black	Blue	48	Orange-Red	Green
15	Black	Grey	32	Blue-black	Orange	49	Orange-Red	Brown
16	Yellow	Blue	33	Blue-black	Green	50	Orange-Red	Grey
17	Yellow	Orange	34	Blue-black	Brown			

Individually screened pairs will be number coded all with Pair 1 colouring



Overall Screened Multi-Pair Cable (Belden Equivalent)



Application

Overall Screened Multi-Pair Cable (Belden Equivalent) provides protection against electrical interference. Suitable for use over long distances at high performance levels and where low signal distortion is required. Used for instrumentation control and RS232 applications.

Standards

RS232

Technical Data

Conductor

Stranded tinned copper

Sheath Colour

Grey

Insulation

PVC (Polyvinyl Chloride)

Voltage Rating

300V

Drain Wire

Tinned copper

Temperature Rating

80°C

Screen

Aluminium / polyester tape and tinned copper drain wire.

Core Identification

9501LSF 1 Pair: Black/Red

9502LSF 2 Pair: Black/Red, Black/White

9503LSF 3 Pair: Black/Red, Black/White, Black/Green

9504LSF 4 Pair: Black/Red, Black/White, Black/Green, Black/Blue

9506LSF 6 Pair: Black/Red, Black/White, Black/Green, Black/Blue, Black/Yellow, Black/Brown

9508LSF 8 Pair: Black/Red, Black/White, Black/Green, Black/Blue, Black/Yellow, Black/Brown, Black/Orange, Red/White

9510LSF 10 Pair: Black/Red, Black/White, Black/Green, Black/Blue, Black/Yellow, Black/Brown, Black/Orange, Red/White, Red/Green, Red/Blue

Sheath

9501LSF: (Low Smoke and Fume)

9501LSZH: (Low Smoke Zero Halogen)

9502LSF: (Low Smoke and Fume)

9502LSZH: (Low Smoke Zero Halogen)

9503LSF: (Low Smoke and Fume)

9504LSF: (Low Smoke and Fume)

9504LSZH: (Low Smoke Zero Halogen)

9506LSF: (Low Smoke and Fume)

9508LSF: (Low Smoke and Fume)

9510LSF: (Low Smoke and Fume)

Dimensions

Belden Alternative	No. of Pairs x Pair x AWG(No. of Strands) # x # x AWG(#)	Nominal Diameter of Strands mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
9501LSF	1 x 2 x AWG24(7)	0.2	4.00	21
9501LSZH	1 x 2 x AWG24(7)	0.2	4.00	21
9502LSF	2 x 2 x AWG24(7)	0.2	5.50	34
9502LSZH	2 x 2 x AWG24(7)	0.2	5.50	34
9503LSF	3 x 2 x AWG24(7)	0.2	5.60	45
9504LSF	4 x 2 x AWG24(7)	0.2	6.20	54
9504LSZH	4 x 2 x AWG24(7)	0.2	6.20	54
9506LSF	6 x 2 x AWG24(7)	0.2	7.34	65
9508LSF	8 x 2 x AWG24(7)	0.2	8.23	95
9510LSF	10 x 2 x AWG24(7)	0.2	9.30	119



BS 3573 / IEC 189 Internal Telecom Cable



Construction

Conductor:	Solid Annealed Copper
Nominal Diameter (Available)	0.4 – 0.5 – 0.6 & 0.9 mm
Pairs:	Twisted
Insulation:	Solid PE
Binding Tape:	B O P P
Shielding (where applicable)	Al. Foil
Drain wire (where applicable)	Tinned copper
Sheathing:	P V C

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Electrical Data

Conductor Resistance:	To BS 3537 / IEC 189
Loop Resistance:	To BS 3537 / IEC 189
Insulation Resistance:	1500 M O /Km
Operating Capacitance (800 Hz)	52 nF / Km
Test Voltage (3 sec)	1 KV
Thermal Range:	- 0 to 70° C
Bending Radius (Maximum)	6 x Cable Dia
Packing:	100 coils or 500 M drum
Pairs Available:	1, 2, 5, 7, 10,15, 20, 25, 50 & 100



Armored Jelly Filled Telephone Cable

Application: This cable is designed for underground (duct) or lashed to aerial suspension Strand and either exchange area .



Construction:

Conductor:	0.4 , 0.5 , 0.6 mm Solid Annealed Copper
Insulation:	Polyethylene
Pairs:	Colour coded and twisted Pair
Filling compound:	Interstices between the pairs .
Core covering :	Non-hygroscopic dielectric tape
Shield:	Plastic coated Aluminum tape.
Amour:	Galvanized Steel Wire
Flooding compound:	The interstices between nh tape ,shield, Armour & sheath are filled with 70° C flooding compound.
Sheath:	HD Polyethylene (Black)

Bending diameter not less then 20 times the cable dia

Packing: 500 or 1000 meters on wooden drum less then 500 m in coils

Electrical Parameters: at 20° C

Conductor Diameter	0,4 mm	0.5 mm	0.6mm
Mutual Capacitance at 1000 Hz (nF/km)	52 + 2	52 + 2	52 + 2
Capacitance unbalance micro O / km	2	2	2
Insulation resistance meg O km	16 K	16 K	16 K
Conductor resistance O km	145	98	66
High voltage conductor to conductor @3s	2.4	3	3.6
Attenuation at 1000 Hz nominal dB/km	1.8	1.43	1.1



Coaxial Cable Type RG/URM/Composite



Application

High quality RG Type Coaxial cables, 50 or 75 Ohm is suitable for many applications, including low power video, video signal, and broadband signals. Many types are available in Duct Grade, LSF or LSZH versions.

Technical Data

RG6: CCS (Copper Clad Steel)

RG11: TCW (Tinned Copper Wire)

RG58: TCW (Tinned Copper Wire)

RG59: CCS (Copper Clad Steel)

RG59 SHOTGUN LSZH CCA: CCA (Copper Clad Aluminium)

RG179: TCW (Tinned Copper Wire)

RG213 PVC: PCW (Plain Copper Wire)

RG213 LSZH: PCW (Plain Copper Wire)

URM67: PCW (Plain Copper Wire)

URM70: PCW (Plain Copper Wire)

75 Ohm Coax + 1Pair: PCW (Plain Copper Wire) + TCW
(Tinned Copper Wire)

75 Ohm Coax + 1Pair: PCW (Plain Copper Wire) + TCW
(Tinned Copper Wire)

Dielectric

RG6: FPE (Foam Polyethylene)

RG11: PE (Polyethylene)

RG58: PE (Polyethylene)

RG59: PE (Polyethylene)

RG59 SHOTGUN LSZH CCA: PE (Polyethylene)

RG179: FPE (Foam Polyethylene)

RG213 PVC: PE (Polyethylene)

RG213 LSZH: PE (Polyethylene)

URM67: PE (Polyethylene)

URM70: PE (Polyethylene)

75 Ohm Coax + 1Pair: PE (Polyethylene)

+ PVC (Polyvinyl Chloride)

75 Ohm Coax + 1Pair: PE (Polyethylene)

+ LSF (Low Smoke and Fume)

Shield

RG6: Aluminium Foil

Braiding

RG6: CCA (Copper Clad Aluminium)

Bare copper braid

Sheath

RG6: PVC (Polyvinyl Chloride)

RG11: PVC (Polyvinyl Chloride)

RG58: PVC (Polyvinyl Chloride)

RG59: PVC (Polyvinyl Chloride)

RG59 SHOTGUN LSZH CCA: LSZH (Low Smoke Zero Halogen)

RG179: PVC (Polyvinyl Chloride)

RG213 PVC: PVC (Polyvinyl Chloride)

RG213 LSZH: LSZH (Low Smoke Zero Halogen)

