

Maxx Cable

**PRODUCT
CATALOGUE**

Our Company

Maxx Cable Sdn. Bhd. was established in 2010 and specialises in manufacturing cable like PVC insulated cable, flexible cord, twin flat cable and other range of cable products.

We are committed to be the reliable partner in providing quality products.



CERTIFIED TO : MS 2112-3:2009+A1:2015
CERTIFICATION NO : PC001890



CERTIFIED TO : IEC 60227-5:2011
CERTIFICATION NO : PC010984



CERTIFIED TO : MS 2112-5:2009+A1:2017
CERTIFICATION NO : PC010977



(1) POWER CABLES WITH COPPER CONDUCTOR (a) PVC

PVC Insulated Cables

PVC Insulated, PVC Sheathed Cables (Non Armoured)

- 1 Core
- 4 Cores
- Multi Core Auxiliary/Control Cable
- Flat Twin

PVC Insulated Flexible Cable

PVC Insulated PVC Sheathed DC cable (Class 6 & Conductor to TMB Spec)

- For Switched & Controlgear Wiring (H07V-K & H05V-K)
- PVC Insulated, Flexible Cord (Metric Unit)
- YSLY-JZ And YSLY-OZ Flexible Control Cables & TPR Insulated Welding Cables

PVC Insulated, PVC Sheathed Armoured Cables

- 1 Core
- 4 Cores
- Multi Core Auxiliary/Control Cable

(b) XLPE

XLPE Insulated, PVC Sheathed Cables (Non Armoured)

- 1 Core
- 4 Cores

XLPE Insulated, PVC Sheathed Armoured Cables

- 1 Core
- 4 Cores

(3) POWER CABLE WITH ALUMINIUM CONDUCTOR

XLPE Insulated, PVC Sheathed Cables (Al) (Non Armoured)

- 1 Core
- 4 Cores

XLPE Insulated, PVC Sheathed Armoured Cables (Al)

- 1 Core
- 4 Cores

PE Insulated Aerial Bundled Cable (ABC)

(4) CABLE CURRENT RATING, VOLTAGE DROP & SHORT CIRCUIT CURRENT

Current Rating & Voltage Drop (PVC)

a) Non Armoured Cables with Copper Conductor

- ◀ Single Core, Cu/PVC & Cu/PVC/PVC
- ◀ Multi Core, Cu/PVC/PVC

b) Armoured Cables with Copper Conductor

- ◀ Single Core, Cu/ PVC / AWA / PVC
- ◀ Multi Core, Cu/ PVC /SWA/ PVC

Current Rating & Voltage Drop (XLPE)

a) Non Armoured Cables with Copper Conductor

- ◀ Single Core, Cu/ XLPE / PVC
- ◀ Multi Core, Cu/XLPE / PVC

b) Armoured Cables with Copper Conductor

- ◀ Single Core, Cu/ XLPE / AWA/ PVC
- ◀ Multi Core, Cu/ XLPE /SWA/ PVC

Current Rating & Voltage Drop for Flexible Cord

Short Circuit Rating

- ◀ PVC-insulated Cables with Copper Conductor
- ◀ XLPE-insulated Cables with Copper Conductor

TECHNICAL DATA

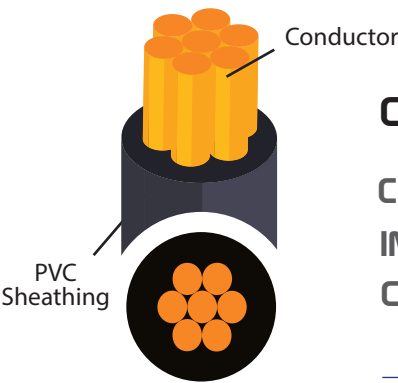
PROJECT REFERENCE

PVC

INSULATED CABLES FOR ELECTRIC POWER AND LIGHTING
300 / 500V, 450 / 750V & 600 / 1000v

PVC/ PVC & PVC/ SWA/ PVC

INSULATED CABLES FOR ELECTRICITY SUPPLY
600 / 1000V



CONSTRUCTION CU / PVC - 1 Core

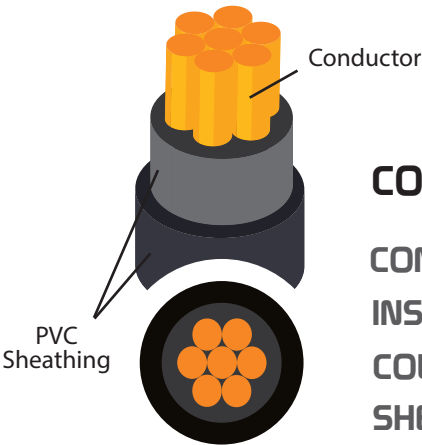
CONDUCTOR: Plain annealed copper conductor class 2 or class 1

INSULATION: PCV Compound, 70°c

COLOUR FO INSULATION: Red, Yellow, Blue, Black, Green, White, Brown Grey or other colours

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	kg/km
CLASS 2 CONDUCTOR		MS 2112-3 / 450 / 750 V		
1.0	7 / 0.43	0.6	2.5	14
1.5	7 / 0.53	0.7	3.0	22
2.5	7 / 0.67	0.8	3.6	35
4	7 / 0.85	0.8	4.1	51
6	7 / 1.04	0.8	4.8	72
10	7 / 1.35	1.0	6.0	120
16	7 / 1.70	1.0	7.0	180
25	7 / 2.14	1.2	8.5	283
35	19 / 1.53	1.2	9.6	380
50	19 / 1.78	1.4	11.0	515
70	19 / 2.14	1.4	12.8	720
95	19 / 2.52	1.6	14.6	995
120	37 / 2.03	1.6	16.7	1230
150	37 / 2.25	1.8	18.5	1520
185	37 / 2.52	2.0	20.7	1900
240	61 / 2.25	2.2	23.4	2500
300	61 / 2.52	2.4	26.0	3130
400	61 / 2.85	2.6	29.5	3950
500	61 / 3.20	2.8	33.0	4960
630	61 / 3.63	2.8	37.4	6330

PVC INSULATED, PVC SHEATHED CABLES
(NON-ARMOURED)



CONSTRUCTION CU / PVC / PVC - 1 Core

CONDUCTOR: Plain annealed copper conductor, class 2

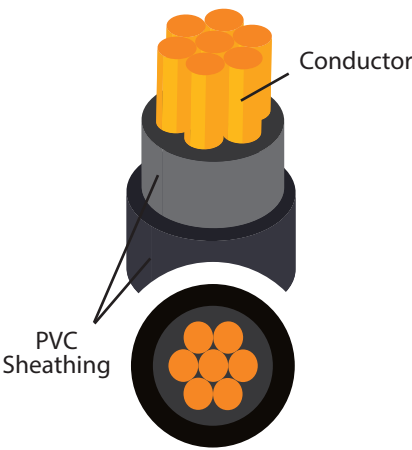
INSULATION: PCV Compound, 70°c

COLOUR OF INSULATION: Red or Black or (Brown or Blue)

SHEATH: PVC compound, colour Black

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km
MS 2112-4 / 300 / 500 V					
1.0	1 / 1.3*	0.6	0.8	4.2	27
1.25	3 / 0.73	0.7	0.8	4.6	33
1.5	1 / 1.38*	0.7	0.8	4.4	36
1.5	7 / 0.53	0.7	0.8	4.6	38
2.5	7 / 0.67	0.8	0.8	5.2	51
4	7 / 0.85	0.8	0.9	5.9	76
6	7 / 1.04	0.8	0.9	6.6	100
10	7 / 1.35	1.0	0.9	7.8	155
16	7 / 1.70	1.0	1.0	9.0	225
25	7 / 2.14	1.2	1.1	10.7	340
35	19 / 1.53	1.2	1.1	11.8	430

PVC INSULATED, PVC SHEATHED CABLES
(NON-ARMOURED)



CONSTRUCTION CU / PVC / PVC - 1 Core

CONDUCTOR: Plain annealed copper conductor, class 2

INSULATION: PCV Compound, 70°c

COLOUR OF INSULATION: 1 Core - Red or Black or (Brown or Blue)
4 Cores - Red, Yellow, Blue and Black or
(Brown, Black, Grey and Blue)

SHEATH: PVC compound, colour Black

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km
MS 2100 / 600 / 1000 V					
1.5	7 / 0.53	0.8	1.4	6.0	53
2.5	7 / 0.67	0.8	1.4	6.4	67
4	7 / 0.85	1.0	1.4	7.3	97
6	7 / 1.04	1.0	1.4	8.0	123
10	7 / 1.35	1.0	1.4	8.8	172
16	7 / 1.70	1.0	1.4	9.8	237
25	7 / 2.14	1.2	1.4	11.3	350
35	19 / 1.53	1.2	1.4	12.4	456
50	19 / 1.78	1.4	1.4	13.8	605
70	19 / 2.14	1.4	1.4	15.6	830
95	19 / 2.52	1.6	1.5	17.6	1135
120	37 / 2.03	1.6	1.5	19.7	1380
150	37 / 2.25	1.8	1.6	21.7	1690
185	37 / 2.52	2.0	1.7	24.1	2110
240	61 / 2.25	2.2	1.8	27.0	2740
300	61 / 2.52	2.4	1.9	29.8	3410
400	61 / 2.85	2.6	2.0	33.5	4300
500	61 / 3.20	2.8	2.1	37.1	5385
630	61 / 3.63	2.8	2.2	41.8	6830
800	127 / 2.85	2.8	2.3	48.3	8413
1000	127 / 3.20	3.0	2.5	51.2	10545

PVC INSULATED, PVC SHEATHED CABLES
(NON-ARMOURED)

CU / PVC / PVC - 2 Core

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
------------------------------	--------------------------------------	-------------------------	---------------------	--------------------------	--------------------

sq.mm No./mm mm mm mm kg/km

MS 2112-4 / 300 / 500V

1.5	7 / 0.53	0.7	1.2	8.4	110
2.5	7 / 0.67	0.8	1.2	9.6	140
4	7 / 0.85	0.8	1.2	10.6	200
6	7 / 1.04	0.8	1.2	12.0	260
10	7 / 1.35	1.0	1.4	15.2	410
16	7 / 1.70	1.0	1.4	16.2	550
25	7 / 2.14	1.2	1.4	20.3	840
35	19 / 1.53	1.2	1.6	18.8	900

MS 2102 / 600 / 1000 V

1.5	7 / 0.53	0.8	1.8	10.2	140
2.5	7 / 0.67	0.8	1.8	11.0	176
4	7 / 0.85	1.0	1.8	12.9	251
6	7 / 1.04	1.0	1.8	14.3	279
10	7 / 1.35	1.0	1.8	16.0	440
16	7 / 1.70	1.0	1.8	18.0	580
25	7 / 2.14	1.2	1.8	21.1	880
35	19 / 1.53	1.2	1.8	19.2	920
50	19 / 1.78	1.4	1.8	21.6	1250
70	19 / 2.14	1.4	1.9	24.3	1670
95	19 / 2.52	1.6	2.0	27.8	2270
120	37 / 2.03	1.6	2.1	30.2	2850
150	37 / 2.25	1.8	2.2	33.2	3410
185	37 / 2.52	2.0	2.4	36.9	4270
240	61 / 2.25	2.2	2.5 / 2.6*	41.5	5550
300	61 / 2.52	2.4	2.7	45.9	7000
400	61 / 2.85	2.6	2.9 / 3.0*	51.1	8880

PVC INSULATED, PVC SHEATHED CABLES
(NON-ARMOURED)

CU / PVC / PVC - 3 Core

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km

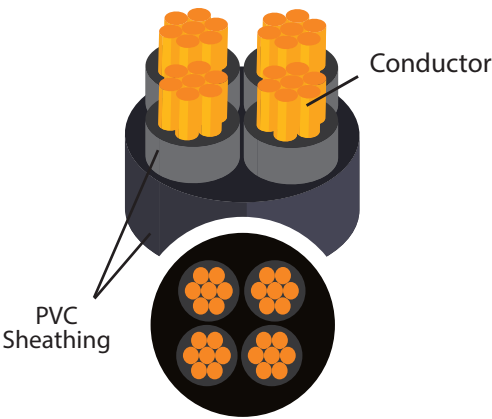
MS 2112-4 / 300 / 500V

1.5	7 / 0.53	0.7	1.2	8.9	130
2.5	7 / 0.67	0.8	1.2	10.2	180
4	7 / 0.85	0.8	1.2	11.3	240
6	7 / 1.04	0.8	1.4	13.2	320
10	7 / 1.35	1.0	1.4	16.1	500
16	7 / 1.70	1.0	1.4	18.4	710
25	7 / 2.14	1.2	1.6	22.1	1180
35	19 / 1.53	1.2	1.6	21.7	1530

MS 2102 / 600 / 1000 V

1.5	7 / 0.53	0.8	1.8	10.7	162
2.5	7 / 0.67	0.8	1.8	11.6	207
4	7 / 0.85	1.0	1.8	13.6	301
6	7 / 1.04	1.0	1.8	15.2	365
10	7 / 1.35	1.0	1.8	16.9	530
16	7 / 1.70	1.0	1.8	19.2	750
25	7 / 2.14	1.2	1.8	22.5	1200
35	19 / 1.53	1.2	1.8	22.1	1550
50	19 / 1.78	1.4	1.8	25.6	1810
70	19 / 2.14	1.4	1.9 / 2.0*	29.1	2480
95	19 / 2.52	1.6	2.1	33.2	3390
120	37 / 2.03	1.6	2.2	38.1	4780
150	37 / 2.25	1.8	2.3	42.7	5110
185	37 / 2.52	2.0	2.5	45.5	6410
240	61 / 2.25	2.2	2.6 / 2.7*	51.8	8460
300	61 / 2.52	2.4	2.8 / 2.9*	56.0	10400
400	61 / 2.85	2.6	3.1	60.8	13210

PVC INSULATED, PVC SHEATHED CABLES
(NON-ARMOURED)

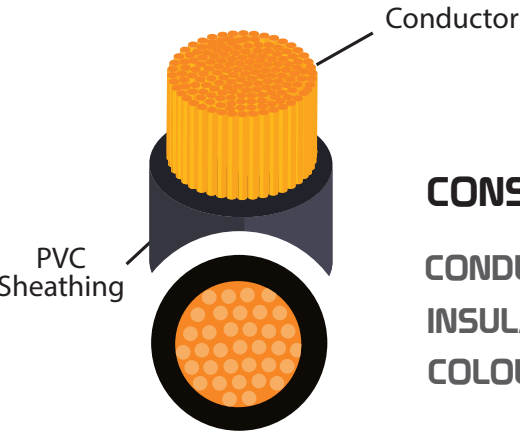


CU / PVC / PVC - 4 Core

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km
MS 2112-4 / 300 / 500 V					
1.5	7 / 0.53	0.7	1.2	9.7	160
2.5	7 / 0.67	0.8	1.2	11.1	210
4	7 / 0.85	0.8	1.4	12.7	320
6	7 / 1.04	0.8	1.4	14.4	410
10	7 / 1.35	1.0	1.4	17.8	640
16	7 / 1.70	1.0	1.4	20.2	910
25	7 / 2.14	1.2	1.6	24.4	1350
35	19 / 1.53	1.2	1.6	24.4	1800
MS 2102 / 600 / 1000 V					
1.5	7 / 0.53	0.8	1.8	11.6	192
2.5	7 / 0.67	0.8	1.8	12.6	248
4	7 / 0.85	1.0	1.8	14.8	369
6	7 / 1.04	1.0	1.8	16.6	448
10	7 / 1.35	1.0	1.8	18.6	670
16	7 / 1.70	1.0	1.8	21.0	950
25	7 / 2.14	1.2	1.8	24.8	1380
35	19 / 1.53	1.2	1.8	24.8	1820
50	19 / 1.78	1.4	1.9	28.8	2310
70	19 / 2.14	1.4	2.0 / 2.1*	32.7	3200
95	19 / 2.52	1.6	2.2	36.9	4380
120	37 / 2.03	1.6	2.3 / 2.4*	40.6	5430
150	37 / 2.25	1.8	2.5	45.4	6680
185	37 / 2.52	2.0	2.6 / 2.7*	48.9	8330
240	61 / 2.25	2.2	2.8 / 2.9*	58.0	10900
300	61 / 2.52	2.4	3.1	62.8	13650
400	61 / 2.85	2.6	3.3 / 3.4*	69.5	17300

