

## LOW VOLTAGE ALUMINIUM WAVEFORM CABLE



### APPLICATION

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.

### CONSTRUCTION

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

### CABLE STANDARDS

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

### CHARACTERISTICS

- Voltage Rating:** 600/1000 Volts
- Minimum Bending Radius:** As per cable manufacturer datasheet

### CORE IDENTIFICATION

- 3 Core:** ■ Brown ■ Black ■ Grey
- 4 Core:** ■ Brown ■ Black ■ Grey ■ Blue

## LV ALUMINIUM WAVEFORM CABLE – DIMENSIONS

CCC CODE	NUMBER OF CORES	CONDUCTOR SIZE (MM <sup>2</sup> )	CONCENTRIC WAVEFORM CONDUCTOR NUMBER OF WIRES			OVERALL DIAMETER (MM)	WEIGHT (KG/KM)
			NUMBER OF WIRES	WIRE DIAMETER	LENGTH OF LAY		
WAVEFORM 3X95	3	95	22	1.58	300	36	1980
WAVEFORM 3X185	3	185	41	1.88	410	43	3500
WAVEFORM 3X300	3	300	41	1.88	410	53	4900
WAVEFORM 4X95	4	95	22	1.58	300	36	2300
WAVEFORM 4X185	4	185	41	1.88	410	48	4200
WAVEFORM 4X300	4	300	41	1.88	410	60	6100

## LV ALUMINIUM WAVEFORM CABLE – ELECTRICAL CHARACTERISTICS

Nominal Cross Section mm <sup>2</sup>	95	185	300
Maximum DC resistance of phase conductor @ 20°C (Ω/km)	0.320	0.164	0.100
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
<b>Current Ratings</b>			
Direct in ground (Amps)	244	353	461
In Ducts (Amps)	227	328	429
In Air (Amps)	232	364	508
<b>Current rating conditions</b>			
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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