URM67: PVC (Polyvinyl Chloride)

URM70: PVC (Polyvinyl Chloride)

75 Ohm Coax + 1Pair: PVC (Polyvinyl Chloride)

75 Ohm Coax + 1Pair: LSF (Low Smoke and Fume)

Sheath Colour

Black

URM70: Black or White

Voltage Rating

30V

Temperature Rating

60°C



Dimensions

Coaxial Cable	No. and Nominal Diameter of Strands # / mm	Nominal Overall Diameter of Dielectric mm	Nominal Overall Diameter mm	Nominal Weight kg/Km
RG6	1/1.02	4.57	6.50	36.4
RG11	7/0.40	7.30	10.30	152.0
RG59	1/0.58	3.70	6.15	52.0
RG59 SHOTGUN LSZH	CCA 1/0.58 3.70	6.1 x 12.4	90.8	
RG179	1/0.36	1.60	2.80	14.2
RG213 PVC	7/0.75	7.25	10.30	57.0
RG213 LSZH	7/0.75	7.25	10.30	57.0
URM67	7/0.75	7.25	10.30	57.0
URM70	7/0.19	3.20	5.80	46.0
75 Ohm Coax + 1Pair	2 x 7/0.25	3.70 + 1.40	6.15 + 5.50	90.9
75 Ohm Coax + 1Pair	2 x 7/0.25	3.70 + 1.40	6.15 + 5.50	90.9

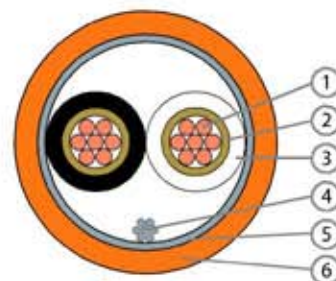
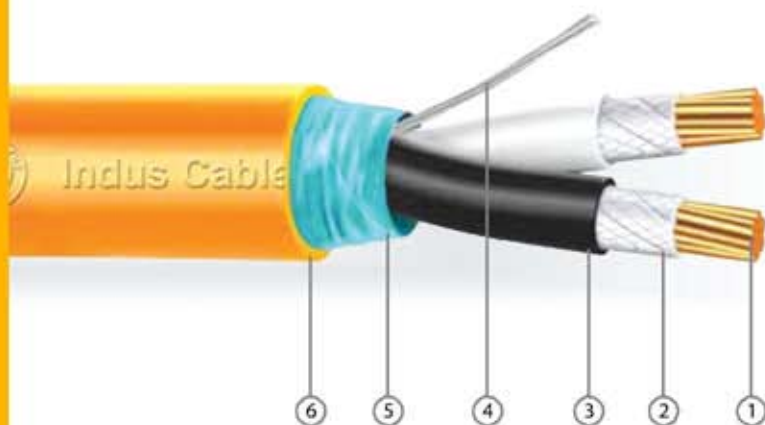
Electrical Characteristics

Coaxial Cable	Nominal Capacitance pF/mtr	Impedance ohms	Velocity Ratio %
RG6	53	75	83.3
RG11	67	75	66.6
RG59	67	75	66.6
RG59 SHOTGUN LSZH CCA	70	75	66.6
RG179	64	75	82.0
RG213 PVC	100	50	66.7
RG213 LSZH	100	50	66.7
URM67	100	50	66.6
URM70	67	75	66.6
75 Ohm Coax + 1Pair	56 + 167	75 + 35	78/58
75 Ohm Coax + 1Pair	56 + 167	75 + 35	78/58



CU / MGT / XLPE / OS / LSZH (SINGLE PAIR)

Mica Taped, XLPE Insulated, Overall Aluminium Foil Screened, LSZH Sheathed Cable, 300 / 500V, BS EN50288-7

**Component**

1. Plain Annealed Copper Wire
2. Mica Tape
3. Cross-linked Polyethylene Compound
4. Tinned Copper Drain Wire
5. Aluminium / Polyester Tape
6. Low Smoke Zero Halogen (LSZH) Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular
Fire Barrier:	Mica Tape (MGT)
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Colour:	Black, White or Others
Lay Up:	Pair - Cores twisted to pair
Overall Screen:	Aluminium/Polyester Tape, with a Tinned Copper Drain Wire 0.5mm2 (7/03mm) (OS)
Wrap Film:	Polyester Binder Tape
Outer Sheath:	Low Smoke Zero Halogen (LSZH) Compound
Outer Sheath Colour:	Orange or Others

ELECTRICAL CHARACTERISTICS

Operating Voltage, U ₀ /U:	300/500V
Operating Temperature:	-15°C to 90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	2kV for 1 minute

REFERENCE STANDARDS

Design Specification:	BS EN50288-7
Conductor:	IEC60228, BS EN60228
Fire Resistance:	BS6387 (C, W, Z), 55299 (C, W, Z), IEC60331
Flame Retardancy:	1EC60332-3-22, BS EN60332-3-22
Low Smoke Zero Halogen:	IEC61034-2, BS EN61034-2 IEC60754-1, IEC60754-2 BS EN50267-2-1, BS EN50267-2-2

INSTALLATION REFERENCE

Min. Bending Radius (mm):	8 x cable overall diameter
Max. Pulling Tension (N/mm2):	50

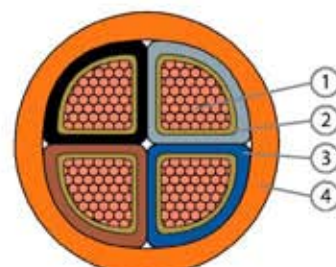
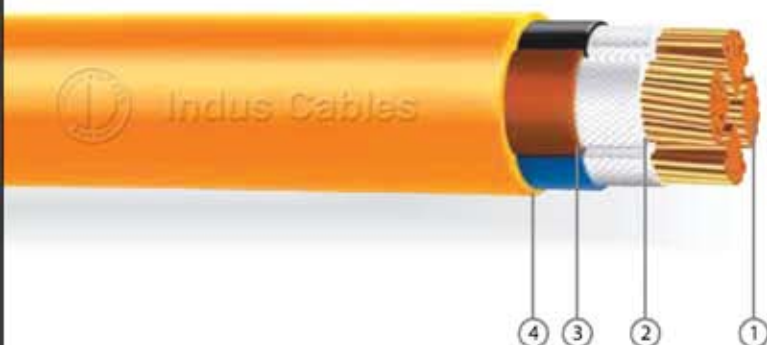
No. of Pairs	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
1P	1.0	7 / 0.43	0.6	10.0	98
1P	1.5	7 / 0.53	0.6	10.6	113
1P	2.5	7 / 0.67	0.7	12.0	150

SINGLE PAIR



CU / MGT / XLPE / LSZH (2 CORES - 5 CORES)

Mica Taped, XLPE Insulated, LSZH Sheathed Cable, 0.6/1 kV, IEC60502



Component

1. Plain Annealed Copper Wire
2. Mica Tape
3. Cross-linked Polyethylene Compound
4. Low Smoke Zero Halogen (LSZH) Compound

CONSTRUCTION

Conductor:	Plain Annealed Copper, Class 2 Stranded Circular, Compacted or Sectored
Fire Barrier:	Mica Tape (MGT)
Insulation:	Cross-linked Polyethylene (XLPE) Compound
Insulation Colour:	2 Cores: Brown, Blue or Red, Black 3 Cores: Brown, Black, Grey or Red, Yellow, Blue 4 Cores: Brown, Black, Grey, Blue or Red, Yellow, Blue, Black 5 Cores: Brown, Black, Grey, Blue, Green/Yellow or Red, Yellow, Blue, Black, Green/Yellow or White with Black numbering or Others
Assembly:	Cores cabled together with filler and covered with Polyester (PET) Tape
Outer Sheath:	Low Smoke Zero Halogen (LSZH) Compound
Outer Sheath Colour:	Orange or Others