PVC INSULATED FLEXIBLE CABLES

(For Switchgear and Controlgear wiring / d.c Power Cable)
HO7V-K& HO5V-K



CONSTRUCTION CU / PVC - 1 Core

CONDUCTOR: Flexible Plain annealed copper conductor, Class 5

INSULATION: PCV Compound, 70°C

COLOUR FO INSULATION: Red, Yellow, Blue, Black, Green, White, Brown
Grey or other colours

Nominal cross-sectional area	Max wire diameter in conductor	Thickness of insulation	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	kg/km

MS 2112-3 / 300 / 500 V

0.5	0.21	0.6/ 0.8*	2.2 / 2.6*	11 / 12*
0.75	0.21	0.6/ 0.8*	2.4 / 2.8*	13 / 14*
1.0	0.21	0.6/ 0.8*	2.5 / 2.9*	14 / 16*

MS 2112-3 / 450 / 750 V

1.5	0.26	0.7 / 0.8*	3.0 / 3.2*	21 / 23*
2.5	0.26	0.8	3.6	34
4	0.31	0.8	4.2	51
6	0.31	0.8	4.9	74
10	0.41	1.0	6.2	122
16	0.41	1.0	7.7	190
25	0.41	1.2	9.5	294
35	0.41	1.2	10.9	404
50	0.41	1.4	13.1	584
70	0.51	1.4	15.2	813
95	0.51	1.6	17.7	1079
120	0.51	1.6	19.2	1346
150	0.51	1.8	21.6	1683
185	0.51	2.0	24.0	2063
185	0.51	2.2	27.4	2717

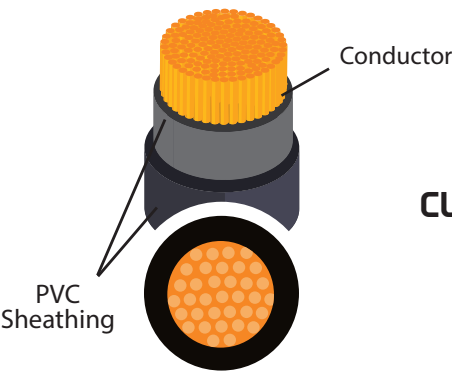
CONSTRUCTION

CONDUCTOR: Plain annealed copper conductor, Class 5

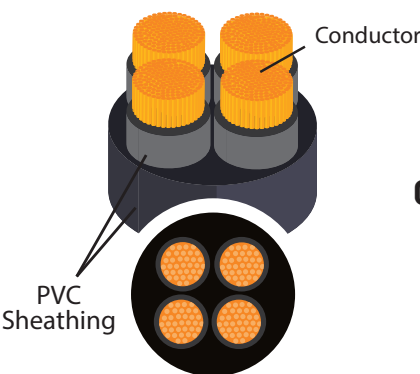
INSULATION: PCV Compound Type TI 1 70°C

COLOUR OF INSULATION: 1 Core - Brown, Blue or other colours
2 Cores - Brown and Blue
3 Cores - Brown, Blue, Green / Yellow
4 Cores - Brown, Blue, Black, Green / Yellow
(or Brown, Black, Grey, Green / Yellow)

SHEATH: PVC compound Type 6, colour Black or Grey



CU / PVC / PVC - 1 Core



CU / PVC / PVC - 4 Cores

Nominal cross-sectional area	Construction, number / wire diameter	Contruction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./in	No./mm	mm	mm	mm	kg/km

CU / PVC / PVC - 1 Core			250 / 440 V			
1C x 0.41	14 / 0.0076	14 / 0.193	0.64	1.02	4.2	23
1C x 0.67	23 / 0.0076	23 / 0.193	0.64	1.02	4.4	27
1C x 1.17	40 / 0.0076	40 / 0.193	0.64	1.02	4.8	34
1C x 2.05	70 / 0.0076	70 / 0.193	0.64	1.02	5.2	44
1C x 3.22	110 / 0.0076	110 / 0.193	0.64	1.02	5.7	56
1C x 4.74	162 / 0.0076	162 / 0.193	0.76	1.02	6.4	75

CU / PVC / PVC - 2 Cores						
2C x 0.41	14 / 0.0076	14 / 0.193	0.64	1.02	6.3	50
2C x 0.67	23 / 0.0076	23 / 0.193	0.64	1.02	6.8	62
2C x 1.17	40 / 0.0076	40 / 0.193	0.64	1.02	7.5	77
2C x 2.05	70 / 0.0076	70 / 0.193	0.64	1.27	9.0	102
2C x 3.22	110 / 0.0076	110 / 0.193	0.64	1.27	10.0	131
2C x 4.74	162 / 0.0076	162 / 0.193	0.76	1.27	11.3	176

CU / PVC / PVC - 3 Cores						
3C x 0.41	14 / 0.0076	14 / 0.193	0.64	1.02	6.6	58
3C x 0.67	23 / 0.0076	23 / 0.193	0.64	1.02	7.1	64
3C x 1.17	40 / 0.0076	40 / 0.193	0.64	1.02	7.9	91
3C x 2.05	70 / 0.0076	70 / 0.193	0.64	1.27	9.5	129
3C x 3.22	110 / 0.0076	110 / 0.193	0.64	1.27	10.5	168
3C x 4.74	162 / 0.0076	162 / 0.193	0.76	1.27	12.2	231

CU / PVC / PVC - 4 Cores						
4C x 0.41	14 / 0.0076	14 / 0.193	0.64	1.02	7.2	64
4C x 0.67	23 / 0.0076	23 / 0.193	0.64	1.02	7.7	81
4C x 1.17	40 / 0.0076	40 / 0.193	0.64	1.27	9.2	102
4C x 2.05	70 / 0.0076	70 / 0.193	0.64	1.27	10.3	156
4C x 3.22	110 / 0.0076	110 / 0.193	0.64	1.27	11.4	206
4C x 4.74	162 / 0.0076	162 / 0.193	0.76	1.27	13.2	285

NOTE: 0.193 mm = 0.0076 in

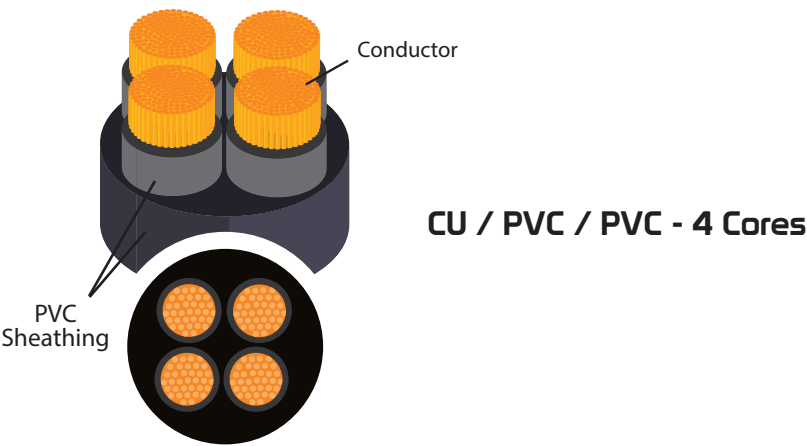
CONSTRUCTION

CONDUCTOR: Plain annealed copper conductor, Class 5

INSULATION: PCV Compound, 70°C

COLOUR OF CORES: 1 Core - Brown, Blue or other colours
2 Cores - Brown and Blue
3 Cores - Brown, Blue, Green / Yellow
4 Cores - Brown, Blue, Black, Green / Yellow
(or Brown, Black, Grey, Green / Yellow)

SHEATH: PVC compound, colour Black or Grey

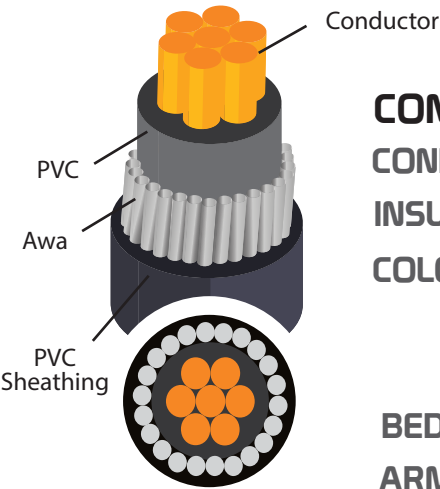


Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km

CU / PVC / PVC - 2 Cores		MS 2112-5 / 300 / 500 V			
0.5	16 / 0.20	0.6	0.8	6.0	53
0.75	24 / 0.20	0.6	0.8	6.4	62
1.0	32 / 0.20	0.6	0.8	6.7	72
1.25	40 / 0.20	0.7	0.8	7.4	76
1.5	30 / 0.25	0.7	0.8	7.7	85
2.5	50 / 0.25	0.8	1.0	9.4	127

CU / PVC / PVC - 3 Cores					
0.5	16 / 0.20	0.6	0.8	6.3	57
0.75	24 / 0.20	0.6	0.8	6.8	72
1.0	32 / 0.20	0.6	0.8	7.1	81
1.25	40 / 0.20	0.7	0.9	8.1	95
1.5	30 / 0.25	0.7	0.9	8.3	102
2.5	50 / 0.25	0.8	1.1	10.2	160

CU / PVC / PVC - 4 Cores					
0.5	16 / 0.20	0.6	0.8	6.9	72
0.75	24 / 0.20	0.6	0.8	7.4	87
1.0	32 / 0.20	0.6	0.9	8.0	105
1.25	40 / 0.20	0.7	1.0	9.0	118
1.5	30 / 0.25	0.7	1.0	9.3	130
2.5	50 / 0.25	0.8	1.1	11.1	191



CONSTRUCTION CU / PVC / Awa / PVC - 1 Core

CONDUCTOR: Plain annealed copper conductor, Class 2

INSULATION: PCV Compound, 70°C

COLOUR OF CORES: 1 Core - Red, Black or (Brown, Blue)
2 Cores - Red and Black or (Brown, Blue)
3 Cores - Red, Yellow and Blue or (Brown, Black and Grey)
4 Cores - Red, Yellow, Blue and Black or (Brown, Black, Grey and Blue)

BEDDING: PVC Compound, colour Black

ARMOUR: Single core - Aluminium wire
2, 3 or 4 cores - Galvanised steel wire

SHEATH: PVC Compound, colour Black

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of bedding	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	mm	kg/km

MS 274 / 600 / 1000 V

50	19 / 1.78	1.4	1.0	1.25	1.5	18.1	845
70	19 / 2.14	1.4	1.0	1.25	1.6	20.1	1085
95	19 / 2.52	1.6	1.0	1.25	1.6	21.9	1400
120	37 / 2.03	1.6	1.0	1.6	1.7	25.3	1790
150	37 / 2.25	1.8	1.0	1.6	1.7	27.1	2100
185	37 / 2.52	2.0	1.0	1.6	1.8	29.5	2550
240	61 / 2.25	2.2	1.0	1.6	1.9	32.4	3260
300	61 / 2.52	2.4	1.0	2.0	1.9	35.0	3980
400	61 / 2.85	2.6	1.2	2.0	2.1	40.1	5100
500	61 / 3.20	2.8	1.2	2.0	2.1	43.6	6220
630	61 / 3.63	2.8	1.2	2.0	2.2	48.2	7730
800	127 / 2.85	2.8	1.4	2.5	2.4	53.3	9890
1000	127 / 3.20	3.0	1.4	2.5	2.5	59.0	12180

MS 2101 / 600 / 1000 V

50	19 / 1.78	1.4	1.0	1.25	1.8	19.1	888
70	19 / 2.14	1.4	1.0	1.25	1.8	20.9	1100
95	19 / 2.52	1.6	1.0	1.25	1.8	22.7	1440
120	37 / 2.03	1.6	1.0	1.6	1.8	25.5	1860
150	37 / 2.25	1.8	1.0	1.6	1.8	27.3	2110
185	37 / 2.52	2.0	1.0	1.6	1.8	29.5	2550
240	61 / 2.25	2.2	1.0	1.6	1.9	32.4	3260
300	61 / 2.52	2.4	1.0	2.0	2.0	36.0	4070
400	61 / 2.85	2.6	1.2	2.0	2.1	40.1	5100
500	61 / 3.20	2.8	1.2	2.0	2.2	43.8	6240
630	61 / 3.63	2.8	1.2	2.0	2.4	48.6	7770
800	127 / 2.85	2.8	1.4	2.5	2.5	53.5	9910
1000	127 / 3.20	3.0	1.4	2.5	2.7	59.4	12230

CU / PVC / Swa / PVC - 2 Cores

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of bedding	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	mm	kg/km
MS 274 / 600 / 1000 V							
1.5	7 / 0.53	0.6	0.8	0.9	1.4	12.0	325
2.5	7 / 0.67	0.7	0.8	0.9	1.4	13.2	380
4	7 / 0.85	0.8	0.8	0.9	1.4	14.6	470
6	7 / 1.04	0.8	0.8	0.9	1.5	16.3	540
10	7 / 1.35	1.0	0.8	1.25	1.5	19.5	880
16	7 / 1.70	1.0	0.8	1.25	1.6	21.7	1080
25	7 / 2.14	1.2	1.0	1.6	1.7	26.1	1450
35	19 / 1.53	1.2	1.0	1.6	1.8	24.4	1750
50	19 / 1.78	1.4	1.0	1.6	1.9	27.0	2160
70	19 / 2.14	1.4	1.0	1.6	1.9	29.5	2660
95	19 / 2.52	1.6	1.2	2.0	2.1	34.4	3700
120	37 / 2.03	1.6	1.2	2.0	2.2	36.8	4300
150	37 / 2.25	1.8	1.2	2.0	2.3	39.8	5060
185	37 / 2.52	2.0	1.4	2.5	2.4	44.7	6550
240	61 / 2.25	2.2	1.4	2.5	2.5	49.1	8160
300	61 / 2.52	2.4	1.6	2.5	2.7	54.1	9860
400	61 / 2.85	2.6	1.6	2.5	2.9	59.1	12000

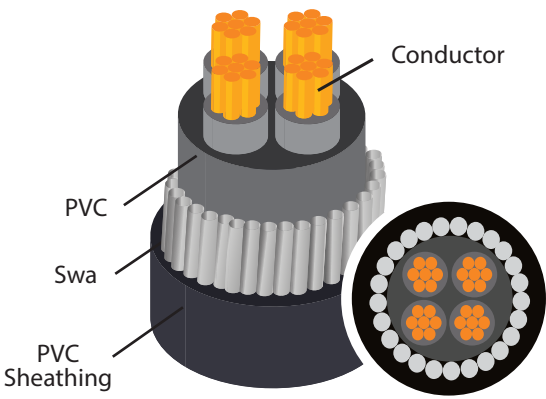
MS 2103 / 600 / 1000 V							
1.5	7 / 0.53	0.8	1.0	0.9	1.8	14.0	368
2.5	7 / 0.67	0.8	1.0	0.9	1.8	14.8	427
4	7 / 0.85	1.0	1.0	0.9	1.8	16.7	530
6	7 / 1.04	1.0	1.0	1.25	1.8	18.8	645
10	7 / 1.35	1.0	1.0	1.25	1.8	20.5	930
16	7 / 1.70	1.0	1.0	1.25	1.8	22.5	1124
25	7 / 2.14	1.2	1.0	1.6	1.8	26.3	1460
35	19 / 1.53	1.2	1.0	1.6	1.8	24.4	1750
50	19 / 1.78	1.4	1.0	1.6	1.9	27.0	2240
70	19 / 2.14	1.4	1.0	2.0	2.0	30.5	2750
95	19 / 2.52	1.6	1.2	2.0	2.2	34.6	3715
120	37 / 2.03	1.6	1.2	2.0	2.3	37.0	4315
150	37 / 2.25	1.8	1.2	2.5	2.4	41.0	5080
185	37 / 2.52	2.0	1.4	2.5	2.6	46.1	6595
240	61 / 2.25	2.2	1.4	2.5	2.8	49.7	8220
300	61 / 2.52	2.4	1.6	2.5	2.9	54.5	9910
400	61 / 2.85	2.6	1.6	2.5	3.2	59.7	12080

