

Low Voltage Aluminium Waveform Cable - National (NGED) Grid Spec 1kV, XLPE, PVC - 95mm to 300mm



National (NGED) Grid Approved Specification Aluminium Waveform cable which is 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

Construction

- **Conductor:** Class 1 solid aluminium conductor
- **Insulation:** Cross Linked polyethylene (XLPE)
- **Bedding:** Extruded Rubber Compound
- **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 - National (NGED) Grid Spec 1kV, XLPE, PVC - 95mm to 300mm - Dimensions

Reference	Conductor Size (mm2)	No Of Cores	Overall Diameter(mm)	Weight(Kg/Km)
NGEDWAVE3X95	95	3	36	1980
NGEDWAVE4X95	95	4	36	2300
NGEDWAVE3X185	185	3	43	3500
NGEDWAVE4X185	185	4	48	4200
NGEDWAVE3X300	300	3	53	4900

LV ALUMINIUM WAVEFORM - ELECTRICAL CHARACTERISTICS

Nominal Cross Section mm ²	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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