ELECTRICAL CHARACTERISTICS

Operating Voltage, U_0/U :	0.6/1KV
Operating Temperature:	-15°C to 90°C
Final Short Circuit Temperature:	250°C
Test Voltage:	3.5kV for 5 minutes

REFERENCE STANDARDS

Design Specification:	IEC60502-1
Conductor:	IEC60228, BS EN60228 BS6387 (C,W,Z), SS299 (C,W,Z), IEC60331 IEC60332-3-22, BS EN60332-3-22
Fire Resistance:	IEC61034-2, BS EN61034-2 IEC60754-1, IEC60754-2
Flame Retardancy:	BS EN50267-2-1, BS EN50267-2-2

INSTALLATION REFERENCE

Min. Bending Radius (mm):	8 x cable overall diameter
Max. Pulling Tension (N/mm ²):	50

	Nominal Conductor Area (mm ²)	No. and Diameter of Wires (no./mm)	Radial Thickness of Insulation (mm)	Cable Overall Diameter (mm)	Approximate Weight (kg/km)
2 CORES	2 x 1.5	7 / 0.53	0.7	12.1	186
	2 x 2.5	7 / 0.67	0.7	12.9	223
	2 x 4	7 / 0.85	0.7	14.0	277
	2 x 6	7 / 1.04	0.7	15.1	343
	2 x 10	7 / 1.35	0.7	17.0	409
	2 x 16	7 / 1.70	0.7	19.1	639
	2 x 25	7 / 2.14	0.9	22.5	933
	2 x 35	7 / 2.52	0.9	24.8	1196
	2 x 50 (S)	19 / 1.78	1.0	23.4	1292
	2 x 70 (S)	19 / 2.14	1.1	26.4	1750
	2 x 95 (S)	19 / 2.52	1.1	29.2	2308
	2 x 120 (S)	37 / 2.03	1.2	32.2	2852
	2 x 150 (S)	37 / 2.25	1.4	36.0	3484
	2 x 185 (S)	37 / 2.52	1.6	39.8	4302
	2 x 240 (S)	61 / 2.25	1.7	44.2	5528
	2 x 300 (S)	61 / 2.52	1.8	48.4	6806

Industrial Site Safety Warning Tapes



Industrial site safety warning tapes are high strength printed polyethylene barricade tapes. Industrial warning tapes are printed with an industrial warning text / site safety text and internationally recognised symbol if appropriate. Used by industry to warn the workforce and the public of dangers from chemicals, explosions and asbestos etc. Available in any language and in any size. Many English texts held in stock including : Caution do not enter tape, Caution tape, Danger tape, Danger high voltage tape, Asbestos hazard tape, Explosive hazard tape, Caution wet paint tape and No Parking tape.

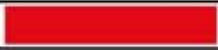
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- Internationally recognised symbols if appropriate
- UV + scratch resistant ink
- Shrink wrapped for protection
- Specially manufactured texts available, any size or colour

Industrial site safety warning barrier tapes are essential for health & safety purposes in factories, sporting events, construction sites etc.





Text	Colour	Size	Part No.
 CAUTION  	Black/Yellow/Red	75mm x 250mm	013500
 CAUTION DO NOT ENTER	Black/Yellow	75mm x 250mm	011124
 DANGER DEMOLITION	Black/Yellow	75mm x 250mm	011001
 DANGER - HIGH VOLTAGE	Black/Yellow	75mm x 250mm	011209
 ASBESTOS HAZARD	Black/Yellow	75mm x 250mm	011087
 EXPLOSIVE HAZARD	Black/Yellow	75mm x 250mm	011063
 CAUTION  CAUTION	Black/Yellow	75mm x 250mm	011360
 BUILDING UNSAFE	Black/Yellow	75mm x 250mm	011049
 CHEMICAL HAZARD	Black/Yellow	75mm x 250mm	011025
 DANGER  DANGER	Black/Yellow	75mm x 250mm	012008
DANGER - GAS EMERGENCY DO NOT ENTER	Black/Yellow	75mm x 250mm	015444
 DANGER Unidentified Insulation 	Black/Yellow	150mm x 100mm	010967
 Caution Wet paint 	Black/Yellow	150mm x 100mm	010882
 DANGER OVERHEAD WORK IN PROGRESS	Black/Yellow	150mm x 100mm	010868
 DANGERMEN WORKING	Black/Yellow	150mm x 100mm	010929
 No parking 	Red/White	150mm x 100mm	013081
 No entry asbestos 	Red/Black/White	150mm x 100mm	013067
 Danger Falling objects 	Black/Yellow	150mm x 100mm	010905

Special / Custom made tapes can also be manufactured as per clients requirements.

Flexible Connectors

How to order

When ordering Connectors, please supply the following information:-

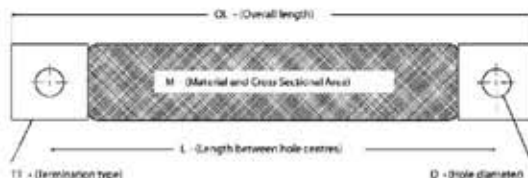
OL – Overall length

L – Length between hole centres

D – Hole diameter

M – Material and cross sectional area

TT – Termination type



Custom made for form and fit to meet individual unique applications. Flexible connectors are made from either braid or strand and suitably terminated. When called for, flexible connectors are supplied insulated for protection and identification purposes. Where the continuous current rating is likely to exceed 400 amps then this is generally accommodated within our Flexible Busbar range of products. Technical assistance is available to ensure Indus Cable supplies the optimum solution for your specific application.

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Features

- * Complete product ready to fit
- * Custom built to meet specific mechanical and electrical performance criteria
- * Option to manufacture to drawing or replicate existing product
- * Current ratings up to 400A
- * Very wide range of terminations available to suit all requirements
- * Can be supplied with solder 'water block' barrier to prevent moisture absorption
- * Available with various types of insulation
- * Option to fit identification markers

Choice of Materials

- * Electro tin-plated copper
- * Plain copper
- * Nickel-plated copper
- * Stainless steel
- * Alternative non-ferrous & ferrous materials on request



Terminations

A wide range of termination types is available. This ensures that the correct mechanical bond between the conductor and the fixing down point is attained.



Description

Benefits and Features

Flat Tube Compressed Ferrule



- Excellent mechanical properties: compaction creates a solid end
- Compressed onto braid without altering braid dimensions
- Maximum conductivity with minimum volt drop = reduced thermal resistance
- Ends can be drilled, milled, machined and profiled to meet mechanical demands
- Custom design configurations for individual applications

Crimp Terminal



- Economical solution for low current applications
- Wide range of sizes held in stock
- Varying types to meet most applications – tube, ring, sheet, bootlace
- Insulated options available
- Option to fit customer nominated versions

Swaged Ferrule



- Customised for dimensionally critical applications i.e. distribution boards
- Reduced assembly costs
- Excellent conductive performance
- Minimal heat-rise
- Varying lengths, diameters and profiles

Ultrasonically Welded Ends



- Low cost alternative to the swaged ferrule
- No reduction in technical performance
- Forms solid end throughout the whole of the material
- Consistent results – ultra low rejects
- Lower unit costs owing to high manufacturing productivity

Solder Dipped Ends



- Alternative to compressed ferrules
- Suitable for low current applications
- Excellent electrical performance
- Provides direct contact with conductor
- Acts as a moisture block

Special Terminations



- Custom designed solutions for bespoke applications
- Built for optimum results
- Reduces technical risk for critical applications
- Modified standard options utilising stock components
- High current applications e.g. 480mm² 32kA earth terminal