CU / PVC / Swa / PVC - 3 Cores

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of bedding	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	mm	kg/km
MS 274 / 600 / 1000 V							
1.5	7 / 0.53	0.6	0.8	0.9	1.4	12.4	345
2.5	7 / 0.67	0.7	0.8	0.9	1.4	13.8	415
4	7 / 0.85	0.8	0.8	0.9	1.4	15.3	530
6	7 / 1.04	0.8	0.8	1.25	1.5	17.8	730
10	7 / 1.35	1.0	0.8	1.25	1.6	20.6	1030
16	7 / 1.70	1.0	0.8	1.25	1.6	22.9	1250
25	7 / 2.14	1.2	1.0	1.6	1.7	27.5	1800
35	19 / 1.53	1.2	1.0	1.6	1.8	27.3	2225
50	19 / 1.78	1.4	1.0	1.6	1.9	31.0	2800
70	19 / 2.14	1.4	1.2	2.0	2.0	35.5	3850
95	19 / 2.52	1.6	1.2	2.0	2.1	39.6	4930
120	37 / 2.03	1.6	1.2	2.0	2.2	44.5	5860
150	37 / 2.25	1.8	1.4	2.5	2.4	50.7	7460
185	37 / 2.52	2.0	1.4	2.5	2.5	53.3	8970
240	61 / 2.25	2.2	1.6	2.5	2.6	59.8	11300
300	61 / 2.52	2.4	1.6	2.5	2.8	64.0	13680
400	61 / 2.85	2.6	1.6	2.5	3.0	68.8	16650

MS 2103 / 600 / 1000 V							
1.5	7 / 0.53	0.8	1.0	0.9	1.8	14.5	397
2.5	7 / 0.67	0.8	1.0	0.9	1.8	15.4	464
4	7 / 0.85	1.0	1.0	0.9	1.8	18.1	598
6	7 / 1.04	1.0	1.0	1.25	1.8	19.7	783
10	7 / 1.35	1.0	1.0	1.25	1.8	21.4	1069
16	7 / 1.70	1.0	1.0	1.25	1.8	23.7	1294
25	7 / 2.14	1.2	1.0	1.6	1.8	27.7	1813
35	19 / 1.53	1.2	1.0	1.6	1.8	27.3	2225
50	19 / 1.78	1.4	1.0	1.6	2.0	31.2	2813
70	19 / 2.14	1.4	1.2	2.0	2.1	35.7	3865
95	19 / 2.52	1.6	1.2	2.0	2.2	39.8	4947
120	37 / 2.03	1.6	1.2	2.0	2.3	44.7	5878
150	37 / 2.25	1.8	1.4	2.5	2.5	50.9	7483
185	37 / 2.52	2.0	1.4	2.5	2.7	53.7	9020
240	61 / 2.25	2.2	1.6	2.5	2.9	60.4	11380
300	61 / 2.52	2.4	1.6	2.5	3.1	64.6	13770
400	61 / 2.85	2.6	1.6	3.15	3.4	70.9	16990

Product Specification



PVC INSULATED, PVC SHEATHED
[ARMOURED CABLES]

CU / PVC / Swa / PVC - 4 Cores

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of bedding	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
------------------------------	--------------------------------------	-------------------------	----------------------	------------------------	---------------------	--------------------------	--------------------

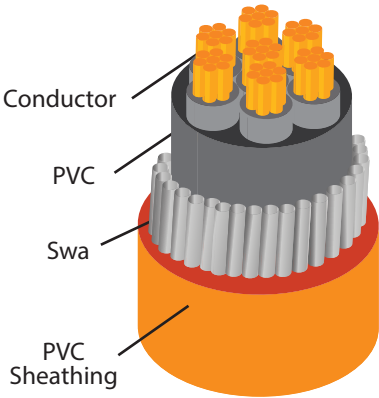
sq.mm	No./mm	mm	mm	mm	mm	mm	kg/km
-------	--------	----	----	----	----	----	-------

MS 274 / 600 / 1000 V

1.5	7 / 0.53	0.6	0.8	0.9	1.4	13.2	385
2.5	7 / 0.67	0.7	0.8	0.9	1.4	14.7	470
4	7 / 0.85	0.8	0.8	1.25	1.5	17.3	735
6	7 / 1.04	0.8	0.8	1.25	1.5	19.1	860
10	7 / 1.35	1.0	0.8	1.25	1.6	22.3	1200
16	7 / 1.70	1.0	1.0	1.6	1.7	26.0	1750
25	7 / 2.14	1.2	1.0	1.6	1.8	30.0	2250
35	19 / 1.53	1.2	1.0	1.6	1.9	30.2	2770
50	19 / 1.78	1.4	1.2	2.0	2.0	35.4	3840
70	19 / 2.14	1.4	1.2	2.0	2.1	39.1	4870
95	19 / 2.52	1.6	1.2	2.0	2.2	43.3	6300
120	37 / 2.03	1.6	1.4	2.5	2.4	48.4	8070
150	37 / 2.25	1.8	1.4	2.5	2.5	53.2	9580
185	37 / 2.52	2.0	1.6	2.5	2.6	56.9	11500
240	61 / 2.25	2.2	1.6	2.5	2.8	65.0	14570
300	61 / 2.52	2.4	1.6	2.5	3.0	70.8	17530
400	61 / 2.85	2.6	1.8	3.15	3.3	79.2	22890

MS 2103 / 600 / 1000 V

1.5	7 / 0.53	0.8	1.0	0.9	1.8	15.4	446
2.5	7 / 0.67	0.8	1.0	0.9	1.8	16.4	524
4	7 / 0.85	1.0	1.0	1.25	1.8	19.3	801
6	7 / 1.04	1.0	1.0	1.25	1.8	21.1	935
10	7 / 1.35	1.0	1.0	1.25	1.8	23.1	1244
16	7 / 1.70	1.0	1.0	1.6	1.8	26.2	1762
25	7 / 2.14	1.2	1.0	1.6	1.8	30.0	2250
35	19 / 1.53	1.2	1.0	1.6	1.9	30.2	2770
50	19 / 1.78	1.4	1.2	2.0	2.1	35.6	3855
70	19 / 2.14	1.4	1.2	2.0	2.2	39.3	4887
95	19 / 2.52	1.6	1.2	2.0	2.4	44.7	6508
120	37 / 2.03	1.6	1.4	2.5	2.5	48.6	8090
150	37 / 2.25	1.8	1.4	2.5	2.7	53.6	9631
185	37 / 2.52	2.0	1.6	2.5	2.9	57.5	11584
240	61 / 2.25	2.2	1.6	2.5	3.1	65.6	14665
300	61 / 2.52	2.4	1.6	2.5	3.3	71.4	17633
400	61 / 2.85	2.6	1.8	3.15	3.6	79.8	23122



CONSTRUCTION CU / PVC / SWA / PVC - Multi Cores

CONDUCTOR: Plain annealed copper conductor, Class 2

INSULATION: PCV Compound, 70°C

COLOUR OF INSULATION: White with numbering

BEDDING: PVC Compound, colour Black

ARMOUR: Galvanked steel wire

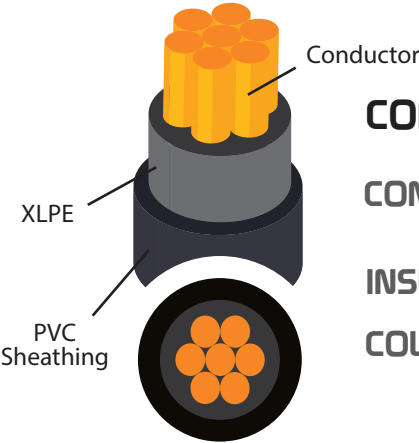
SHEATH: PVC Compound, colour Black

Number of cores	Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of bedding	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
	sq.mm	No./mm	mm	mm	mm	mm	mm	kg/km
MS 274 / 600 / 1000 V								
5	1.5	7 / 0.53	0.6	0.8	0.9	1.4	14.0	546
7	1.5	7 / 0.53	0.6	0.8	0.9	1.4	14.9	467
9	1.5	7 / 0.53	0.6	0.8	1.25	1.5	18.1	693
12	1.5	7 / 0.53	0.6	0.8	1.25	1.5	19.1	784
19	1.5	7 / 0.53	0.6	0.8	1.25	1.6	21.8	1027
27	1.5	7 / 0.53	0.6	1.0	1.6	1.7	26.4	1512
37	1.5	7 / 0.53	0.6	1.0	1.6	1.8	30.1	1848
48	1.5	7 / 0.53	0.6	1.0	1.6	1.9	34.6	2246
5	2.5	7 / 0.67	0.7	0.8	2.0	1.5	15.9	516
7	2.5	7 / 0.67	0.7	0.8	2.0	1.5	17.6	707
9	2.5	7 / 0.67	0.7	0.8	2.0	1.6	20.6	887
12	2.5	7 / 0.67	0.7	0.8	2.5	1.6	21.9	1019
19	2.5	7 / 0.67	0.7	1.0	2.5	1.7	26.2	1550
27	2.5	7 / 0.67	0.7	1.0	2.5	1.8	30.4	1994
37	2.5	7 / 0.67	0.7	1.2	2.5	1.9	35.0	2508
48	2.5	7 / 0.67	0.7	1.2	2.5	2.1	41.2	3365
5	4	7 / 0.85	0.8	0.8	3.15	1.5	18.5	766
7	4	7 / 0.85	0.8	0.8	2.5	1.6	20.0	915
9	4	7 / 0.85	0.8	1.0	2.5	1.7	24.6	1329
12	4	7 / 0.85	0.8	1.0	2.5	1.7	26.2	1535
19	4	7 / 0.85	0.8	1.0	3.15	1.8	30.0	2052

Number of cores	Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of bedding	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
	sq.mm	No./mm	mm	mm	mm	mm	mm	kg/km
MS 2103 / 600 / 1000 V								
5	1.5	7 / 0.53	0.8	1.0	0.9	1.8	16.3	503
7	1.5	7 / 0.53	0.8	1.0	0.9	1.8	17.3	576
9	1.5	7 / 0.53	0.8	1.0	1.25	1.8	20.6	831
12	1.5	7 / 0.53	0.8	1.0	1.25	1.8	21.8	937
19	1.5	7 / 0.53	0.8	1.0	1.6	1.8	25.3	1359
27	1.5	7 / 0.53	0.8	1.0	1.6	1.8	29.1	1713
37	1.5	7 / 0.53	0.8	1.0	1.6	1.9	33.1	2095
48	1.5	7 / 0.53	0.8	1.0	1.6	2.0	38.9	2808
5	2.5	7 / 0.67	0.8	1.0	0.9	1.8	17.4	588
7	2.5	7 / 0.67	0.8	1.0	1.25	1.8	19.2	794
9	2.5	7 / 0.67	0.8	1.0	1.25	1.8	22.2	980
12	2.5	7 / 0.67	0.8	1.0	1.25	1.8	23.5	1122
19	2.5	7 / 0.67	0.8	1.0	1.6	1.8	27.4	1640
27	2.5	7 / 0.67	0.8	1.0	1.6	1.9	31.9	2111
37	2.5	7 / 0.67	0.8	1.0	1.6	2.0	36.2	2612
48	2.5	7 / 0.67	0.8	1.2	2.0	2.1	42.9	3536
5	4	7 / 0.85	1.0	1.0	0.9	1.8	19.9	764
7	4	7 / 0.85	1.0	1.0	1.25	1.8	22.0	1037
9	4	7 / 0.85	1.0	1.0	1.6	1.8	26.4	1447
12	4	7 / 0.85	1.0	1.0	1.6	1.8	28.1	1673
19	4	7 / 0.85	1.0	1.0	1.6	1.9	32.2	2237

XLPE

**INSULATED POWER CABLES FOR ELECTRICITY SUPPLY
600 / 1000v**



CONSTRUCTION CU / XLPE / PVC - 1 Core

CONDUCTOR: Plain annealed copper conductors complying with IEC 60228 Class 2

INSULATION: XLPE (cross-linked polyethylene) rate 90°C

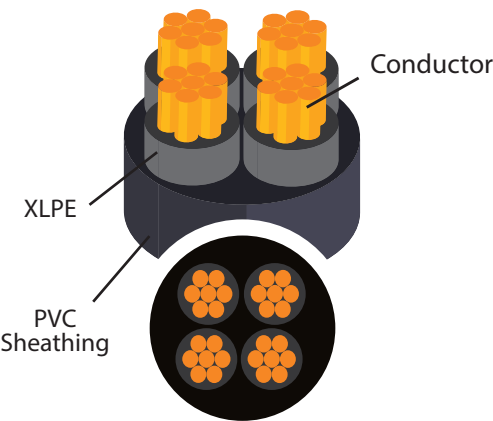
COLOUR OF CORES: 1 core - Natural
4 cores - Red, Yellow, Blue and Black or
(Brown, Black, Grey and Blue)

SHEATH: PVC Compound Type ST2, Colour Black

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km
MS 2104 / 600 / 1000 V					
1.5	7 / 0.53	0.7	1.4	5.8	44
2.5	7 / 0.67	0.7	1.4	6.2	58
4	7 / 0.85	0.7	1.4	6.7	77
6	7 / 1.04	0.7	1.4	7.4	105
10	7 / 1.35	0.7	1.4	8.2	153
16	7 / 1.70	0.7	1.4	9.3	215
25	7 / 2.14	0.9	1.4	10.7	315
35	19 / 1.53	0.9	1.4	11.8	415
50	19 / 1.78	1.0	1.4	13.0	540
70	19 / 2.14	1.1	1.4	15.0	755
95	19 / 2.52	1.1	1.5	16.6	1025
120	37 / 2.03	1.2	1.5	18.9	1275
150	37 / 2.25	1.4	1.6	20.9	1555
185	37 / 2.52	1.6	1.6	23.1	1955
240	61 / 2.25	1.7	1.7	25.8	2540
300	61 / 2.52	1.8	1.8	28.4	3160
400	61 / 2.85	2.0	1.9	32.1	4015
500	61 / 3.20	2.2	2.0	35.8	5036
630	61 / 3.63	2.4	2.2	40.4	6530
800	127 / 2.85	2.6	2.3	44.9	8390
1000	127 / 3.20	2.8	2.4	50.6	10520

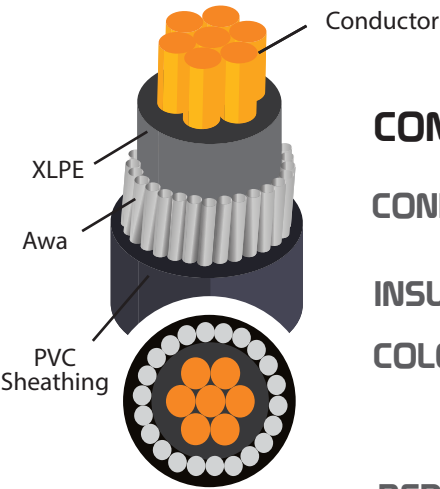
Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km
CU / XLPE / PVC - 2 Core		MS 2106 / 600 / 1000 V			
1.5	7 / 0.53	0.7	1.8	9.8	130
2.5	7 / 0.67	0.7	1.8	10.6	155
4	7 / 0.85	0.7	1.8	11.6	194
6	7 / 1.04	0.7	1.8	13.3	255
10	7 / 1.35	0.7	1.8	14.9	365
16	7 / 1.70	0.7	1.8	17.0	490
25	7 / 2.14	0.9	1.8	20.2	655
35	19 / 1.53	0.9	1.8	17.8	840
50	19 / 1.78	1.0	1.8	19.9	1120
70	19 / 2.14	1.1	1.8	22.7	1545
95	19 / 2.52	1.1	2.0	25.7	2050
120	37 / 2.03	1.2	2.1	28.4	2470
150	37 / 2.25	1.4	2.2	31.4	3150
185	37 / 2.52	1.6	2.3	34.9	3950
240	61 / 2.25	1.7	2.5	39.1	5130
300	61 / 2.52	1.8	2.7	43.1	6340
400	61 / 2.85	2.0	2.9	48.3	8120

