

## Low Voltage Aluminium Waveform Cable - 1kV, XLPE, PVC -95mm to 300mm



Used by Distribution Network Operators (DNOs) such as UKPN, WPD, ENW, NPG, SSE etc.

Aluminium Waveform cable is used as an energy supply cable most commonly found in power station distribution, panel boards and street lighting areas where mechanical protection is required. It consists of 3 or 4 aluminium conductors in sector shape with a copper conductor in a waveform lay.

### Key Features



**Voltage Rating**  
600/1000 Volts



**Minimum Bending Radius**  
As Per Manufacturers Datasheet

### Construction

- **Conductor:** Class 1 solid aluminium conductor
- **Insulation:** Cross Linked polyethylene (XLPE)
- **Bedding:** Extruded Rubber Compound
- **Waveform Conductor:** Plain Copper wire Screen
- **Sheath:** Poly Vinyl Chloride (PVC) with UV additive
- **Separator:** Binding Tape
- **Sheath Colour:** Black

### Standards

- BS7870 - 3.40, Insulation & Sheath to BS7870-1, BS EN 60228

### Core Colours

3 Core: Brown Black Grey

4 Core: Brown Black Grey Blue

## Low Voltage Aluminium Waveform Cable - 1kV, XLPE, PVC -95mm to 300mm - Dimensions

Reference	Conductor Size (mm <sup>2</sup> )	No Of Cores	Overall Diameter(mm)	Weight(Kg/Km)	size
WAVE3X95	95	3	36	1980	
WAVE4X95	95	4	36	2300	
WAVE3X185	185	3	43	3500	
WAVE4X185	185	4	48	4200	
WAVE3X300	300	3	53	4900	
WAVE4X300	300	4	60	6100	

### LV ALUMINIUM WAVEFORM - ELECTRICAL CHARACTERISTICS

Nominal Cross Section mm <sup>2</sup>	95	185	300
Maximum DC resistance of phase conductor @ 20°C (Ω/km)	0.32	0.164	0.1
Maximum DC resistance of neutral/earth conductor@ 20°C (Ω/km)	0.320	0.164	0.164
Maximum AC resistance of conductor@ 90°C (Ω/km)	0.411	0.211	0.130
Approximate Reactance@ 50Hz (Ω/km)	0.073	0.073	0.072
Approximate volt drop (mV/A/m)	0.410	0.330	0.250
Zero Phase Sequence Resistance (Ω/km)	0.241	0.124	0.084
Zero Phase Sequence Reactance (Ω/km)	0.086	0.077	0.074
Nominal internal diameter of ducts (mm)	70.0	90.0	110.0
Current Ratings			
Direct in ground (Amps)	244	353	461
In Ducts (Amps)	227	328	429
In Air (Amps)	232	364	508
Current rating conditions			
Ground temperature	15°C		
Ambient Air temperature	25°C		
Depth of burial (to top of cable)	450mm		
Thermal resistance of soil	1.2°C m/W		

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