AWG to Metric Wire Conversion

AWG Number	Ø [Inch]	Ø [mm]	Ø [mm²]	Resistance [Ohm/m]	AWG Number	Ø [Inch]	Ø [mm]	Ø [mm²]	Resistance [Ohm/m]
4/0 = 0000	0.460	11.7	107	0.000161	19	0.0359	0.912	0.653	0.0264
3/0 = 000	0.410	10.4	85.0	0.000203	20	0.0320	0.812	0.518	0.0333
2/0 = 00	0.365	9.26	67.4	0.000256	21	0.0285	0.723	0.410	0.0420
1/0 = 0	0.325	8.25	53.5	0.000323	22	0.0253	0.644	0.326	0.0530
1	0.289	7.35	42.4	0.000407	23	0.0226	0.573	0.258	0.0668
2	0.258	6.54	33.6	0.000513	24	0.0201	0.511	0.205	0.0842
3	0.229	5.83	26.7	0.000647	25	0.0179	0.455	0.162	0.106
4	0.204	5.19	21.1	0.000815	26	0.0159	0.405	0.129	0.134
5	0.182	4.62	16.8	0.00103	27	0.0142	0.361	0.102	0.169
6	0.162	4.11	13.3	0.00130	28	0.0126	0.321	0.0810	0.213
7	0.144	3.66	10.5	0.00163	29	0.0113	0.286	0.0642	0.268
8	0.128	3.26	8.36	0.00206	30	0.0100	0.255	0.0509	0.339
9	0.114	2.91	6.63	0.00260	31	0.00893	0.227	0.0404	0.427
10	0.102	2.59	5.26	0.00328	32	0.00795	0.202	0.0320	0.538
11	0.0907	2.30	4.17	0.00413	33	0.00708	0.180	0.0254	0.679
12	0.0808	2.05	3.31	0.00521	34	0.00631	0.160	0.0201	0.856
13	0.0720	1.83	2.62	0.00657	35	0.00562	0.143	0.0160	1.08
14	0.0641	1.63	2.08	0.00829	36	0.00500	0.127	0.0127	1.36
15	0.0571	1.45	1.65	0.0104	37	0.00445	0.113	0.0100	1.72
16	0.0508	1.29	1.31	0.0132	38	0.00397	0.101	0.00797	2.16
17	0.0453	1.15	1.04	0.0166	39	0.00353	0.0897	0.00632	2.73
18	0.0403	1.02	0.823	0.0210	40	0.00314	0.0799	0.00501	3.44



TABLE 4D1A

Single core PVC insulated cables non armoured, with or without sheath
(COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (Amperes):

Ambient temperature : 30 °C
Conductor operating temperature : 70 °C

Conductor cross-sectional area	Installation Methods 1,2		Installation Methods 3,5,7,8,9,10,16		Installation Methods 4,6,15,16		Installation Method 11		Installation Method 12(free air)		
	2 cables single phase ac or d.c flat and touching	3 or 4 cables three phase a.c flat & touching	2 cables, single phase ac or d.c	3 or 4 cables three phase a.c	2 cables, single phase ac or d.c	3 or 4 cables three phase a.c	2 cables single phase ac or d.c flat and touching	3 or 4 cables three phase a.c flat touching or trefoil	2 cables single phase ac or d.c or 3 cables three phase	2 cables single phase ac or d.c or 3 cables three phase	3 cables trefoil three phase a.c
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
1	15.5	14	13.5	12	11	10.5	-	-	-	-	-
1.5	20	18	17.5	15.5	14.5	13.5	-	-	-	-	-
2.5	27	25	24	21	19.5	18	-	-	-	-	-
4	37	33	32	28	26	24	-	-	-	-	-
6	47	43	41	36	34	31	-	-	-	-	-
10	65	59	57	50	46	42	-	-	-	-	-
16	87	79	76	68	61	56	-	-	-	-	-
25	114	104	101	89	80	73	126	112	146	130	110
35	141	129	125	110	99	89	156	141	181	162	137
50	182	167	151	134	119	108	191	172	219	197	167
70	234	214	192	171	151	136	246	223	281	254	216
95	284	261	232	207	182	164	300	273	341	311	264
120	330	303	269	239	210	188	349	318	396	362	308
150	381	349	300	262	240	216	404	369	456	419	356
185	436	400	341	296	273	245	463	424	521	480	409
240	515	472	400	346	320	286	549	504	615	569	485
300	594	545	458	394	367	328	635	584	709	659	561
400	694	634	546	467	-	-	732	679	852	795	656

Temperature Correction Factor
Circuit Breaker 1EC947
Fuse BS 3036

25°	30°	35°	40°	45°	50°	55°	60°	65°
1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35
1.03	1.0	0.97	0.94	0.91	0.87	0.84	0.69	0.48

This above information is for reference only

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TABLE 4D1B

VOLTAGE DROP (per ampere per meter):

Conductor operating temperature : 70 °C

2 cables single-phase a.c					3 or 4 cables-three phase a.c				
Conductor cross-sectional area (mm ²)	2 cables d.c. (mV/A/m)	Installation methods 3 & 4 (mV/A/m)	Installation methods 1 & 11 (mV/A/m)	Installation methods 12 (spaced*) (mV/A/m)	Installation methods 3 & 4 (mV/A/m)	Installation methods 1,11,12 (in trefoil) (mV/A/m)	Installation methods 1 & 11 (flat & touching) (mV/A/m)	Installation methods 12 (flat spaced.) (mV/A/m)	
1	44	44	44	44	38	38	38	38	
1.5	29	29	29	29	25	25	25	25	
2.5	18	18	18	18	15	15	15	15	
4	11	11	11	11	9.5	9.5	9.5	9.5	
6	7.3	7.3	7.3	7.3	6.4	6.4	6.4	6.4	
10	4.4	4.4	4.4	4.4	3.8	3.8	3.8	3.8	
16	2.8	2.8	2.8	2.8	2.4	2.4	2.4	2.4	
		r x z	r x z	r x z	r x z	r x z	r x z	r x z	
25	1.75	1.80 0.33 1.80	1.75 0.20 1.75	1.75 0.29 1.80	1.50 0.29 1.55	1.50 0.25 1.50	1.50 0.17 1.55	1.50 0.32 1.55	
35	1.25	1.30 0.31 1.30	1.25 0.19 1.25	1.25 0.28 1.30	1.10 0.27 1.10	1.10 0.24 1.10	1.10 0.17 1.10	1.10 0.32 1.15	
50	0.93	0.95 0.30 1.00	0.93 0.19 0.95	0.93 0.28 0.97	0.81 0.26 0.85	0.80 0.24 0.82	0.80 0.16 0.84	0.80 0.32 0.86	
70	0.63	0.65 0.29 0.72	0.63 0.18 0.66	0.63 0.27 0.69	0.56 0.25 0.61	0.55 0.24 0.57	0.55 0.16 0.60	0.55 0.31 0.63	
95	0.46	0.49 0.28 0.56	0.47 0.18 0.50	0.47 0.27 0.54	0.42 0.24 0.48	0.41 0.23 0.43	0.41 0.15 0.47	0.40 0.31 0.51	
120	0.36	0.39 0.27 0.47	0.37 0.17 0.41	0.37 0.26 0.45	0.33 0.23 0.41	0.32 0.23 0.36	0.32 0.15 0.40	0.32 0.30 0.44	
150	0.29	0.31 0.27 0.41	0.30 0.17 0.34	0.29 0.26 0.39	0.27 0.23 0.36	0.26 0.23 0.30	0.26 0.15 0.34	0.26 0.30 0.40	
185	0.23	0.25 0.27 0.37	0.24 0.17 0.29	0.24 0.26 0.35	0.22 0.23 0.32	0.21 0.22 0.26	0.21 0.14 0.31	0.21 0.30 0.36	
240	0.18	0.19 0.26 0.33	0.18 0.16 0.25	0.18 0.25 0.31	0.17 0.23 0.29	0.16 0.22 0.22	0.16 0.14 0.27	0.16 0.29 0.34	
300	0.145	0.16 0.26 0.31	0.15 0.16 0.22	0.15 0.25 0.29	0.14 0.23 0.27	0.13 0.22 0.19	0.13 0.14 0.25	0.13 0.29 0.32	
400	0.105	0.13 0.26 0.29	0.12 0.16 0.12	0.12 0.25 0.27	0.12 0.22 0.25	0.10 0.21 0.17	0.10 0.14 0.24	0.10 0.29 0.31	

*NOTE: Spacing larger than those specified in method 12 will result in larger voltage drop.