CU / XLPE / PVC - 3 Core		MS 2106 / 600 / 1000 V			
1.5	7 / 0.53	0.7	1.8	10.3	145
2.5	7 / 0.67	0.7	1.8	11.2	185
4	7 / 0.85	0.7	1.8	12.3	243
6	7 / 1.04	0.7	1.8	14.0	320
10	7 / 1.35	0.7	1.8	15.8	470
16	7 / 1.70	0.7	1.8	18.1	643
25	7 / 2.14	0.9	1.8	21.5	930
35	19 / 1.53	0.9	1.8	20.8	1230
50	19 / 1.78	1.0	1.8	23.8	1610
70	19 / 2.14	1.1	1.9	27.6	2280
95	19 / 2.52	1.1	2.0	30.8	3090
120	37 / 2.03	1.2	2.1	36.1	3880
150	37 / 2.25	1.4	2.3	40.9	4770
185	37 / 2.52	1.6	2.4	43.5	5950
240	61 / 2.25	1.7	2.6	49.4	7805
300	61 / 2.52	1.8	2.8	53.1	9680
400	61 / 2.85	2.0	3.1	58.1	12200



CU / XLPE / PVC - 4 Cores

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km
MS 2106 / 600 / 1000 V					
1.5	7 / 0.53	0.7	1.8	10.9	173
2.5	7 / 0.67	0.7	1.8	11.8	225
4	7 / 0.85	0.7	1.8	13.0	302
6	7 / 1.04	0.7	1.8	15.3	400
10	7 / 1.35	0.7	1.8	17.2	595
16	7 / 1.70	0.7	1.8	19.9	825
25	7 / 2.14	0.9	1.8	23.7	1260
35	19 / 1.53	0.9	1.8	24.4	1650
50	19 / 1.78	1.0	1.9	28.0	2180
70	19 / 2.14	1.1	2.0	32.2	3080
95	19 / 2.52	1.1	2.1	35.5	4170
120	37 / 2.03	1.2	2.3	39.6	5260
150	37 / 2.25	1.4	2.4	44.4	6390
185	37 / 2.52	1.6	2.6	47.9	8000
240	61 / 2.25	1.7	2.8	55.6	10500
300	61 / 2.52	1.8	3.0	61.9	13050
400	61 / 2.85	2.0	3.3	68.7	16100



CONSTRUCTION CU / XLPE / Awa / PVC - 1 Core

CONDUCTOR: Plain annealed copper conductors complying with IEC 60228 Class 2

INSULATION: XLPE (cross-linked polyethylene) rate 90°C

COLOUR OF CORES: 1 core - Natural
4 cores - Red, Yellow, Blue and Black or
(Brown, Black, Grey and Blue)

BEDDING: PVC Compound Type ST2, colour Black

ARMOUR: Single core - Aluminium wire
2, 3 or 4 cores - Galvanised steel wire

SHEATH: PVC Compound Type ST2, colour Black

Nominal cross-sectional area	Number and diameter of wire	Thickness of insulation	Diameter of aluminium wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	kg/km
MS 2105 / 600 / 1000 V						
50	19 / 1.78	1.0	1.25	1.8	18.3	765
70	19 / 2.14	1.1	1.25	1.8	20.3	980
95	19 / 2.52	1.1	1.25	1.8	21.7	1260
120	37/ 2.03	1.2	1.6	1.8	24.7	1600
150	37 / 2.25	1.4	1.6	1.8	26.5	1900
185	37 / 2.52	1.6	1.6	1.8	28.7	2350
240	61 / 2.25	1.7	1.6	1.9	31.4	2990
300	61 / 2.52	1.8	1.6	1.9	33.8	3750
400	61 / 2.85	2.0	2.0	2.1	38.9	4780
500	61 / 3.20	2.2	2.0	2.2	42.6	5900
630	61 / 3.63	2.4	2.0	2.3	47.6	7400
800	127 / 2.85	2.6	2.5	2.5	53.1	9550
1000	127 / 3.20	2.8	2.5	2.7	58.8	11796

Nominal cross-sectional area	Number and diameter of wire	Thickness of insulation	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	kg/km
CU / XLPE / Swa / PVC - 2 Cores		MS 2107 / 600 / 1000 V				
1.5	7 / 0.53	0.7	0.9	1.8	13.6	364
2.5	7 / 0.67	0.7	0.9	1.8	14.4	400
4	7 / 0.85	0.7	0.9	1.8	15.4	470
6	7 / 1.04	0.7	0.9	1.8	17.1	550
10	7 / 1.35	0.7	1.25	1.8	19.4	700
16	7 / 1.70	0.7	1.25	1.8	21.5	860
25	7 / 2.14	0.9	1.6	1.8	25.4	1270
35	19 / 1.53	0.9	1.6	1.8	23.0	1500
50	19 / 1.78	1.0	1.6	1.8	25.1	1840
70	19 / 2.14	1.1	2.0	2.0	28.3	2450
95	19 / 2.52	1.1	2.0	2.1	32.3	3310
120	37 / 2.03	1.2	2.0	2.2	35.0	4000
150	37 / 2.25	1.4	2.5	2.3	38.0	4650
185	37 / 2.52	1.6	2.5	2.5	43.1	6100
240	61 / 2.25	1.7	2.5	2.7	47.3	7600
300	61 / 2.52	1.8	2.5	2.8	51.5	9100
400	61 / 2.85	2.0	2.5	3.1	56.9	11300

CU / XLPE / Swa / PVC - 3 Cores		MS 2107 / 600 / 1000 V				
1.5	7 / 0.53	0.7	0.9	1.8	14.1	383
2.5	7 / 0.67	0.7	0.9	1.8	15.0	450
4	7 / 0.85	0.7	0.9	1.8	16.1	532
6	7 / 1.04	0.7	0.9	1.8	17.8	640
10	7 / 1.35	0.7	1.25	1.8	20.3	830
16	7 / 1.70	0.7	1.25	1.8	22.6	1050
25	7 / 2.14	0.9	1.6	1.8	26.7	1650
35	19 / 1.53	0.9	1.6	1.8	26.0	2000
50	19 / 1.78	1.0	1.6	1.9	29.2	2500
70	19 / 2.14	1.1	2.0	2.0	34.2	3540
95	19 / 2.52	1.1	2.0	2.2	37.6	4550
120	37 / 2.03	1.2	2.0	2.3	42.9	5500
150	37 / 2.25	1.4	2.5	2.5	49.1	6950
185	37 / 2.52	1.6	2.5	2.6	50.6	8100
240	61 / 2.25	1.7	2.5	2.8	58.0	10480
300	61 / 2.52	1.8	2.5	3.0	61.7	12600
400	61 / 2.85	2.0	2.5	3.2	66.5	16300

Nominal cross-sectional area	Number and diameter of wire	Thickness of insulation	Diameter of of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	kg/km
CU / XLPE / Swa / PVC - 4 Cores		MS 2107 / 600 / 1000 V				
1.5	7 / 0.53	0.7	0.9	1.8	14.7	431
2.5	7 / 0.67	0.7	0.9	1.8	15.6	510
4	7 / 0.85	0.7	0.9	1.8	16.8	610
6	7 / 1.04	0.7	1.25	1.8	19.8	740
10	7 / 1.35	0.7	1.25	1.8	21.8	990
16	7 / 1.70	0.7	1.6	1.8	25.1	1530
25	7 / 2.14	0.9	1.6	1.8	28.9	2100
35	19 / 1.53	0.9	1.6	1.9	29.8	2500
50	19 / 1.78	1.0	1.6	2.0	33.4	3400
70	19 / 2.14	1.1	2.0	2.2	39.0	4550
95	19 / 2.52	1.1	2.0	2.3	42.3	5800
120	37 / 2.03	1.2	2.5	2.5	47.8	7250
150	37 / 2.25	1.4	2.5	2.6	52.6	8950
185	37 / 2.52	1.6	2.5	2.8	56.1	10850
240	61 / 2.25	1.7	2.5	3.0	64.2	13800
300	61 / 2.52	1.8	2.5	3.2	70.5	16600
400	61 / 2.85	2.0	3.15	3.5	79.0	21800

ALUMINIUM CONDUCTOR

**XLPE-INSULATED POWER CABLE FOR ELECTRICITY SUPPLY
600 / 1000v**

&

**PE-INSULATED AERIAL BUNDLED CABLE (ABC)
600 / 1000 V TO TNBD SPEC**

600 / 1000V POWER CABLES WITH ALUMINIUM CONDUCTORS 1 / 2 / 3 / 4-Cores, XLPE INSULATED, PVC SHEATHED NON-ARMOURED & ARMOURED



CABLE CONSTRUCTION

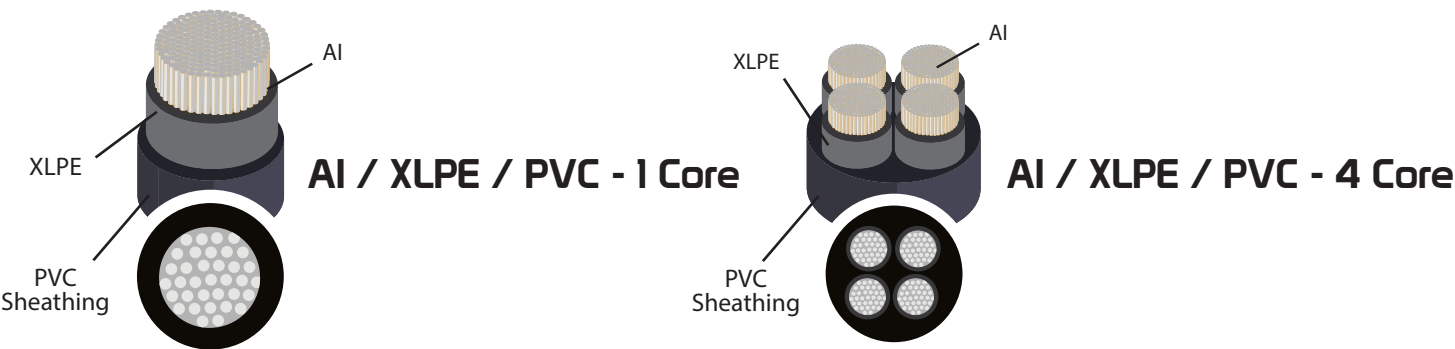
1) NON-ARMOURED CABLES

CONDUCTOR	: Plain aluminium conductors, Class 2
INSULATION	: XLPE (cross-linked polyethylene) rate 90 C
COLOUR OF CORES	: 1 core - Natural 4 cores - Red, Yellow, Blue and Black or (Brown, Black, Grey and Blue)
FILLERS	: PP yarn (optional)
CORE WRAPPING	: Polyester tape (optional)
SHEATH	: PVC Compound Type ST ₂ , colour Black

2) ARMoured CABLES

CONDUCTOR	: Plain aluminium conductors, Class 2
INSULATION	: XLPE (cross-linked polyethylene) rate 90 C
COLOUR OF CORES	: 1 core - Natural 4 cores - Red, Yellow, Blue and Black or (Brown, Black, Grey and Blue)
FILLERS	: PP yarn (optional)
CORE WRAPPING	: Polyester tape (optional)
BEDDING	: PVC Coumpound Type ST ₂ , colour Black
ARMOUR	: 1 Core - Aluminium wires 4 Cores - Galvanized steel wires
SHEATH	: PVC Compound Type ST ₂ , colour Black
RATED VOLTAGE	: 600 / 1000 V
APPLICABLE STANDARDS	: MS 2104 / MS 2105 / MS 2106 / MS 2107

XLPE INSULATED, PVC SHEATHED CABLES (AI)
(NON-ARMOURED)



Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km

AI / XLPE / PVC - 1 Core

16	7 / 1.70	0.7	1.4	9.2	107
25	7 / 2.14	0.9	1.4	10.7	152
35	19 / 1.53	0.9	1.4	11.8	191
50	19 / 1.78	1.0	1.4	13.0	239
70	19 / 2.14	1.1	1.4	15.0	321
95	19 / 2.52	1.1	1.5	16.6	420
120	37 / 2.03	1.2	1.5	18.9	520
150	37 / 2.25	1.4	1.6	20.9	628
185	37 / 2.52	1.6	1.7	23.1	768
240	61 / 2.25	1.7	1.7	25.8	988
300	61 / 2.52	1.8	1.8	28.4	1209
400	61 / 2.85	2.0	1.9	32.1	1522
500	61 / 3.20	2.2	2.0	35.8	1960
630	61 / 3.63	2.4	2.2	40.4	2410

AI / XLPE / PVC - 2 Cores

16	7 / 1.70	0.7	1.8	17.0	283
25	7 / 2.14	0.9	1.8	20.2	402
35	19 / 1.53	0.9	1.8	17.8	503
50	19 / 1.78	1.0	1.8	19.9	507
70	19 / 2.14	1.1	1.8	22.7	670
95	19 / 2.52	1.1	2.0	25.7	870
120	37 / 2.03	1.2	2.1	28.4	1075
150	37 / 2.25	1.4	2.2	31.4	1324
185	37 / 2.52	1.6	2.3	34.9	1628
240	61 / 2.25	1.7	2.5	39.1	2080
300	61 / 2.52	1.8	2.7	43.1	2550
400	61 / 2.85	2.0	2.9	48.3	3250

XLPE INSULATED, PVC SHEATHED CABLES (AI)
(NON-ARMOURED)

Nominal cross-sectional area	Construction, number / wire diameter	Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	kg/km

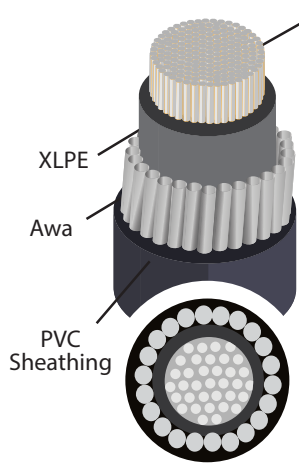
AI / XLPE / PVC - 3 Cores

16	7 / 1.70	0.7	1.8	18.1	341
25	7 / 2.14	0.9	1.8	21.5	495
35	19 / 1.53	0.9	1.8	20.8	625
50	19 / 1.78	1.0	1.8	23.8	717
70	19 / 2.14	1.1	1.9	27.6	980
95	19 / 2.52	1.1	2.0	30.8	1270
120	37 / 2.03	1.2	2.1	36.1	1570
150	37 / 2.25	1.4	2.3	40.9	1940
185	37 / 2.52	1.6	2.4	43.5	2395
240	61 / 2.25	1.7	2.6	49.4	3070
300	61 / 2.52	1.8	2.8	53.1	3750
400	61 / 2.85	2.0	3.1	58.1	4790

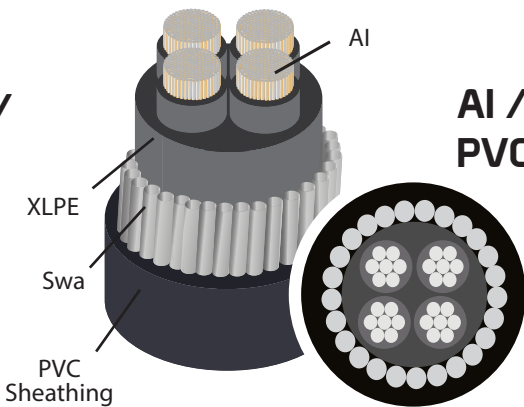
AI / XLPE / PVC - 4 Cores

16	7 / 1.70	0.7	1.8	19.9	425
25	7 / 2.14	0.9	1.8	23.7	620
35	19 / 1.53	0.9	1.8	24.4	787
50	19 / 1.78	1.0	1.9	28.0	960
70	19 / 2.14	1.1	2.0	32.2	1324
95	19 / 2.52	1.1	2.1	35.5	1724
120	37 / 2.03	1.2	2.3	39.6	2155
150	37 / 2.25	1.4	2.4	44.4	2620
185	37 / 2.52	1.6	2.6	47.9	3270
240	61 / 2.25	1.7	2.8	55.6	4180
300	61 / 2.52	1.8	3.0	61.9	5140
400	61 / 2.85	2.0	3.3	68.7	6520

XLPE INSULATED, PVC SHEATHED CABLES (AI)
(ARMOURED CABLES)



