

XLPE Insulated Wire Armoured and PVC Sheathed Power Cables (3800/6600V)

CABLE DESCRIPTION

DESCRIPTION

To provide distribution of power in coal mines, both on the surface and underground.

Plain Annealed Copper (PAC) Conductors, Semi con. XLPE/XLPE Insulated/Semi con. XLPE, Copper Taped, Laid Up, PVC Bedded, Single (SWA) or Double (DWA) Galvanised Steel Wire Armoured and PVC Sheathed.

The SWA designs can also be supplied with a steel tape binder over the single wire armour. All designs contain a PETP tape and a bitumen compounded hessian tape over the bedding sheath.

In the case of the Double Wire Armoured designs a bitumen compounded hessian tape is also applied between the two layers of armour. Bitumen compound is applied under, between and over the armour wires in all designs.

Cables to BCS 656 Part 1
3800/6600V



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Formerly Pirelli Cables

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Description Details

Item	Description	Details
1	Phase Conductor	PAC Conductors
2	Phase Insulation	Extruded Semi Con. XLPE
3	Phase Insulation	Extruded Natural XLPE
4a	Insulation Screen	Extruded Semi Con. XLPE
4b	Insulation Screen	Copper Tape
5	Phase Identification	Red, Yellow, Blue Tape
6	Lay Up	Cores Laid Up
7	Bedding Sheath	Extruded PVC
8	Additional Bedding	PETP Tape and Bitumen Compounded Hessian Tape
9a	Armour	Galvanised Steel Wires
9b	Armour	Steel Binder Tape
10	Overall Sheath	Extruded PVC (Black)

3 CORE UNSCREENED WITH SWA AND STEEL TAPE

Phase Conductor

Size of conductors	
	mm ²
	70
	95
	120
	150
	185
	240

Cable Details

Size of Phase conductor	Nominal diameter over inner sheath	Approximate overall diameter	Minimum bending radius	Maximum pulling tension	Approximate cable weight
mm ²	mm	mm	mm	Kgf	Kg/Km
70	42.2	54.7	700	1260	6210
95	45.3	58.0	700	1710	7130
120	48.0	60.2	750	2000	8030
150	50.3	62.7	800	2000	9180
185	54.5	67.1	850	2000	10700
240	58.0	71.5	900	2000	12700

Electrical Details

Size of Phase conductor	Continuous current rating at 25°C Ambient -in air	Continuous current rating at 15°C Ambient -in ground	Maximum d.c. resistance at 20°C		Maximum a.c. resistance at 90°C	Nominal reactance at 50 Hz	Nominal reactance at 60 Hz
			Power conductor	Armour			
mm ²	Amps	Amps	Ohms/Km	Ohms/Km	Ohms/Km	Ohms/Km	Ohms/Km
70	280	260	0.268	0.447	0.343	0.100	0.120
95	335	300	0.193	0.322	0.247	0.095	0.114
120	385	345	0.153	0.255	0.196	0.092	0.110
150	435	385	0.124	0.207	0.159	0.090	0.108
185	500	430	0.099	0.165	0.128	0.087	0.104
240	580	490	0.075	0.126	0.099	0.085	0.102

3 CORE UNSCREENED WITH DWA

Phase Conductor

Size of conductors	
mm ²	
70	
95	
120	
150	
185	
240	

Cable Details

Size of Phase conductor	Nominal diameter over inner sheath	Approximate overall diameter	Minimum bending radius	Maximum pulling tension	Approximate cable weight
mm ²	mm	mm	mm	Kgf	Kg/Km
70	42.2	60.8	750	1260	8470
90	45.3	64.1	800	1710	9470
120	48.0	66.5	820	2000	10550
150	50.3	69.0	850	2000	11870
185	54.5	73.8	900	2000	13640
240	58.0	77.6	960	2000	15760

Electrical Details

Size of Phase conductor	Continuous current rating at 15°		Maximum d.c. resistance at 20°		Maximum a.c. resistance at 90°	Nominal reactance at 50 Hz	Nominal reactance at 70 Hz
	C Ambient -in air	C Ambient -in ground	C				
			Power conductor	Armour			
mm ²	Amps	Amps	Ohms/Km	Ohms/Km	Ohms/Km	Ohms/Km	Ohms/Km
70	280	260	0.268	0.357	0.343	0.100	0.120
95	335	300	0.193	0.257	0.247	0.095	0.114
120	385	345	0.153	0.204	0.196	0.092	0.110
150	435	385	0.124	0.165	0.159	0.090	0.108
185	500	430	0.099	0.132	0.128	0.087	0.104
240	580	490	0.075	0.101	0.099	0.085	0.102

Notes:

1. The designs shown in the above tables contain shaped stranded Class 2 conductors.
2. The above designs represent the more popular sizes/designs. Information on the availability of other sizes/designs can be provided upon request.



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