TABLE 4D2A

Multicore Pvc-insulated cables, non-armoured
(COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (Amperes):

Ambient temperature : 30 °C
Conductor operating temperature : 70 °C

Conductor cross-sectional area	Installation Methods 1,2		Installation Methods 3,5,7,8,9,10,16		Installation Methods 4,6,15,16		Installation Methods 11,13				
	1 Two core cables, single phase a.c. or d.c.	1 three-core cables, or 1 four core cable, three phase a.c.	1 Two core cable, single phase a.c. or d.c.	1 three-core cable, or 1 four core cable, three phase a.c.	1 Two core cables, single phase a.c. or d.c.	1 three-core cable, or 1 four core cable, three phase a.c.	1 Two core cables, single phase a.c. or d.c.	1 three-core cables, or 1 four core cable, three phase a.c.			
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)			
1	15	13.5	13	11.5	11	10	17	14.5			
1.5	19.5	17.5	16.5	15	14	13	22	18.5			
2.5	27	24	23	20	18.5	17.5	30	25			
4	36	32	30	27	25	23	40	34			
6	46	41	38	34	32	29	51	43			
10	63	57	52	46	43	39	70	60			
16	85	76	69	62	57	52	94	80			
25	112	96	90	80	75	68	119	101			
35	138	119	111	99	92	83	148	126			
50	168	144	133	118	110	99	180	153			
70	213	184	168	149	139	125	232	196			
95	258	223	201	179	167	150	282	238			
120	299	259	232	206	192	172	328	276			
150	344	299	258	225	219	196	379	319			
185	392	341	294	255	248	223	434	364			
240	461	403	344	297	291	261	514	430			
300	530	464	394	339	334	298	593	497			
400	634	557	470	402	-	-	715	597			
Temperature Correction Factor			25°	30°	35°	40°	45°	50°	55°	60°	65°
Circuit Breaker 1EC947			1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35
Fuse BS 3036			1.03	1.0	0.97	0.94	0.91	0.87	0.84	0.69	0.48



TABLE 4D2B

VOLTAGE DROP (per ampere per meter):

Conductor operating temperature : 70 °C

Conductor cross-sectional area	Two-core cable d.c	Two-core cable single phase a.c.			Three-or four-core cable three-phase a.c.		
(mm ²)	(mV/A/m)	(mV/A/m)			(mV/A/m)		
1	44	44			38		
1.5	29	29			25		
2.5	18	18			15		
4	11	11			9.5		
6	7.3	7.3			6.4		
10	4.4	4.4			3.8		
16	2.8	2.8			2.4		
		r	x	z	r	x	z
25	1.75				1.50	0.14	1.50
35	1.25				1.10	0.14	1.10
50	0.93				0.80	0.14	0.81
70	0.63				0.55	0.14	0.57
95	0.46				0.41	0.13	0.43
120	0.36				0.33	0.13	0.35
150	0.29				0.26	0.13	0.29
185	0.23				0.21	0.13	0.25
240	0.18				0.16	0.13	0.21
300	0.14				0.13	0.13	0.18
400	0.10				0.10	0.12	0.16



TABLE 4D3A

Single Core pvc insulated cables (non-magnetic armoured)
(COPPER CONDUCTORS)

Ambient temperature : 30 °C

Conductor operating temperature : 70 °C

CURRENT-CARRYING CAPACITY (Amperes):

Conductor cross-sectional area (mm ²)	Installation Method 1 (Clipped Direct)		Installation Method 11 on perforated cable tray		Installation Method 12 (free air)						
					2 cables single phase a.c.		2 cables d.c.	3 or 4 cables three phase a.c.			
	2 cables single-phase a.c or d.c flat & touching	3 or 4 cables three-phase a.c flat & touching	2 cables single-phase a.c or d.c flat & touching	3 or 4 cables three-phase a.c Hat & touching	Horizontal flat spaced	Vertical flat spaced	Horizontal spaced	Vertical spaced	Horizontal flat spaced	Vertical flat spaced	3 cables trefoil
	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
50	193	179	205	189	229	217	229	216	230	212	181
70	245	225	259	238	287	272	294	279	286	263	231
95	296	269	313	285	349	332	357	340	338	313	280
120	342	309	360	327	401	383	415	396	385	352	324
150	393	352	413	373	452	431	479	458	436	405	373
185	447	399	469	422	511	489	548	525	490	465	425
240	525	465	550	492	593	568	648	622	566	528	501
300	594	515	624	547	668	640	748	719	616	578	567
400	687	575	723	618	737	707	885	851	674	632	657
Temperature Correction Factor			25°	30°	35°	40°	45°	50°	55°	60°	65°
Circuit Breaker 1EC947			1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35
Fuse BS 3036			1.03	1.0	0.97	0.94	0.91	0.87	0.84	0.69	0.48



TABLE 4D3B

VOLTAGE DROP (per ampere per meter):

Conductor operating temperature : 70 °C

Conductor cross-sectional area (mm ²)	2 Cables d.c (mV/A/m)	Installation methods 1 & 11 (mV/A/m)			Installation methods 12 (mV/A/m)			Installation methods 1 & 11 (mV/A/m)			Installation methods 11 and 12 (mV/A/m)			Installation methods 12 (mV/A/m)		
		r			r			r			r			r		
		x	z		x	z		x	z		x	z		x	z	
50	0.93	0.93	0.22	0.95	0.92	0.30	0.97	0.79	0.26	0.84	0.80	0.19	0.82	0.79	0.34	0.86
70	0.63	0.64	0.21	0.68	0.66	0.29	0.72	0.57	0.25	0.62	0.56	0.18	0.58	0.59	0.32	0.68
95	0.46	0.48	0.20	0.52	0.51	0.28	0.58	0.44	0.25	0.50	0.42	0.17	0.45	0.47	0.31	0.57
120	0.36	0.39	0.19	0.43	0.42	0.28	0.50	0.36	0.24	0.43	0.33	0.17	0.37	0.40	0.30	0.50
150	0.29	0.31	0.19	0.37	0.34	0.27	0.44	0.30	0.24	0.38	0.27	0.16	0.32	0.34	0.30	0.45
185	0.23	0.26	0.19	0.32	0.29	0.27	0.39	0.25	0.23	0.34	0.22	0.16	0.27	0.29	0.29	0.41
240	0.180	0.20	0.18	0.27	0.23	0.26	0.35	0.20	0.23	0.30	0.17	0.16	0.23	0.24	0.28	0.37
300	0.145	0.16	0.18	0.24	0.19	0.26	0.32	0.16	0.22	0.28	0.14	0.15	0.21	0.20	0.28	0.34
400	0.105	0.14	0.17	0.22	0.18	0.24	0.30	0.16	0.21	0.26	0.12	0.13	0.19	0.21	0.25	0.32

*NOTE: Spacing larger than those specified in method 12 will result in larger voltage drop.