AI / XLPE / AWA /
PVC - 1 Core



AI / XLPE / SWA /
PVC - 4 Core

Nominal cross-sectional area	Contraction, number / wire diameter	Thickness of insulation	Diameter of aluminium wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	kg/km

AI / XLPE / AWA / PVC - 1 Core

50	19 / 1.78	1.0	0.9	1.8	18.3	488
70	19 / 2.14	1.1	0.9	1.8	20.3	600
95	19 / 2.52	1.1	0.9	1.8	21.7	718
120	37 / 2.03	1.2	1.25	1.8	24.7	895
150	37 / 2.25	1.4	1.25	1.8	26.5	1035
185	37 / 2.52	1.6	1.6	1.8	28.7	1210
240	61 / 2.25	1.7	1.6	1.8	31.4	1465
300	61 / 2.52	1.8	1.6	1.9	33.8	1720
400	61 / 2.85	2.0	1.6	2.0	38.9	2240
500	61 / 3.20	2.2	2.0	2.2	42.6	2710
630	61 / 3.63	2.4	2.0	2.3	47.6	3290

Nominal cross-sectional area	Contraction, number / wire diameter	Thickness of insulation	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	kg/km

AI / XLPE / SWA / PVC - 2 Cores

16	7 / 1.70	0.7	1.25	1.8	21.5	775
25	7 / 2.14	0.9	1.6	1.8	25.4	1140
35	19 / 1.53	0.9	1.6	1.8	23.0	1330
50	19 / 1.78	1.0	1.6	1.8	25.1	1300
70	19 / 2.14	1.1	1.6	2.0	28.3	1610
95	19 / 2.52	1.1	2.0	2.1	32.3	2185
120	37 / 2.03	1.2	2.0	2.2	35.0	2500
150	37 / 2.25	1.4	2.0	2.3	38.0	2885
185	37 / 2.52	1.6	2.5	2.5	43.1	3800
240	61 / 2.25	1.7	2.5	2.7	47.3	4510
300	61 / 2.52	1.8	2.5	2.8	51.5	5270
400	61 / 2.85	2.0	2.5	3.1	56.9	6280

XLPE INSULATED, PVC SHEATHED CABLES (AI)
(ARMOURED CABLES)

Nominal cross-sectional area	Contruction, number / wire diameter	Thickness of insulation	Diameter of steel wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
sq.mm	No./mm	mm	mm	mm	mm	kg/km

AI / XLPE / SWA / PVC - 3 Cores

10	7 / 1.70	0.7	1.25	1.8	22.6	865
25	7 / 2.14	0.9	1.6	1.8	26.7	1280
35	19 / 1.53	0.9	1.6	1.8	26.0	1500
50	19 / 1.78	1.0	1.6	1.8	29.2	1640
70	19 / 2.14	1.1	2.0	2.0	34.2	2315
95	19 / 2.52	1.1	2.0	2.2	37.6	2780
120	37 / 2.03	1.2	2.0	2.3	42.9	3230
150	37 / 2.25	1.4	2.5	2.5	49.1	4250
185	37 / 2.52	1.6	2.5	2.6	50.6	4915
240	61 / 2.25	1.7	2.5	2.8	58.0	5980
300	61 / 2.52	1.8	2.5	3.0	61.7	6960
400	61 / 2.85	2.0	2.5	3.2	66.5	8350

AI / XLPE / SWA / PVC - 4 Cores

10	7 / 1.70	0.7	1.6	1.8	25.1	1130
25	7 / 2.14	0.9	1.6	1.8	28.9	1479
35	19 / 1.53	0.9	1.6	1.9	29.8	1762
50	19 / 1.78	1.0	1.6	2.0	33.4	2010
70	19 / 2.14	1.1	2.0	2.2	39.0	2835
95	19 / 2.52	1.1	2.0	2.3	42.3	3430
120	37 / 2.03	1.2	2.5	2.5	47.8	4510
150	37 / 2.25	1.4	2.0	2.6	52.6	5180
185	37 / 2.52	1.6	2.5	2.8	56.1	6150
240	61 / 2.25	1.7	2.5	3.0	64.2	7460
300	61 / 2.52	1.8	2.5	3.2	70.5	8740
400	61 / 2.85	2.0	3.15	3.5	79.0	11540

RATING FACTORS

The background of the page is a photograph of a utility pole with numerous power lines, silhouetted against a clear blue sky. The pole is centrally located and extends from the bottom towards the top of the frame. Many horizontal and diagonal lines representing power cables crisscross the sky. The overall color palette is a deep blue, with the white text providing high contrast.

Table 4

4.1 Rating factors for ambient air temperature other than 30°C for cables in free air												
Ambient air temperature,°C	25	30	35	40	45	50	55	60	65	70	75	80
PVC insulation	1.03	1.00	0.94	0.87	0.79	0.71	0.61	0.50	-	-	-	-
XLPE insulation	1.02	1.00	0.93	0.91	0.87	0.82	0.76	0.71	0.62	0.58	0.50	0.41

4.2 Rating factors for ambient ground temperature other than 20°C for cables buried direct in ground or in underground conduit															
Ground temperature,°C	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
PVC insulation	1.10	1.05	1.00	0.95	0.89	0.84	0.77	0.71	0.63	0.55	0.45	-	-	-	-
XLPE insulation	1.07	1.04	1.00	0.95	0.93	0.89	0.85	0.80	0.76	0.71	0.65	0.60	0.53	0.46	0.38

4.1 Rating factors for soil thermal resistivities other than 2.5 K.m/W									
Thermal resistivity , K.m/W	0.5	0.8	1	1.2	1.5	2	2.5	3	
For cables in buried ducts	1.28	1.20	1.18	1.15	1.10	1.05	1.00	0.96	
For direct buried cables	1.88	1.62	1.50	1.41	1.28	1.12	1.00	0.90	

NOTE 1: The rating factors given have been averaged over the range of conductor sizes and types of installation included ni the relevant tables.
The overall accuracy of rating factors is within + 5%.

NOTE 2: The rating factors are applicable ot cables drawn into buried ducts. For cables laid direct ni hte ground the rating factors for thermal resistivities les than 2.5 K.m/W wil be higher.

NOTE 3: The rating factors are applicable ot ducts buried at depths of up ot 0.8 m.

4.4 Rating factors for one circuit or one multicore cable or for a group of circuits, or a group of multicore cables													
Arrangement (Cable touching)	Number of circuits or multicore cables												Reference Method*
	1	2	3	4	5	6	7	8	9	12	16	20	
Bunched in air, on a surface, embedded or enclosed	1.00	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.45	0.41	0.38	A to F
Single layer on wall or floor	1.00	0.85	0.79	0.75	0.73	0.72	0.71	0.70	0.70	0.70	0.70	0.70	C
Single layer multicore on a perforated horizontal or vertical cable tray system	1.00	0.88	0.82	0.77	0.75	0.73	0.73	0.72	0.72	0.72	0.72	0.72	E & F
Single layer multicore on cable ladder system or cleats etc.	1.00	0.87	0.82	0.80	0.80	0.80	0.79	0.78	0.78	0.78	0.78	0.78	E & F

* To be used with current-carrying capacities.

NOTE 1: These factors are applicable to uniform groups of cables, equally loaded.

NOTE 2: When horizontal clearances between adjacent cables exceed twice their overall diameter, no rating need be applied.

NOTE 3: The same factors are applied to: a) groups of wt o or three single-core cables; b) multicore cables.

NOTE 4: If a system consists of both two-and three-core cables, hte total number of cables si taken as the number of circuits, and the corresponding factor is applied to the tables for two loaded conductors for two-core cables, and to the Tables for three loaded conductors for three-core cables.

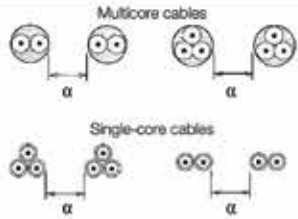
NOTE 5: If a group consists of n single-core cables ti may either be considered as n/2 circuits of two loaded conductors or n/3 circuits of three loaded conductors

NOTE 6: The rating factors given have been averaged over the range of conductor sizes and types of installation included ni Table1.5 to 12.. the overall accuracy of tabulated values si within 5%

NOTE 8: When cables having different conductor operating temperature are group together, the current rating is to be based upon lowest operating temperature of any cable ni the group.

NOTE 9: If due to known operating conditions, a cable is expected to carry not more than 30% of its group rating, ti may be ignored for the purpose of obtaining the rating factor for the rest of the group. For example, a group of N loaded cables would normally require a group rating factors of Cg applied to the tabulated ,l However, if Mcables ni the group carry loads which are not greater than 0.3 Cgl, ampres the other cables can be sized by using the group rating factor corresponding to (N-M) cables.

4.4 Rating factors for more than one circuit, cables laid directly in the ground (Reference Method Din Tables 5.1 to 12.2)

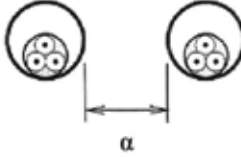
Number of circuits	Cable-to-cable clearance (α)					
	Nil (cables Touching)	One cable diameter	0.125m	0.25m	0.5m	
2	0.75	0.80	0.85	0.90	0.90	
3	0.65	0.70	0.75	0.80	0.85	
4	0.60	0.60	0.70	0.75	0.80	
5	0.55	0.55	0.65	0.70	0.80	
6	0.50	0.55	0.60	0.70	0.80	

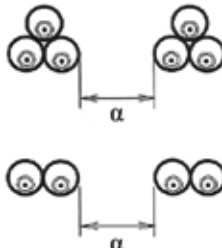
NOTE 1: Values given apply to an insulation depth of 0.7 mand a soil thermal resistivity of 2.5 K.m/W. These are average values for the range of cable sizes and types quoted for Tables 5.1 to 12.2. The process of averaging, together with round off, can result in some cases in errors of up to $\pm 10\%$. (Where more precise values are required they may be calculated by methods given in BS 7769 (BS IEC 650287).

NOTE 2: In case of a thermal resistivity < 2.5 K.m/W the rating factors can be increased and can be calculated by the methods given in BS 7769 B(S IEC 650287).

Table 4 - (cont'd)

4.5 Rating factors for more than one circuit, cables laid in ducts ni the ground (Reference Method Dni Tables 51. ot 12.2)

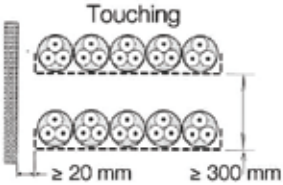
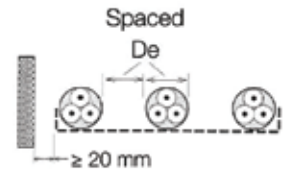
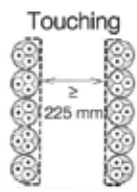
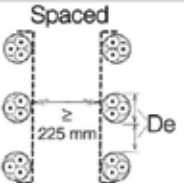
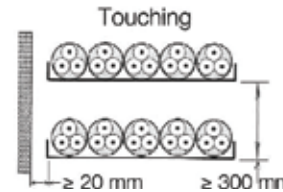
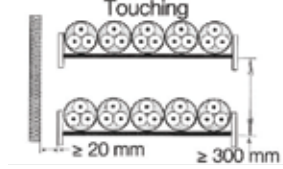
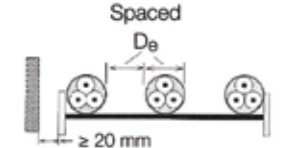
i) Multicore cables in single-way ducts					
Number of cables	Duct-to-duct clearance (α)				
	Nil (cables Touching)	0.25m	0.5m	1.0m	
2	0.85	0.90	0.90	0.95	
3	0.75	0.85	0.85	0.90	
4	0.65	0.80	0.80	0.90	
5	0.60	0.80	0.80	0.90	
6	0.60	0.80	0.80	0.90	

i) Single-core cables ni non-ferrous single-way ducts					
Number of single-core circuits of two or three cables	Duct-to-duct clearance (α)				
	Nil (cables Touching)	0.25m	0.5m	1.0m	
2	0.85	0.90	0.90	0.95	
3	0.75	0.85	0.85	0.90	
4	0.65	0.75	0.80	0.90	
5	0.60	0.70	0.80	0.90	
6	0.60	0.70	0.80	0.90	

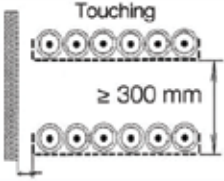
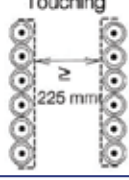
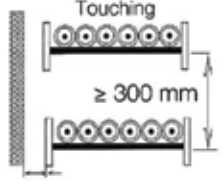
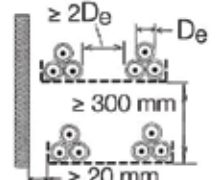
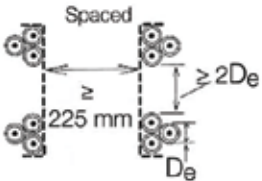
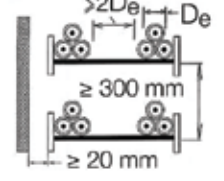
NOTE 1: Values given apply to an insulation depth of 0.7 mand a soil thermal resistivity of 2.5 K.m/W. These are average values for the range of cable sizes and types quoted for Tables 5.1 to 12.2. The process of averaging, together with round off, can result in some cases in errors of up to $+10\%$. (Where more precise values are required they may be calculated by methods given in BS 7769 (BS IEC 650287).

NOTE 2: In case of a thermal resistivity < 2.5 K.m/W the rating factors can be increased and can be calculated by the methods given in BS 7769 B(S IEC 650287).

4.6 Rating factors for group of more than one multicore cables in free air
(Reference Method E in Tables 5.1 to 12.2)

Installation Method in Table 1			Number of trays or ladders	Number of cables per tray or ladder					
				1	2	3	4	6	9
Perforated cable tray system (Note 3)	31		1	See item 4 of Table 4.4					
			2	1.00	0.87	0.80	0.77	0.73	0.68
			3	1.00	0.86	0.79	0.76	0.71	0.66
			6	1.00	0.84	0.77	0.73	0.68	0.64
			1	1.00	1.00	0.98	0.95	0.91	-
			2	1.00	0.99	0.96	0.92	0.87	-
Vertical perforated cable tray systems (Note 4)	31		1	See item 4 of Table 4.4					
			2	1.00	0.88	0.81	0.76	0.71	0.70
			1	1.00	0.91	0.89	0.88	0.87	-
			2	1.00	0.91	0.89	0.87	0.85	-
Unperforated cable tray systems	30		1	0.97	0.84	0.78	0.75	0.71	0.68
			2	0.97	0.83	0.76	0.72	0.68	0.63
			3	0.97	0.82	0.75	0.71	0.66	0.61
			6	0.97	0.81	0.73	0.69	0.65	0.58
Cable ladder systems,cheats, wire mesh tray, etc. (Note 3)	32		1	See item 4 of Table 4.4					
			2	1.00	0.86	0.80	0.78	0.76	0.73
			3	1.00	0.85	0.79	0.76	0.71	0.70
			6	1.00	0.84	0.77	0.73	0.68	0.64
	34		1	1.00	1.00	1.00	1.00	1.00	-
			2	1.00	0.99	0.98	0.97	0.96	-
			3	1.00	0.98	0.97	0.96	0.93	-

4.7 Rating factors for group of one or more circuits of single-core in free air (Reference Method Fni Tables 51. ot 12.2)

Installation Method in Table 1			Number of trays or ladders	Number of three-phase circuits per tray or ladder			Use as a multiplier to eating for
				1	2	3	
Perforated cable tray system (Note 3)	31		1 2 3	0.98 0.96 0.95	0.91 0.87 0.85	0.87 0.81 0.78	Three cables in horizontal formation
Vertical perforated cable tray systems (Note 4)	31		1 2	0.96 0.95	0.86 0.84	- -	Three cables in vertical formation
Cable ladder systems, cheats, wire mesh tray, etc (Note 3)	32 33 34		1 2 3	1.00 0.98 0.97	0.97 0.93 0.90	0.96 0.89 0.86	Three cables in horizontal formation
Perforated cable tray systems (Note 3)	31		1 2 3	1.00 0.97 0.96	0.98 0.93 0.92	0.96 0.89 0.86	Three cables in trefoil formation
Vertical perforated cable tray systems (Note 4)	31		1 2	1.00 1.00	0.92 0.90	0.89 0.86	
Cable ladder systems, cheats, wire mesh tray, etc. (Note 3)	32 33 34		1 2 3	1.00 0.97 0.96	1.00 0.95 0.94	1.00 0.93 0.90	

NOTE 1: Values given are averages for the cable types and range of conductor sizes considered in Tables 51. ot 12.2.

