

Waveform Cable

BS7870 - 3.40

CABLE CHARACTERISTICS



Bending radius
 $r=15D$

CABLE DESCRIPTION

CONDUCTOR

Sector shaped* solid aluminium conductor complying with BS6360 Class 1.

INSULATION

XLPE suitable for operating at a conductor temperature of 80°C.

BEDDING

Rubber layer.

WAVEFORM WIRES

Circular plain copper wires embedded into a single layer of rubber compound and applied in a waveform pattern to provide an earth fault current path.

SHEATH

PVC Sheath Colour - Black

Note: Ratings are provided for 80°C operation. If your system can operate at 90°C, please contact our Technical department who can provide these ratings.

* 35 sq mm has circular conductors

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Constructional Data

Nominal cross-sectional area mm ²	Minimum average thickness of insulation mm	Concentric neutral/earth conductor:		Minimum average thickness of overshooth mm	Approximate overall diameter mm
		Approximate Number of wires	Approximate diameter of wires mm		
3 Core					
35*	0.9	26	1.04	1.8	26.3
95	1.1	22	1.85	2.1	33.5
185	1.6	41	1.85	2.5	45.3
300	1.8	41	1.85	2.8	53.4
4 Core					
95	1.1	22	1.85	2.2	37.5
185	1.6	41	1.85	2.6	49.9
240	1.7	41	1.85	2.8	56.9
300	1.8	41	1.85	3.1	62.3

Installation Data

Nominal cross-sectional area mm ²	Approximate cable weight Kg/m	Minimum bending radius mm	Nominal internal diameter of ducts mm
35	1.1	450	100
95	2.0	550	100
185	3.6	700	100
300	4.9	850	100
4 Core			
95	2.5	600	100
185	4.5	800	100
240	5.6	900	100
300	6.6	1000	1

* 35 sq mm has circular conductors

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Electrical Data

Nominal cross-sectional area mm ²	Maximum DC resistance of phase conductor at 20°C Ohms/km	Maximum DC resistance of neutral/earth conductor at 20°C Ohms/km	Maximum AC resistance of conductor at 80°C Ohms/km	Approximate reactance at 50Hz Ohms/km
3 Core				
35	0.868	0.868	1.078	0.077
95	0.320	0.320	0.398	0.0735
185	0.164	0.164	0.205	0.0740
300	0.100	0.164	0.126	0.0725
4 Core				
95	0.320	0.320	0.398	0.0735
185	0.164	0.164	0.205	0.0740
240	0.125	0.164	0.157	0.0730
300	0.100	0.164	0.126	0.0725

Current Ratings

Nominal cross-sectional area mm ²	Current Ratings		
	Laid direct in ground Amps	Laid in ducts Amps	Laid in air Amps
3 Core			
35	125	100	110
95	235	190	230
185	335	275	350
300	435	360	475
4 Core			
95	235	190	230
185	335	275	350
240	390	320	415
300	435	360	475

Current Rating Conditions:

Ground Temperature 15°C
 Depth of burial 0.5m
 Thermal resistance of soil 1.2°C m/W