TABLE 4D4A

Multicore pvc insulated cables armoured
(COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (Amperes):

Ambient temperature : 30 °C
Conductor operating temperature : 70 °C

Conductor cross-sectional area	Installation Method 1 (Clipped Direct)				Installation Methods 11,13 (on a perforated horizontal or vertical cable tray) or free air					
	1 two-core cable, single phase a.c. or d.c.		1 three - or four core cable, three phase a.c.		1 two-core cable, single phase a.c. or d.c.			1 three - or four core cable, three phase a.c.		
(mm²)	(A)		(A)		(A)			(A)		
1.5	21		18		22			19		
2.5	28		25		31			26		
4	38		33		41			35		
6	49		42		53			45		
10	67		58		72			62		
16	89		77		97			83		
25	118		102		128			110		
35	145		125		157			135		
50	175		151		190			163		
70	222		192		241			207		
95	269		231		291			251		
120	310		267		336			290		
150	356		306		386			332		
185	405		348		439			378		
240	476		409		516			445		
300	547		469		592			510		
400	621		540		683			590		
Temperature Correction Factor		25°	30°	35°	40°	45°	50°	55°	60°	65°
Circuit Breaker 1EC947		1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35
Fuse BS 3036		1.03	1.0	0.97	0.94	0.91	0.87	0.84	0.69	0.48



TABLE 4D4B

VOLTAGE DROP (per ampere per meter):

Conductor operating temperature : 70 °C

Conductor cross-sectional area	Two-core cable d.c.	Two-core cable single phase a.c.			Three-or four-core cable three-phase a.c.		
(mm ²)	(mV/Am)	(mV/Am)			(mV/Am)		
1.5	29	29			25		
2.5	18	18			15		
4	11	11			9.5		
6	7.3	7.3			6.4		
10	4.4	4.4			3.8		
16	2.8	2.8			2.4		
		r	x	z	r	x	z
25	1.75	1.75	0.17	1.75	1.50	0.14	1.50
35	1.25	1.25	0.16	1.25	1.10	0.14	1.10
50	0.93	0.93	0.16	0.94	0.80	0.14	0.81
70	0.63	0.63	0.16	0.65	0.55	0.14	0.57
95	0.46	0.47	0.15	0.50	0.41	0.13	0.43
120	0.36	0.38	0.15	0.41	0.33	0.13	0.35
150	0.29	0.30	0.15	0.34	0.26	0.13	0.29
185	0.23	0.25	0.15	0.29	0.21	0.13	0.25
240	0.18	0.19	0.15	0.24	0.16	0.13	0.21
300	0.14	0.15	0.14	0.21	0.13	0.13	0.18
400	0.10	0.11	0.14	0.18	0.10	0.12	0.16



TABLE 4E1A

Single core XLPE insulated cables, non armoured, with or without sheath
(COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (Amperes):

Ambient temperature : 30 °C
Conductor operating temperature : 90 °C

Conductor cross-sectional area	Installation Methods 1,2		Installation Methods 3,5,7,8,9,10,16			Installation Methods 4,6,15,16		Installation Method 11	Installation Method 12		
	2 cables, single phase a.c. or o.c. flat and touching	3 or 4 cables three phase a.c. flat & touching	2 cables, single phase a.c. or o.c.	3 or 4 cables three phase a.c.	2 cables, single phase a.c. or o.c.	3 or 4 cables three phase a.c.	2 cables, single phase a.c. or o.c. flat and touching	3 or 4 cables three phase a.c. flat touching or trefoil	2 cables, single phase cord d.c. or 3 cables three phase	2 cables, single phase cord d.c. or 3 cables three phase	3 cables, trefoil three phase a.c.
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
1	19	17.5	17	15	14	13	-	-	-	-	-
1.5	25	23	22	19	18	17	-	-	-	-	-
2.5	34	31	30	26	22	23	-	-	-	-	-
4	46	41	40	35	33	30	-	-	-	-	-
6	59	54	51	45	43	39	-	-	-	-	-
10	81	74	71	63	58	53	-	-	-	-	-
16	109	99	95	85	76	70	-	-	-	-	-
25	143	130	126	111	100	91	158	140	183	163	138
35	176	161	156	138	124	111	195	176	226	203	171
50	228	209	189	168	149	135	293	215	274	246	209
70	293	268	240	214	189	170	308	279	351	318	270
95	355	326	290	259	228	205	375	341	426	389	330
120	413	379	336	299	263	235	436	398	495	453	385
150	476	436	375	328	300	270	505	461	570	524	445
185	545	500	428	370	341	306	579	530	651	600	511
240	644	590	500	433	400	358	686	630	769	711	606
300	743	681	513	493	459	410	794	730	886	824	701
400	868	793	683	584	-	-	915	849	1065	984	820

Temperature Correction Factor :	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°
Circuit Breaker 1EC947	1.03	1.0	0.96	0.81	0.87	0.82	0.76	0.71	0.65	0.58	0.50	0.41	0.29
Fuse to BS 3036	1.03	1.0	0.98	0.96	0.93	0.91	0.89	0.87	0.85	0.79	0.69	0.56	0.39



TABLE 4E1B

VOLTAGE DROP (per ampere per meter)

Conductor operating temperature : 70 °C

Conductor cross-sectional area	2 Cables d.c	2 cables-single-phase a.c)																							
		Installation method 3 & 4			Installation method 1 & 11			Installation method 12			Installation method 3 & 4			Installation method 1 & 11			Installation method 11 & 12			Installation method 12					
(mm²)	(mV/Am)	(mV/Am)			(mV/Am)			(mV/Am)			(mV/Am)			(mV/Am)			(mV/Am)			(mV/Am)					
1	46	46			46			46			40			40			40			40					
1.5	31	31			31			31			27			27			27			27					
2.5	19	19			19			19			16			16			16			16					
4	12	12			12			12			10			10			10			10					
6	7.9	7.9			7.9			7.9			6.8			6.8			6.8			6.8					
10	4.7	4.7			4.7			4.7			4.0			4.0			4.0			4.0					
16	2.9	2.9			2.9			2.9			2.5			2.5			2.5			2.5					
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z			
25	1.8	1.85	0.31	1.90	1.85	0.19	1.85	1.85	0.28	1.85	1.60	0.27	1.65	1.60	0.19	1.65	1.60	0.16	1.60	1.60	0.27	1.65			
35	1.3	1.35	0.92	1.35	1.35	0.18	1.35	1.35	0.27	1.35	1.15	0.25	1.15	1.15	0.18	1.15	1.15	0.15	1.15	1.15	0.26	1.20			
50	0.9	1.00	0.29	1.05	0.99	0.18	1.00	0.99	0.27	1.00	0.87	0.25	0.90	0.86	0.18	0.87	0.86	0.15	0.87	0.86	0.26	0.89			
70	0.6	0.70	0.28	0.75	0.68	0.17	0.71	0.68	0.26	0.71	0.60	0.24	0.65	0.59	0.17	0.62	0.59	0.15	0.61	0.59	0.25	0.65			
95	0.4	0.51	0.27	0.58	0.49	0.17	0.52	0.49	0.26	0.56	0.44	0.23	0.50	0.43	0.17	0.46	0.43	0.14	0.45	0.43	0.25	0.49			
120	0.39	0.41	0.26	0.48	0.39	0.16	0.43	0.39	0.25	0.47	0.35	0.23	0.42	0.34	0.16	0.38	0.34	0.14	0.37	0.34	0.24	0.42			
150	0.32	0.33	0.26	0.43	0.32	0.16	0.36	0.32	0.25	0.41	0.29	0.23	0.37	0.28	0.16	0.32	0.28	0.14		0.28	0.24	0.37			
185	0.25	0.27	0.26	0.37	0.26	0.16	0.30	0.25	0.25	0.36	0.23	0.23	0.32	0.22	0.16	0.28	0.22	0.14		0.22	0.24	0.33			
240	0.190	0.21	0.26	0.33	0.20	0.16	0.25	0.19	0.25	0.31	0.18	0.22	0.29	0.17	0.16	0.24	0.17	0.14		0.17	0.24	0.29			
300	0.155	0.17	0.25	0.31	0.160	0.16	0.22	0.15	0.25	0.29	0.15	0.22	0.27	0.13	0.16	0.21	0.14	0.14		0.14	0.24	0.27			
400	0.120	0.14	0.25	0.29	0.130	0.15	0.20	0.12	0.24	0.27	0.12	0.22	0.25	0.11	0.16	0.19	0.11	0.13		0.11	0.24	0.26			