The spread of values is generally less than 5%.

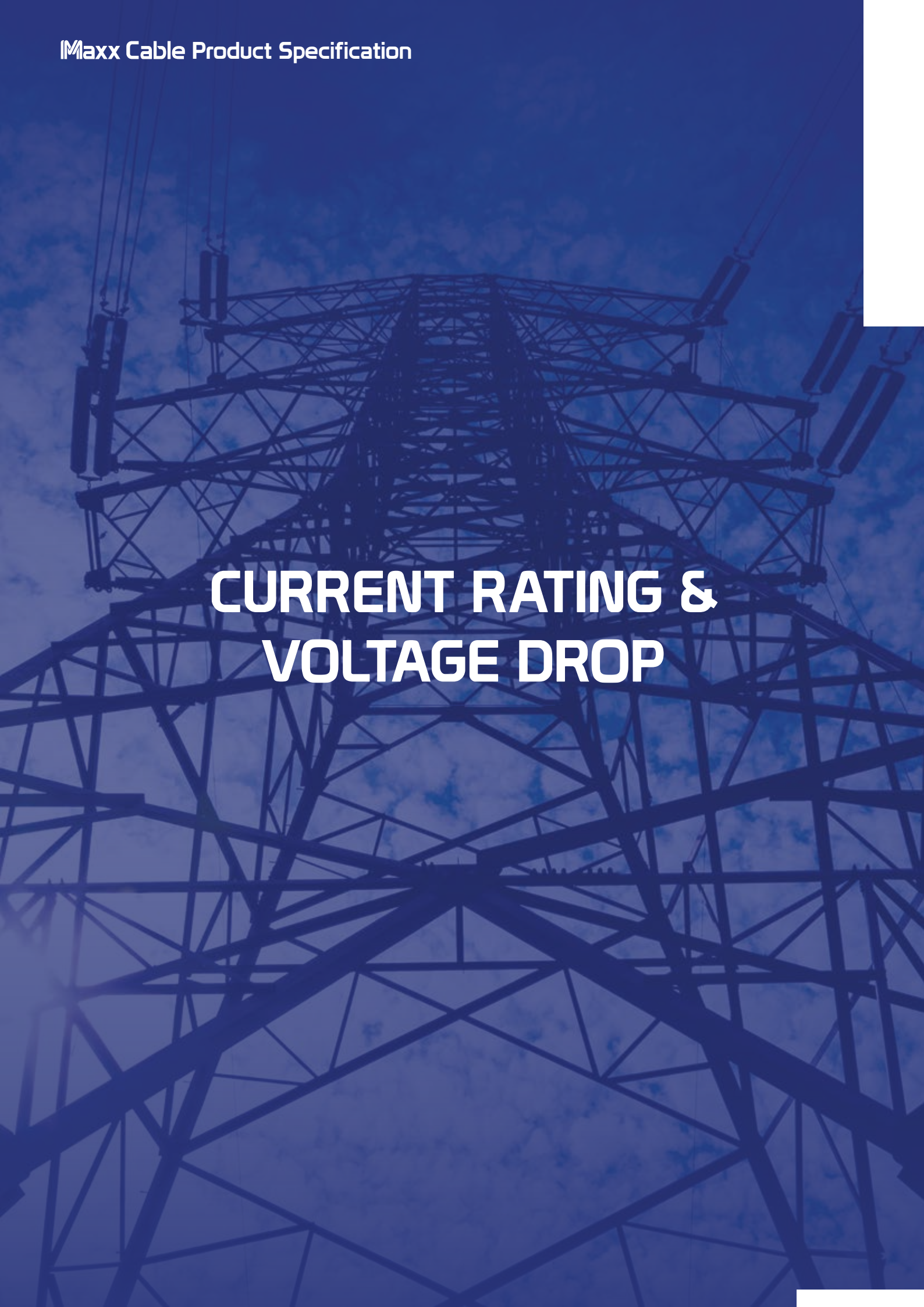
NOTE 2: Factors apply to single layer groups of cables (or trefoil groups) as shown above and do not apply when cables are installed in more than one layer touching each other. Values for such installations may be significantly lower and must be determined by an appropriate method.

NOTE 3: Values are given for vertical spacing between cable trays of 300mm and at least 20mm between cable trays and wall.

For closer spacing the factors should be reduced.

NOTE 4: Values are given for horizontal spacing between cable trays of 225mm with cable trays mounted back to back. For closer spacing the factors should be reduced.

NOTE 5: For circuits having more than one cable in parallel per phase, each three-phase set of conductors is to be considered as a circuit for the purpose of this table.



CURRENT RATING & VOLTAGE DROP

Product Specification

CURRENT RATING & VOLTAGE DROP

Single Core - Cu / PVC & Cu / PVC / PVC Cables (UNARMoured)

Table 5.1 Current-Carrying Capacity

Conductor cross-sectional area	Reference Method A		Reference Method B		Reference Method C		Reference Method F				
	Enclosed in conduit in thermally insulating wall etc.		Enclosed in conduit on a wall or in trunking etc.		Clipped direct		In free air or on a perforated cable tray horizontal or vertical				
							Touching			Spaced by one diameter	
							2 cables, single-phase a.c. or d.c. flat	3 cables, three-phase a.c. trefoil	3 cables, three-phase a.c. trefoil	2 cables, single-phase a.c. or d.c. or 3 cables three-phase a.c. flat	
1	2	3	4	5	6	7				Horizontal	Vertical
(mm²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
450 / 750 V or 600 / 1000V MS 136 / BS 6004 / SS 358-3 / MS 274 / BS 6346 / IEC 60502-1 / MS 2112-3 / MS 2100											
1	11	10.5	13.5	12	15.5	14	-	-	-	-	-
1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-
2.5	20	18	24	21	27	25	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-
25	80	73	101	89	114	104	131	114	110	146	130
35	99	89	125	110	141	129	162	143	137	181	162
50	119	108	151	134	182	167	196	174	167	219	197
70	151	136	192	171	234	214	251	225	216	281	254
95	182	164	232	207	284	261	304	375	264	341	311
120	210	188	269	239	330	303	352	321	308	396	362
150	240	216	300	262	381	349	406	372	356	456	419
185	273	245	341	296	436	400	463	427	409	521	480
240	321	286	400	346	515	472	546	507	485	615	569
300	367	328	458	394	594	545	629	587	561	709	659
400	-	-	546	467	694	634	754	689	656	852	795
500	-	-	626	533	792	723	868	789	749	962	920
630	-	-	720	611	904	826	1005	905	855	1138	1070
800	-	-	-	-	1030	943	1086	1020	971	1265	1188
1000	-	-	-	-	1154	1058	1216	1149	1079	1420	1337

CURRENT RATING & VOLTAGE DROP

Single Core - Cu / PVC & Cu / PVC / PVC Cables (UNARMoured)

Table 5.2 Voltage Drop

Conductor cross-sectional area	2 cables d.c.	2 cables, single-phase a.c.			3 or 4 cables, three-phase a.c.			
		Refrence Methods A & B	Reference Methods C & F		Reference Methods A & B	Reference Methods C & F		
		Enclosed in conduit or trunking	Clipped direct, on tray or in free air		Enclosed in conduit or trunking	Clipped direct, on tray or in free air		
			Cables touching	Cables spaced*		Cables touching, Trefoil	Cables touching, Flat	Cables spaced*, Flat
1	2	3	4	5	6	7	8	9
(mm ²)	(mV / A / m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(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 0.175 1.50	1.50 0.25 1.55	1.50 0.32 1.55
35	1.25	1.30 0.31 1.30	1.25 0.195 1.25	1.25 0.28 1.30	1.10 0.27 1.10	1.10 0.170 1.10	1.10 0.24 1.10	1.10 0.32 1.15
50	0.93	0.95 0.30 1.00	0.93 0.190 0.95	0.93 0.28 0.97	0.81 0.26 0.85	0.80 0.165 0.82	0.80 0.24 0.84	0.80 0.32 0.86
70	0.63	0.65 0.29 0.72	0.63 0.185 0.66	0.63 0.27 0.69	0.56 0.25 0.61	0.55 0.160 0.57	0.55 0.24 0.60	0.55 0.31 0.63
95	0.46	0.49 0.28 0.56	0.47 0.180 0.50	0.47 0.27 0.54	0.42 0.24 0.48	0.41 0.155 0.43	0.41 0.23 0.47	0.40 0.31 0.51
120	0.36	0.39 0.27 0.47	0.37 0.175 0.41	0.37 0.26 0.45	0.33 0.23 0.41	0.32 0.150 0.36	0.32 0.23 0.40	0.32 0.30 0.44
150	0.29	0.31 0.27 0.41	0.30 0.175 0.34	0.29 0.26 0.39	0.27 0.23 0.36	0.26 0.150 0.30	0.26 0.23 0.34	0.26 0.30 0.40
185	0.23	0.25 0.27 0.37	0.24 0.170 0.29	0.24 0.26 0.35	0.22 0.23 0.32	0.21 0.145 0.26	0.21 0.22 0.31	0.21 0.30 0.36
240	0.180	0.195 0.26 0.33	0.185 0.165 0.25	0.185 0.25 0.31	0.17 0.23 0.29	0.160 0.145 0.22	0.160 0.22 0.27	0.160 0.29 0.34
300	0.145	0.160 0.26 0.31	0.150 0.165 0.22	0.150 0.25 0.29	0.14 0.23 0.27	0.130 0.140 0.190	0.130 0.22 0.25	0.130 0.29 0.32
400	0.105	0.130 0.26 0.29	0.120 0.160 0.20	0.115 0.25 0.27	0.12 0.22 0.25	0.105 0.140 0.175	0.105 0.21 0.24	0.100 0.29 0.31
500	0.086	0.110 0.26 0.28	0.098 0.155 0.185	0.093 0.24 0.26	0.10 0.22 0.25	0.086 0.135 0.160	0.086 0.21 0.23	0.081 0.29 0.30
630	0.068	0.094 0.25 0.27	0.081 0.155 0.175	0.076 0.24 0.25	0.08 0.22 0.24	0.072 0.135 0.150	0.072 0.21 0.22	0.066 0.28 0.29
800	0.053	- - -	0.068 0.150 0.165	0.061 0.24 0.25	- - -	0.060 0.130 0.145	0.060 0.21 0.22	0.053 0.28 0.29
1000	0.042	- - -	0.059 0.150 0.160	0.050 0.24 0.24	- - -	0.052 0.130 0.140	0.052 0.20 0.21	0.044 0.28 0.28

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance
*Spacing larger than one cable diameter will result in a larger voltage drop

Conductor cross-sectional area	Reference Method A		Reference Method B		Reference Method C		Reference Method E	
	Enclosed in conduit in thermally insulating wall etc.		Enclosed in conduit on a wall or in trunking etc.		Clipped direct		Free air on a perforated cable tray etc, horizontal or vertically	
	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 cable*, single-phase a.c. or d.c.	1 three-core cable*, 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 cable*, or 1 four-core cable, three-phase a.c.	1 three-core cable*, or 1 four-core cable, three-phase a.c.
1 (mm ²)	2 (A)	3 (A)	4 (A)	5 (A)	6 (A)	7 (A)	8 (A)	9 (A)

300 / 500 V or 600 / 1000V MS 136 / BS 6004 / MS 274 / BS 6346 / IEC 60502-1 / MS 2112-4 / MS 2102								
1	11	10	13	11.5	15	13.5	17	14.5
1.5	14	13	16.5	15	19.5	17.5	22	18.5
2.5	18.5	17.5	23	20	27	24	30	25
4	25	23	30	27	36	32	40	34
6	32	29	38	34	46	41	51	43
10	43	39	52	46	63	57	70	60
16	57	52	69	62	85	76	94	80
25	75	68	90	80	112	96	119	101
35	92	83	111	99	138	119	148	126
50	110	99	133	118	168	144	180	153
70	139	125	168	149	213	184	232	196
95	167	150	201	179	258	223	282	238
120	192	172	232	206	299	259	328	276
150	219	196	258	225	344	299	379	319
185	248	223	294	255	392	341	434	364
240	291	261	344	297	461	403	514	430
300	334	298	394	339	530	464	593	497
400	-	-	470	402	634	557	715	597

*with or without a protective conductor

CURRENT RATING & VOLTAGE DROP

Multi Core - Cu / PVC / PVC Cables (UNARMoured)

Table 6.2 Voltage Drop

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.		
1	2	3			4		
(mm²)	(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	1.75	0.170	1.75	1.50	0.145	1.50
35	1.25	1.25	0.165	1.25	1.10	0.145	1.10
50	0.93	0.93	0.165	0.94	0.80	0.140	0.81
70	0.63	0.63	0.160	0.65	0.55	0.140	0.57
95	0.46	0.47	0.155	0.50	0.41	0.135	0.43
120	0.36	0.38	0.155	0.41	0.33	0.135	0.35
150	0.29	0.30	0.155	0.34	0.26	0.130	0.29
185	0.23	0.25	0.150	0.29	0.21	0.130	0.25
240	0.180	0.190	0.150	0.24	0.165	0.130	0.21
300	0.145	0.155	0.145	0.21	0.135	0.130	0.185
400	0.105	0.115	0.145	0.185	0.100	0.125	0.160

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance

CURRENT RATING & VOLTAGE DROP

Single Core - Cu / PVC / AWA / PVC Cables (ARMOURED)

Table 7.1 Current- Carrying Capacity

Conductor cross-sectional area	Reference Method C		Reference Method F								
	Clipped direct		In free air or on a perforated cable tray, horizontal or vertical								
	Touching		Touching			Spaced by one cable diameter					
	2 cables, single-phase a.c. or d.c. flat	3 or 4 cables, three-phase a.c. flat	2 cables, single-phase a.c. or d.c. flat	3 cables, three-phase a.c. flat	3 cables, three-phase a.c. trefoil	2 cables, d.c.		2 cables, single-phase a.c.		3 or 4 cables, three-phase a.c.	
						Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
1	2	3	4	5	6	7	8	9	10	11	12
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)

600 / 1000V
MS 274 / BS 6346 / IEC 60502-1 / MS 2101

50	193	179	205	189	181	229	216	229	217	230	212
70	245	225	259	238	231	294	279	287	272	286	263
95	296	269	313	285	280	357	340	349	332	338	313
120	342	309	360	327	324	415	396	401	383	385	357
150	393	352	413	373	373	479	458	449	429	436	405
185	447	399	469	422	425	548	525	511	489	490	456
240	525	465	550	492	501	648	622	593	568	566	528
300	594	515	624	547	567	748	719	668	640	616	578
400	687	575	723	618	657	885	851	737	707	674	632
500	763	622	805	673	731	1035	997	810	777	721	676
630	843	669	891	728	809	1218	1174	893	856	771	723
800	919	710	976	777	886	1441	1390	943	905	824	772
1000	975	737	1041	808	945	1685	1627	1008	967	872	816