TABLE 4E2A

Multicore XLPE insulated cables non armoured
(COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (Amperes):

**Ambient temperature : 30 °C
Conductor operating temperature : 90 °C**

Conductor cross-sectional area	Installation Methods 1 & 2		Installation Methods 3 5,7,8,9,10,16		Installation Methods 4 6,15,16		Installation Methods 11, 13	
	1 two core cable, single phase a.c. or d.c.	1 & 3 or 4 core cables, three phase a.c.	1 two core cable, single phase a.c. or d.c.	1 & 3 or 4 core cables, three phase a.c.	1 two core cable, single phase a.c. or d.c.	3 or 4 core cables, three phase a.c.	1 two core cable, single phase a.c. or d.c.	1 & 3 or 4 core cables, three phase a.c.
					(A)	(A)	(A)	(A)
1	19	17	17	15	14.5	13	21	18
1.5	24	22	22	19.5	18.5	16.5	26	23
2.5	33	30	30	26	25	22	36	32
4	45	40	40	35	33	30	49	42
6	58	52	51	44	42	38	63	54
10	80	71	69	60	57	51	86	75
16	107	96	91	80	76	68	115	100
25	138	119	119	105	99	89	149	127
35	171	147	146	128	121	109	185	158
50	209	179	175	154	145	130	225	192
70	269	229	221	194	183	164	289	246
95	328	278	265	233	220	197	352	298
120	382	322	305	268	253	227	410	346
150	441	371	334	300	290	259	473	399
185	506	424	384	340	329	295	542	456
240	599	500	459	398	386	346	641	538
300	693	576	532	455	442	396	741	621
400	803	667	625	536	-	-	865	741



TABLE 4E2B

VOLTAGE DROP (per ampere per meter)

Conductor operating temperature : 90 °C

Conductor cross sectional area	Two-core cable, d.c.	Two-core cable Single phase a.c.			Three on four core cable, three phase a.c.		
(mm ²)	(mV/Am)	(mV/Am)			(mV/Am)		
1	46	46			40		
1.5	31	31			27		
2.5	19	19			16		
4	12	12			10		
6	7.9	7.9			6.8		
10	4.7	4.7			4.0		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.85	1.85	0.16	1.90	1.60	0.140	1.16
35	1.35	1.35	0.15	1.35	1.15	0.13	1.15
50	0.98	0.99	0.15	1.00	0.86	0.13	0.87
70	0.67	0.67	0.15	0.69	0.59	0.13	0.60
95	0.49	0.50	0.15	0.52	0.43	0.13	0.45
120	0.39	0.40	0.14	0.42	0.34	0.13	0.37
150	0.31	0.32	0.14	0.35	0.28	0.12	0.30
185	0.25	0.26	0.14	0.29	0.22	0.12	0.26
240	0.195	0.20	0.14	0.24	0.17	0.12	0.21
300	0.155	0.16	0.14	0.21	0.14	0.12	0.18
400	0.120	0.13	0.14	0.19	0.11	0.12	0.17



TABLE 4E3A

Singe-core XLPE insulated cables non managnetic armoured
(COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (Amperes):

Conductor operating temperature : 90 °C

Conductor Cross- sectional area	Installation Method 1	Installation Method 11	Installation method 12 (free air)												
			2 cables single-phase a.c				2 cables d.c		3 or 4 cables, three phase a.c.						
			2 cables single-phase a.c. or d.c. flat & touching	3 or 4 cables three-phase a.c flat & touching	2 cables single-phase a.c. or d.c. flat & touching	3 or 4 cables three-phase a.c flat & touching	Horizontal flat spaced	Vertical flat spaced	Horizontal spaced	Vertical spaced	Horizontal flat spaced	Vertical flat spaced	3 cables trefoil		
(mm²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)			
50	237	220	253	232	282	266	284	270	288	266	222				
70	303	277	322	293	357	337	356	349	358	331	285				
95	367	333	389	352	436	412	446	426	425	393	346				
120	425	383	449	405	504	477	519	497	485	449	402				
150	488	437	516	462	566	539	600	575	549	510	463				
185	557	496	587	524	643	614	688	660	618	574	529				
240	656	579	689	612	749	714	815	782	715	666	625				
300	755	662	792	700	842	805	943	906	810	755	720				
400	853	717	899	767	929	889	1137	1094	848	797	815				
Temperature Correction Factor :			25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°
Circuit Breaker 1EC947 :			1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35	0.58	0.50	0.41	0.29
Fuse BS 3036			1.03	1.0	0.97	0.94	0.91	0.87	0.84	0.69	0.48	0.79	0.69	0.56	0.39



TABLE 4E3B

VOLTAGE DROP (per ampere per meter)

Conductor operating temperature : 90 °C

Conductor cross-sectional area (mm ²)	2 cables d.c. (mV/Am)	2 cable-single-phase a.c.						3 or 4 cables-three-phase a.c.								
		Installation methods 1 & 11 (touching)			Installation methods 12 (spaced*)			Installation methods 1 & 11 (flat & touching)			Installation methods 1 & 11 and 12 (in trefoil & touching)			Installation methods 12 (flat spaced*)		
		(mV/Am)			(mV/Am)			(mV/Am)			(mV/Am)			(mV/Am)		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
50	0.98	0.99	21	1.00	0.98	0.29	1.00	0.84	0.25	0.88	0.86	0.18	0.87	0.84	0.33	0.90
70	0.67	0.68	0.20	0.71	0.69	0.29	0.75	0.60	0.25	0.65	0.59	0.17	0.62	0.62	0.32	0.70
95	0.49	0.51	0.19	0.55	0.053	0.28	0.60	0.46	0.24	0.52	0.44	0.17	0.47	0.49	0.31	0.58
120	0.39	0.41	0.19	0.45	0.43	0.27	0.51	0.38	0.24	0.44	0.35	0.16	0.39	0.41	0.030	0.51
150	0.31	0.33	0.18	0.38	0.36	0.27	0.45	0.31	0.23	0.39	0.29	0.16	0.33	0.34	0.29	0.45
185	0.25	0.25	0.18	0.33	0.30	0.26	0.40	0.26	0.23	0.34	0.23	0.16	0.28	0.29	0.29	0.41
240	0.19	0.21	0.18	0.28	0.24	0.26	0.35	0.21	0.22	0.30	0.18	0.15	0.24	0.24	0.28	0.37
300	0.15	0.170	0.17	0.25	0.19	0.25	0.32	0.17	0.22	0.28	0.14	0.15	0.21	0.20	0.27	0.34
400	0.11	0.14	0.17	0.22	0.18	0.24	0.30	0.16	0.21	0.27	0.12	0.15	0.195	0.20	0.27	0.33

NOTE: Spacing larger than those specified in method 12 will result in larger voltage drop.