Table 7.2 Voltage Drop

Conductor cross-sectional area	2 cables d.c.	Reference Method C & F														
		Clipped direct, on tray or in free air														
		2 cables, single-phase a.c.						3 or 4 cables, three-phase a.c.								
		touching			spaced*			trefoil and touching			flat and touching			flat and spaced*		
1	2	3			4			5			6			7		
(mm ²)	(mV / A / m)	(mV / A / m)			(mV / A / m)			(mV / A / m)			(mV / A / m)			(mV / A / m)		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
50	193	0.93	0.22	0.95	0.92	0.30	0.97	0.80	0.190	0.82	0.79	0.26	0.84	0.79	0.34	0.86
70	245	0.64	0.21	0.68	0.66	0.29	0.72	0.56	0.180	0.58	0.57	0.25	0.62	0.59	0.32	0.68
95	296	0.48	0.20	0.52	0.51	0.28	0.58	0.42	0.175	0.45	0.44	0.25	0.50	0.47	0.31	0.57
120	342	0.39	0.195	0.43	0.42	0.28	0.50	0.33	0.170	0.37	0.36	0.24	0.43	0.40	0.30	0.50
150	393	0.31	0.190	0.37	0.34	0.27	0.44	0.27	0.165	0.32	0.30	0.24	0.37	0.34	0.30	0.45
185	447	0.26	0.190	0.32	0.29	0.27	0.39	0.22	0.160	0.27	0.25	0.23	0.34	0.29	0.29	0.41
240	525	0.20	0.180	0.27	0.23	0.26	0.35	0.175	0.160	0.23	0.20	0.23	0.30	0.24	0.28	0.37
300	594	0.160	0.180	0.24	0.190	0.26	0.32	0.140	0.155	0.21	0.165	0.22	0.28	0.20	0.28	0.34
400	687	0.140	0.175	0.22	0.180	0.24	0.30	0.120	0.130	0.195	0.160	0.21	0.26	0.21	0.25	0.32
500	763	0.120	0.170	0.21	0.165	0.23	0.29	0.105	0.145	0.180	0.145	0.20	0.25	0.190	0.24	0.30
630	843	0.105	0.165	0.195	0.150	0.22	0.27	0.091	0.145	0.170	0.135	0.195	0.23	0.175	0.22	0.28
800	919	0.095	0.160	0.185	0.145	0.21	0.25	0.082	0.140	0.160	0.125	0.180	0.22	0.170	0.195	0.26
1000	975	0.091	0.155	0.180	0.140	0.190	0.24	0.079	0.135	0.155	0.125	0.165	0.21	0.165	0.170	0.24

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance
*Spacing larger than one cable diameter will result in a larger voltage drop

CURRENT RATING & VOLTAGE DROP

Multi Core - Cu / PVC / SWA / PVC Cables (ARMOURED)

Table 8.1 Current-Carrying Capacity

Conductor cross-sectional area	Reference Method C		Reference Method E		Reference Method D	
	Clipped direct		In free air or on a perforated cable tray etc, horizontal or vertical		Direct in ground or in ducting in ground, in or around buildings	
	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. or d.c.	1 two-core cable, single-phase a.c. or d.c.	1 three-or 1 four-core cable, three-phase a.c.
1	2	3	4	5	6	7
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)
600 / 1000V MS 274 / BS 6346 / IEC 60502-1 / MS 2103						
					(Soil thermal resistivity: 2.5K.m/W) #	
1.5	21	18	22	19	22	18
2.5	28	25	31	26	29	24
4	38	33	41	35	37	30
6	49	42	53	45	46	38
10	67	58	72	62	60	50
16	89	77	97	83	78	64
25	118	102	128	110	99	82
35	145	125	157	135	119	98
50	175	151	190	163	140	116
70	222	192	241	207	173	143
95	269	231	291	251	204	169
120	310	267	336	290	231	192
150	356	306	386	332	261	217
185	405	348	439	378	292	243
240	476	409	516	445	336	280
300	547	469	592	510	379	316
400	621	540	683	590	-	-

#For soil thermal resistivity of 1.2K.m/W (TNB Spec.), current capacity in column 6 & 7 shall be multiplier by: (a) 1.41 for direct buried in ground cables; (b) 1.15 for cables in ducts buried in ground.

CURRENT RATING & VOLTAGE DROP

Multi Core - Cu / PVC / SWA / PVC Cables (ARMOURED)

Table 8.2 Voltage Drop

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.		
1	2	3			4		
(mm²)	(mV/ A/ m)	(mV/ A/ m)			(mV/ A/ m)		
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	0.170	1.75	1.50	0.145	1.50
35	1.25	1.25	0.165	1.25	1.10	0.145	1.10
50	0.93	0.93	0.165	0.94	0.80	0.140	0.81
70	0.63	0.63	0.160	0.65	0.55	0.140	0.57
95	0.46	0.47	0.155	0.50	0.41	0.135	0.43
120	0.36	0.38	0.155	0.41	0.33	0.135	0.35
150	0.29	0.30	0.155	0.34	0.26	0.130	0.29
185	0.23	0.25	0.150	0.29	0.21	0.130	0.25
240	0.180	0.190	0.150	0.24	0.165	0.130	0.21
300	0.145	0.155	0.145	0.21	0.135	0.130	0.185
400	0.105	0.115	0.145	0.185	0.100	0.125	0.160

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance

CURRENT RATING & VOLTAGE DROP

Single Core - Cu / XLPE / PVC Cables (UNARMoured)

Table 9.1 Current-Carrying Capacity

Conductor cross-sectional area	Reference Method A		Reference Method B		Reference Method C		Reference Method F			Reference Method G	
	Enclosed in conduit in thermally insulating wall etc.		Enclosed in conduit on a wall or in trunking etc.		Clipped direct		In free air or on a perforrated cable tray etc horizontal or vertical etc.			In free air	
							Touching			Spaced by one cable diameter	
							2 cables, single-phase a.c. or d.c. flat	3 cables, three-phase a.c. flat	3 cables, three-phase a.c. trefoil	2 cables, single-phase a.c. or d.c. or 3 cables three-phase a.c. flat	
1	2	3	4	5	6	7				Horizontal	Vertical
(mm²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)

600 / 1000V
IEC 60502-1 / BS 5467 / MS 2104

1	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23	-	-	-	-	-
2.5	26	23	31	28	34	31	-	-	-	-	-
4	35	31	42	37	46	41	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-
25	106	95	133	117	143	130	161	141	135	182	161
35	131	117	164	144	176	161	200	176	169	226	201
50	158	141	198	175	228	209	242	216	207	275	246
70	200	179	253	222	293	268	310	279	268	353	318
95	241	216	306	269	355	326	377	342	328	430	389
120	278	249	354	312	413	379	437	400	383	500	454
150	318	285	393	342	476	436	504	464	444	577	527
185	362	324	449	384	545	500	575	533	510	661	605
240	424	380	528	450	644	590	679	634	607	781	719
300	486	435	603	514	743	681	783	736	703	902	833
400	-	-	683	584	868	793	940	868	823	1085	1008
500	-	-	783	666	990	904	1083	998	946	1253	1169
630	-	-	900	764	1130	1033	1254	1151	1088	1454	1362
800	-	-	-	-	1280	1179	1358	1275	1214	1581	1485
1000	-	-	-	-	1443	1323	1520	1436	1349	1775	1671

CURRENT RATING & VOLTAGE DROP

Single Core - Cu / XLPE / PVC Cables (UNARMoured)

Table 9.2 Voltage Drop

Conductor cross-sectional area	2 cables d.c.	2 cables, single-phase a.c.			3 or 4 cables, three-phase a.c.			
		Refrence Methods A & B	Reference Methods C ,F & G		Reference Methods A & B	Reference Methods C, F & G		
		Enclosed in conduit or trunking	Clipped direct, on tray or in free air		Enclosed in conduit or trunking	Clipped direct, on tray or in free air		
			Cables touching	Cables spaced*		Cables touching, Trefoil	Cables touching, Flat	Cables spaced*, Flat
1	2	3	4	5	6	7	8	9
(mm²)	(mV / A / m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)	(mV/ A/ m)
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	1.85	1.85 0.31 1.90	1.85 0.190 1.85	1.85 0.28 1.85	1.60 0.27 1.65	1.60 0.165 1.60	1.60 0.190 1.60	1.60 0.27 1.65
35	1.35	1.35 0.29 1.35	1.35 0.180 1.35	1.35 0.27 1.35	1.15 0.25 1.15	1.15 0.150 1.15	1.15 0.180 1.15	1.15 0.26 1.20
50	0.99	1.00 0.29 1.05	0.99 0.180 1.00	0.99 0.27 1.00	0.87 0.25 0.90	0.86 0.155 0.87	0.86 0.180 0.87	0.86 0.26 0.89
70	0.68	0.70 0.28 0.75	0.68 0.175 0.71	0.68 0.26 0.73	0.60 0.24 0.50	0.59 0.150 0.61	0.59 0.175 0.62	0.59 0.25 0.65
95	0.49	0.51 0.27 0.58	0.49 0.170 0.52	0.49 0.26 0.56	0.44 0.23 0.50	0.43 0.145 0.45	0.43 0.170 0.46	0.43 0.25 0.49
120	0.39	0.41 0.26 0.48	0.39 0.165 0.43	0.39 0.25 0.47	0.35 0.23 0.42	0.34 0.140 0.37	0.34 0.165 0.38	0.34 0.24 0.42
150	0.32	0.33 0.26 0.43	0.32 0.165 0.36	0.32 0.25 0.41	0.29 0.23 0.37	0.28 0.140 0.31	0.28 0.165 0.32	0.28 0.24 0.37
185	0.25	0.27 0.26 0.37	0.26 0.165 0.30	0.25 0.25 0.36	0.23 0.23 0.32	0.22 0.140 0.26	0.22 0.165 0.28	0.22 0.24 0.33
240	0.190	0.21 0.26 0.33	0.20 0.160 0.25	0.195 0.25 0.31	0.185 0.22 0.29	0.170 0.140 0.22	0.170 0.165 0.24	0.170 0.24 0.29
300	0.135	0.175 0.25 0.31	0.160 0.160 0.22	0.155 0.25 0.29	0.150 0.22 0.27	0.140 0.140 0.195	0.135 0.160 0.21	0.135 0.24 0.27
400	0.120	0.140 0.25 0.29	0.130 0.155 0.20	0.125 0.24 0.27	0.125 0.22 0.25	0.110 0.135 0.175	0.110 0.160 0.195	0.110 0.24 0.26
500	0.093	0.120 0.25 0.28	0.105 0.155 0.185	0.098 0.24 0.26	0.100 0.22 0.24	0.090 0.135 0.160	0.088 0.160 0.180	0.085 0.24 0.25
630	0.072	0.100 0.25 0.27	0.086 0.155 0.175	0.078 0.24 0.25	0.088 0.21 0.23	0.074 0.135 0.150	0.071 0.160 0.170	0.068 0.23 0.24
800	0.056	- - -	0.072 0.150 0.170	0.064 0.24 0.25	- - -	0.062 0.130 0.145	0.059 0.155 0.165	0.055 0.23 0.24
1000	0.045	- - -	0.063 0.150 0.165	0.054 0.24 0.24	- - -	0.055 0.130 0.140	0.050 0.155 0.165	0.047 0.23 0.24

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance

*Spacing larger than one cable diameter will result in a larger voltage drop

The above Current-carrying Capacities and Voltage Drop are also applicable to Fire Resistant Cables and Flame Restardant Cables.

Conductor cross-sectional area	Reference Method A		Reference Method B		Reference Method C		Reference Method E	
	Enclosed in conduit in thermally insulating wall etc.		Enclosed in conduit on a wall or in trunking etc.		Clipped direct		Free air on a perforated cable tray etc, horizontal or vertically	
	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-four-core cable*, three-phase a.c.	1 two-core cable*, single-phase a.c. or d.c.	1 three-four-core cable*, three-phase a.c.	1 two-core cable*, or 1 four-core cable, three-phase a.c.	1 three-four-core cable*, three-phase a.c.
1 (mm ²)	2 (A)	3 (A)	4 (A)	5 (A)	6 (A)	7 (A)	8 (A)	9 (A)

1	14.5	13	17	15	19	17	21	18
1.5	18.5	16.5	22	19.5	24	22	26	23
2.5	25	22	30	26	33	30	36	32
4	33	30	40	35	45	40	49	42
6	42	38	51	44	58	52	63	54
10	57	51	69	60	80	71	86	75
16	76	68	91	80	107	96	115	100
25	99	89	119	105	138	119	149	127
35	121	109	146	128	171	147	185	158
50	145	130	175	154	209	179	225	192
70	183	164	221	194	269	229	289	246
95	220	197	265	233	328	278	352	298
120	253	227	305	268	382	322	410	346
150	290	259	334	300	441	371	473	399
185	329	295	284	340	506	424	542	456
240	386	346	459	398	599	500	641	538
300	442	396	532	455	693	576	741	621
400	-	-	625	538	803	667	865	741

*with or without a protective conductor

CURRENT RATING & VOLTAGE DROP

Single Core - Cu / XLPE / PVC Cables (UNARMoured)

Table 10.2 Voltage Drop

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.		
1	2	3			4		
(mm²)	(mV/ A/ m)	(mV/ A/ m)			(mV/ A/ m)		
1	46	46			46		
1.5	31	31			31		
2.5	19	19			19		
4	12	12			12		
6	7.9	7.9			7.9		
10	4.7	4.7			4.7		
16	2.9	2.9			2.9		
		r	x	z	r	x	z
25	1.85	1.85	0.160	1.90	1.60	0.140	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.200	0.140	0.24	0.175	0.125	0.21
300	0.155	0.160	0.140	0.21	0.140	0.120	0.185
400	0.120	0.130	0.140	0.190	0.115	0.120	0.165

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance

The above Current-carrying Capacities and Voltage Drop are also applicable to Fire Resistant Cables and Flame Reterdant Cables.

CURRENT RATING & VOLTAGE DROP

Single Core - Cu / XLPE / AWA / PVC Cables (ARMOURED)

Table II.1 Current- Carrying Capacity

Conductor cross-sectional area	Reference Method C		Reference Method F								
	Clipped direct		In free air or on a perforated cable tray, horizontal or vertical								
	Touching		Touching			Spaced by one cable diameter					
	2 cables, single-phase a.c. or d.c. flat	3 or 4 cables, three-phase a.c. flat	2 cables, single-phase a.c. or d.c. flat	3 cables, three-phase a.c. flat	3 cables, three-phase a.c. trefoil	2 cables, d.c.		2 cables, single-phase a.c.		3 or 4 cables, three-phase a.c.	
						Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical
1	2	3	4	5	6	7	8	9	10	11	12
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
600 / 1000V IEC 60502-1 / BS 5467 / MS 2105											
50	237	220	253	232	222	284	270	282	266	288	266
70	303	277	322	293	285	356	349	357	337	358	331
95	367	333	389	352	346	446	426	436	412	425	393
120	425	383	449	405	402	519	497	504	477	485	449
150	488	437	516	462	463	600	575	566	539	549	510
185	557	496	587	524	529	688	660	643	614	618	574
240	656	579	689	612	625	815	782	749	714	715	666
300	755	662	792	700	720	943	906	842	805	810	755
400	853	717	899	767	815	1137	1094	929	889	848	797
500	962	791	1016	851	918	1314	1266	1032	989	923	871
630	1082	861	1146	935	1027	1528	1474	1139	1092	992	940
800	1170	904	1246	987	1119	1809	1744	1204	1155	1042	978
1000	1261	961	1345	1055	1214	2100	2026	1289	1238	1110	1041

Table II.2 Voltage Drop

Conductor cross-sectional area	2 cables d.c.	Reference Method C & F														
		Clipped direct, on tray or in free air														
		2 cables, single-phase a.c.						3 or 4 cables, three-phase a.c.								
		touching			spaced*			trefoil and touching			flat and touching			flat and spaced*		
1	2	3			4			5			6			7		
(mm ²)	(mV/ A/ m)	(mV/ A/ m)			(mV/ A/ m)			(mV/ A/ m)			(mV/ A/ m)			(mV/ A/ m)		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
50	0.98	0.99	0.21	1.00	0.98	0.29	1.00	0.86	0.180	0.87	0.84	0.25	0.88	0.84	0.33	0.80
70	0.67	0.68	0.200	0.71	0.69	0.29	0.75	0.59	0.170	0.62	0.60	0.25	0.65	0.62	0.32	0.70
95	0.49	0.51	0.195	0.55	0.53	0.28	0.60	0.44	0.170	0.47	0.46	0.24	0.52	0.49	0.31	0.58
120	0.39	0.41	0.190	0.45	0.43	0.27	0.51	0.35	0.165	0.39	0.38	0.24	0.44	0.41	0.30	0.51
150	0.31	0.33	0.185	0.38	0.36	0.27	0.45	0.29	0.160	0.33	0.31	0.23	0.39	0.34	0.29	0.45
185	0.25	0.27	0.185	0.33	0.30	0.26	0.40	0.23	0.160	0.28	0.26	0.23	0.34	0.29	0.29	0.41
240	0.195	0.21	0.180	0.28	0.24	0.26	0.35	0.180	0.155	0.24	0.21	0.22	0.30	0.24	0.28	0.37
300	0.155	0.170	0.175	0.25	0.195	0.25	0.32	0.145	0.150	0.21	0.170	0.22	0.28	0.20	0.27	0.34
400	0.115	0.145	0.170	0.22	0.180	0.24	0.30	0.125	0.150	0.195	0.160	0.21	0.27	0.20	0.27	0.33
500	0.093	0.125	0.170	0.21	0.165	0.24	0.29	0.105	0.145	0.180	0.145	0.20	0.25	0.190	0.24	0.31
630	0.073	0.105	0.165	0.195	0.150	0.23	0.27	0.092	0.145	0.170	0.135	0.195	0.24	0.175	0.23	0.29
800	0.056	0.090	0.160	0.190	0.145	0.23	0.27	0.086	0.140	0.160	0.130	0.180	0.23	0.175	0.195	0.26
1000	0.045	0.092	0.155	0.180	0.140	0.21	0.25	0.080	0.135	0.155	0.125	0.175	0.21	0.165	0.180	0.24

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance

*Spacing larger than one cable diameter will result in a larger voltage drop

The above Current-carrying Capacities and Voltage Drop are also applicable to Fire Resistant Cables and Flame Restardant Cables.

CURRENT RATING & VOLTAGE DROP

Multi Core - Cu / XLPE / SWA / PVC Cables (ARMOURED)

Table 12.1 Current-Carrying Capacity

Conductor cross-sectional area	Reference Method C		Reference Method E		Reference Method D	
	Clipped direct		In free air or on a perforated cable tray etc, horizontal or vertical		Direct in ground or in ducting in ground, in or around buildings	
	1 two-core cable, single-phase a.c. or d.c.	1 three-or 1 four-core cable, three-phase a.c.	1 two-core cable, single-phase a.c. or d.c.	1 three-or 1 four-core cable, three-phase a.c. or d.c.	1 two-core cable, single-phase a.c. or d.c.	1 three-or 1 four-core cable, three-phase a.c.
1 (mm ²)	2 (A)	3 (A)	4 (A)	5 (A)	6 (A)	7 (A)
600 / 1000V IEC 60502-1 / BS 5467 / MS 2107						
(Soil thermal resistivity: 2.5K.m/W) #						
1.5	27	23	29	25	25	21
2.5	36	31	39	33	33	28
4	49	42	52	44	43	36
6	62	53	66	56	53	44
10	85	73	90	78	71	58
16	110	94	115	99	91	75
25	146	124	152	131	116	96
35	180	154	188	162	139	115
50	219	187	228	197	164	135
70	279	238	291	251	203	167
95	338	289	354	304	239	197
120	392	335	410	353	271	223
150	451	386	472	406	306	251
185	515	441	539	463	343	281
240	607	520	636	546	395	324
300	698	599	732	628	446	365
400	787	673	847	728	-	-

#For soil thermal resistivity of 1.2K.m/W (TNB Spec.), current capacity in column 6 & 7 shall be multiplier by: (a) 1.41 for direct buried in ground cables; (b) 1.15 for cables in ducts buried in ground.

CURRENT RATING & VOLTAGE DROP

Multi Core - Cu / XLPE / SWA / PVC Cables (ARMOURED)

Table 12.2 Voltage Drop

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.		
1	2	3			4		
(mm²)	(mV/ A/ m)	(mV/ A/ m)			(mV/ A/ m)		
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	0.160	1.90	1.60	0.140	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.20	0.140	0.24	0.175	0.125	0.21
300	0.155	0.16	0.140	0.21	0.140	0.120	0.185
400	0.120	0.13	0.140	0.190	0.115	0.120	0.165

NOTE: r= conductor resistance at operating temperature, x= reactance, z = impedance

The above Current-carrying Capacities and Voltage Drop are also applicable to Fire Resistant Cables and Flame Reterdant Cables.

CURRENT RATING & VOLTAGE DROP

Flexible Core - Cu / PVC / PVC Cables

Table 13.1 Current-Carrying Capacity & Voltage Drop for Metric Sizes

Conductor		Current Rating	Voltage Drop	
cross-sectional area	Construction No. / Wire diameter	1 or 3 phase a.c. or d.c.	d.c. or 1 phase a.c.	3 phase a.c.
mm²	No. / mm		mV/ m	mV/ m
0.50	16 / 0.2	3	83	72
0.75	24 / 0.2	6	56	48
1.00	32 / 0.2	10	43	37
1.25	40 / 0.2	13	35	29
1.50	30 / 0.25	16	31	26
2.50	50 / 0.25	25	18	16
4.00	56 / 0.30	32	11	10

NOTE: For rating factor of ambient temperature other than 30°C please refer to Table 4.1

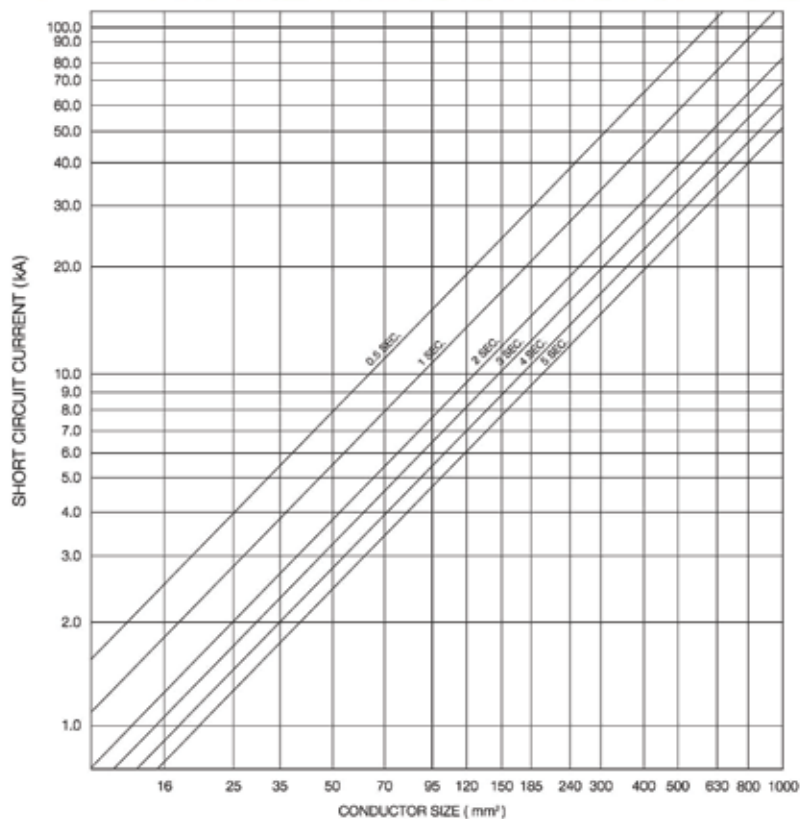
Table 13.2 Current-Carrying Capacity & Voltage Drop for Imperial Sizes

Conductor Construction	Current Rating	Voltage Drop	
No. / Wire diameter	1 or 3 phase a.c. or d.c.	d.c. or 1 phase a.c.	3 phase a.c.
No. / in		V / 100ft.	V / 100ft.
14 / 0.0076	3	8.9	7.7
23/ 0.0076	6	11	9.4
40 / 0.0076	13	14	12
70 / 0.0076	18	12	10
110 / 0.0076	24	9.6	8.3
162 / 0.0076	31	8.4	7.3

NOTE: For rating factor of ambient temperature other than 30°C please refer to Table 4.1

SHORT CIRCUIT CURRENT

Table 14.1 Allowable Short Circuit Currents for PVC Insulated Cables (Copper Conductor)



CONDUCTOR: COPPER

INSULATION: PCV

Curves based on formula:

$$I = (0.115 A \div \sqrt{t})$$

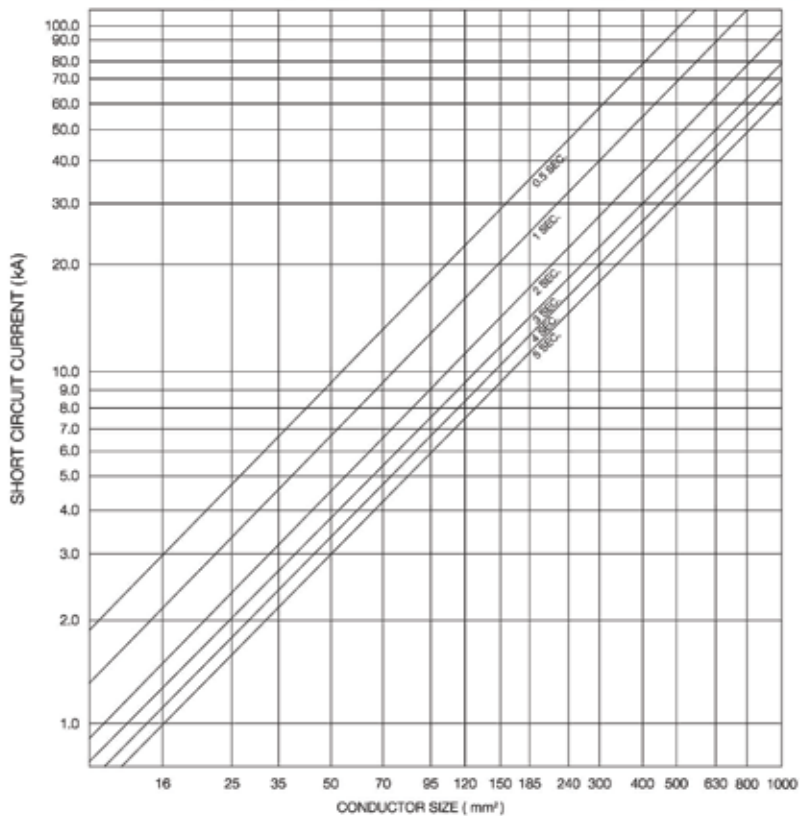
Where:

I = Short circuit current (kA)

A = Conductor area (mm²)

t = Time of short circuit (seconds)

Table 14.2 Allowable Short Circuit Currents for XLPE Insulated Cables (Copper Conductor)



CONDUCTOR: COPPER

INSULATION: CROSS-LINKED
POLYETHYLENE

Curves based on formula:

$$I = (0.143 A \div \sqrt{t})$$

Where:

I = Short circuit current (kA)

A = Conductor area (mm²)

t = Time of short circuit (seconds)

Table 15 Typical Properties Of Various Insulation Materials

Insulation	Specific Gravity	Volume Resistivity at 20°C (ohm-cm)	Max. Cond. Temp. (°C)	Max. Short. Circuit Temp. (°C)
PVC	1.49	10 ¹⁴	70	160
PVC-FR	1.57	10 ¹⁴	90	250
PE	0.92 - 0.94	10 ¹⁶	70	130
XLPE	0.92	10 ¹⁶	90	250
XL-LSHF (XLEVA)	1.40	10 ¹⁴	90	250
LSHF	1.50	10 ¹⁴	90	250
TPR	1.33	10 ¹⁴	105	250
EPR	0.9	10 ¹⁶	90	250

Table 16 Properties Of Conductors

Properties	Unit	Aluminium	Annealed Copper
Density	g / cm ³	2.703	8.89
Volume Resistivity	ohm mm ³ / km	28.264	17.241
Coefficient of Resistance	Per °C	0.00403	0.00393
Ultimate Tensile Strength	N / mm ²	205	275

Table 17 Conductor Resistance For Single-Core And Multicore Cable

Nominal Cross-sectional area		Maximum dc Resistance of Conductor at 20°C		Nominal cross-sectional area		Maximum dc Resistance of Conductor at 20°C	
		Copper Conductor	Aluminium Conductor			Copper Conductor	Aluminium Conductor
mm ²	No./mm	ohm / Km	ohm / Km	mm ²	No./mm	ohm / Km	ohm / Km
1.5	1 / 1.38	12.1	-	120	37 / 2.03	0.153	0.253
1.5	7 / 0.53	12.1	-	150	37 / 2.25	0.124	0.206
2.5	1 / 1.78	7.41	-	185	37 / 2.52	0.0991	0.164
2.5	7 / 0.67	7.41	-	240	61 / 2.25	0.0754	0.125
4	7 / 0.85	4.61	7.41	300	61 / 2.52	0.0601	0.100
6	7 / 1.04	3.08	4.61	400	61 / 2.85	0.0470	0.0778
10	7 / 1.35	1.83	3.08	500	61 / 3.20	0.0366	0.0605
16	7 / 1.70	1.15	1.91	630	61 / 3.63	0.0283	0.0469
25	7 / 2.14	0.727	1.20	-	-	-	-
35	19 / 1.53	0.524	0.868	800	127 / 2.85	0.0221	0.0367
50	19 / 1.78	0.387	0.641	1000	127 / 3.20	0.0176	0.0291
70	19 / 2.14	0.268	0.443	-	-	-	-
95	19 / 2.52	0.193	0.320	-	-	-	-

Table 18 Formula for electrical calculation

To calculate	Given	D.C.	A.C. single phase	A.C. 3 phase
Current (A)	kW	$A = \frac{1000 \times kW}{V}$	$A = \frac{1000 \times kW}{V \times pf}$	$A = \frac{1000 \times kW}{1.73 \times V \times pf}$
Current (A)	kVA	-	$A = \frac{1000 \times kVA}{V}$	$A = \frac{1000 \times kVA}{1.73 \times V}$
Current (A)	hp	$A = \frac{746 \times hp}{V \times eff}$	$A = \frac{746 \times hp}{V \times eff \times pf}$	$A = \frac{746 \times hp}{1.73 \times V \times eff \times pf}$
Power (kW)	VA	$kW = \frac{A \times V}{1000}$	$kW = \frac{A \times V \times pf}{1000}$	$kW = \frac{1.73 \times A \times V \times pf}{1000}$
Apparent Power (kVA)	VA	-	$kVA = \frac{A \times V}{1000}$	$kVA = \frac{1.74 \times A \times V}{1000}$

Table 19 Formula For Electrical Calculation

Length				Energy			
Equivalent			Reciprocal	Equivalent		Reciprocal	
1 foot	0.3048	m	3.2808	1 HP.h	2544.5	Btu	0.00393
1 yard	0.9144	m	1.0936	1 Btu	0.000293	kw.h	3413
1 mile	1.6093	km	0.6214	1 Btu	1.0551	Kj	0.9478
1 inch	25.4	mm	0.03937	1 Btu	107.59	kgf.m	0.00929

Table 20 Wire Gauge

Gauge system	Cross-sectional area
A.W.G	mm²
6 / 10	170.5
5 / 0	135.2
4 / 0	107.2
3 / 0	85.01
2 / 0	67.43
0	53.49
1	42.41
2	33.63
3	26.66
4	21.15
5	16.77
6	13.30
7	10.55
8	8.367
9	6.633
10	5.261
11	4.172
12	3.309
13	2.624
14	2.081
15	1.650
16	1.309
17	1.0380
18	0.8227
19	0.6529
20	0.5174
21	0.4105
22	0.3256

Gauge system	Cross-sectional area
A.W.G	mm²
23	0.2581
24	0.2047
25	0.1623
26	0.1288
27	0.1021
28	0.08097
29	0.06422
30	0.05097
31	0.04039
32	0.03203
33	0.02540
34	0.02014
35	0.01597
36	0.01267
37	0.01005
38	0.007968
39	0.006319
40	0.005012
41	0.003973
42	0.003151
43	0.002499
44	0.001982
45	0.001572
46	0.001246
47	0.0009884
48	0.0007838
49	0.0006216
50	0.0004929

The manufacturer reserves the right to modify specification of any of the products at their discretion and without notice.

The manufacturer can accept no responsibility as to the suitability of any product for a particular use, or for any errors or omissions, unintentional or otherwise.

COMPANY GENERAL INFORMATION:

LOCATION:



MAXX CABLE SDN. BHD.
NO.33-1 , JALAN METRO PERDANA
BARAT 1 , TAMAN USAHAWAN
KEPONG , 52100 KUALA LUMPUR

EMAIL:



maxx.marketing@
maxxcablesb.com

CONTACT NO:



016 – 233 6765 MG
012 – 868 7618 NICK
012 – 326 8816 MS. LEE