TABLE 4D4A

Multicore XLPE insulated cables non armoured
(COPPER CONDUCTORS)

CURRENT-CARRYING CAPACITY (Amperes):

Ambient temperature : 30 °C
Conductor operating temperature : 90 °C

Conductor cross-sectional area 1	Installation Method 1 (Clipped Direct)		Installation Methods 11,13 (on a perforated horizontal or vertical cable tray)	
	1 two-core cable, single phase a.c. or d.c.	1 three or four core cable three phase a.c.	1 two-core cable, single phase ac. or d.c.	1 three or four core cable three phase a.c.
(mm ²)	(A)	(A)	(A)	(A)
1.5	27	23	29	25
2.5	36	31	39	33
4	49	42	52	44
6	62	53	66	56
10	85	73	90	78
16	110	94	115	99
25	146	124	152	131
35	180	154	188	162
50	219	187	228	197
70	279	238	291	251
95	338	289	354	304
120	392	335	410	353
150	451	386	472	406
185	515	441	539	463
240	607	520	636	546
300	698	599	732	628
400	787	673	847	728

Temperature Correction Factor :	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°
Circuit Breaker 1EC947 :	1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35	0.58	0.50	0.41	0.29
Fuse BS 3036	1.03	1.0	0.97	0.94	0.91	0.87	0.84	0.69	0.48	0.79	0.69	0.56	0.39



TABLE 4E4B

VOLTAGE DROP (per ampere per meter)

Conductor operating temperature : 90 °C

Conductor cross-sectional area	Two-core, cable d.c	Two-core cable single phase a.c			Three or four core cable three phase a.c		
(mm ²)	(mV/Am)	(mV/Am)			(mV/Am)		
1.5	31	31			27		
2.5	19	19			16		
4	12	12			10		
6	7.9	7.9			6.8		
10	4.7	4.7			4.0		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.85	1.85	0.16	1.90	1.60	0.14	1.65
35	1.35	1.35	0.15	1.35	1.15	0.13	1.15
50	0.98	0.99	0.15	1.00	0.86	0.13	0.87
70	0.67	0.67	0.15	0.69	0.59	0.13	0.60
95	0.49	0.50	0.15	0.52	0.43	0.13	0.45
120	0.39	0.40	0.14	0.42	0.34	0.13	0.37
150	0.31	0.32	0.14	0.35	0.28	0.12	0.30
185	0.25	0.26	0.14	0.29	0.22	0.12	0.26
240	0.19	0.20	0.14	0.24	0.17	0.12	0.21
300	0.15	0.16	0.14	0.21	0.14	0.12	0.18
400	0.12	0.13	0.14	0.19	0.11	0.12	0.16



TABLE 4B3

Correction factors for cables installed in enclosed trenches (Installation Methods 18,19 and 20)

The correction factors tabulated below relate to the disposition of cables illustrated in items 18 to 20 of Table 4A1 and are applicable to the current-carrying capacities for Reference Methods 12 or 13 of Table 4A1 as given in the relevant tables.

Conductor cross-sectional area (mm ²)	Correction factor									
	Installation Method 18				Installation Method 19			Installation Method 20		
	2 single-core cable or 1 three or four-core cable	3 single-core cables or 2 three or four-core cables	4 single-core cables or 2 three or four-core cables	6 single-core cables, 4 two core cables or 3 three or four core cable	6 single-core cables, 4 two core cables or 3 three or four core cable	8 single-core cables or 4 three or four-core cables	12 single-core cables, 8 two core cables or 6 three or four core cable	12 single-core cables, 8 two core cables or 6 three or four core cable	18 single-core cables, 12 two core cables or 6 three or four core cable	24 single-core cables, 16 two core cables or 12 three or four core cable
4	0.93	0.90	0.87	0.82	0.86	0.83	0.76	0.81	0.74	0.69
6	0.92	0.89	0.86	0.81	0.86	0.82	0.75	0.80	0.73	0.68
10	0.91	0.88	0.85	0.80	0.85	0.80	0.74	0.78	0.72	0.66
16	0.91	0.87	0.84	0.78	0.83	0.78	0.71	0.76	0.70	0.64
25	0.90	0.86	0.82	0.76	0.81	0.76	0.69	0.74	0.67	0.62
35	0.89	0.85	0.81	0.75	0.80	0.74	0.68	0.72	0.66	0.60
50	0.88	0.84	0.79	0.74	0.78	0.73	0.66	0.71	0.64	0.59
70	0.87	0.82	0.78	0.72	0.77	0.72	0.64	0.70	0.62	0.57
95	0.86	0.81	0.76	0.70	0.75	0.70	0.63	0.68	0.60	0.55
120	0.85	0.80	0.75	0.69	0.73	0.68	0.61	0.66	0.58	0.53
150	0.84	0.78	0.74	0.67	0.72	0.67	0.59	0.64	0.57	0.51
185	0.83	0.73	0.73	0.65	0.70	0.65	0.58	0.63	0.55	0.49
240	0.82	0.71	0.71	0.63	0.69	0.63	0.56	0.61	0.53	0.48
300	0.81	0.69	0.69	0.62	0.68	0.62	0.54	0.59	0.52	0.46
400	0.80	0.67		0.59	0.66	0.60	0.52	0.57	0.50	0.44
500	0.78	0.66		0.58	0.64	0.58	0.51	0.56	0.48	0.43
630	0.77	0.65		0.56	0.63	0.57	0.49	0.54	0.47	0.41

NOTES:

1. The factors in Table 4B3 are applicable to groups of cables all of one size. The value of current derived from application of the appropriate factors is the maximum current to be carried by any of the cables in the group.
2. If, due to known operating conditions, a cable is expected to carry not more than 30% of its grouped rating, it may be ignored for the purpose of obtaining the rating factor for the rest of the group.
3. When cables having different conductor operating temperatures are grouped together the current rating shall be based on the lowest operating temperature of any cable in the group.
4. When the number of cables used differs from those stated in the table, the derating factor for the next higher stated number of cables shall be used.



COLOUR CODING

A-CONDUIT

Where an electrical conduit is required to be distinguished from a pipeline or another service, oranges shall be used as the basic identification colour in compliance to BS 1710.

B-CABLES

Colour identification of cores of non-flexible cables and bare conductors for fixed wiring for armoured thermoplastic (pvc) insulated cables and paper insulated cables, see Regulation 514-06(ii) and (iii)

Function	Colour identification
Protective conductors	Green and Yellow
Phase of a.c. single-phase circuit	Red(1)
Neutral of a.c. single-or three-phase circuit	Black
Phase R of three-phase ac. circuit	Red
Phase Y of three-phase a.c. circuit	Yellow
Phase B of three-phase a.c. circuit	Blue
Two-wire unearthed d.c. circuits	
Positive of d.c. circuit	Red
Negative of d.c. two-wire circuit	Black
Three-wire d.c. circuit	
Outer (positive or negative) of d.c. two-wire circuit derived from three-wire system	Red
Positive of three-wire d.c. circuit	Red
Middle wire of three-wire d.c. circuit (2)	Black
Negative of three wire d.c. circuit	Blue
Two-wire earthed d.c. circuits	
Positive (of negative earthed) circuit	Red
Negative (of negative earthed) circuit	Black
Positive (of positive earthed) circuit	Black
Negative (of positive earthed) circuit	Blue
Functional Earth	Cream

NOTES:

1-As alternatives to the use of red, if desired, in large installations, on the supply side of the final distribution boards, yellow and blue may also be used.

2- Only the middle wire of three-wire circuits may be earthed.

Colour identification of cores of flexible cables and flexible cords

Numbers of cores	Function of core	Colour(s) of core
1	Phase Neutral Protective	Brown(1) Blue Green-and-yellow
2	Phase Neutral	Brown Blue(2)
3	Phase Neutral Protective	Brown Blue(2) Green-and-yellow
4 or 5	Phase Neutral Protective	Brown or black(4) Blue(2) Green-and-yellow



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