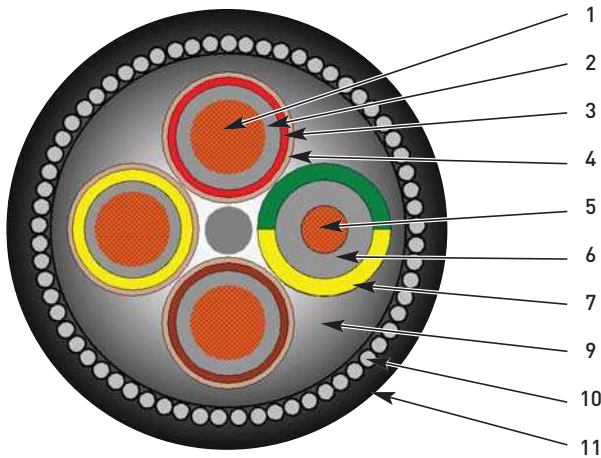




Type 331 and 321 Flexible Trailing Cables with Galvanised Steel Pliable Wire Armouring

1900/3300 volt in accordance with BS 6708:1998

For use as mine roadway extension cables and mechanically protected trailing cables in quarries. BCS 504 refers



Item	Description	Details
1	Phase conductor	(3 off) TAC flex conductors
2	Phase insulation	Extruded MEPR black
3	Phase identification	Proofed tape - red, yellow, brown
4*	Phase core screen	Composite copper/nylon braid
5	Earth conductor	(1 off) TAC flex conductor
6	Earth insulation	Extruded MEPR black
7	Earth identification	Proofed tape - green, yellow
8	Lay up	3 power cores + 1 earth core laid up around an elastomeric centre
9	Bedding sheath	Extruded PCP black
10	Pliable armour	Galvanised steel wires
11	Overall sheath	Extruded heavy duty PCP black with blue stripe

* Does not apply to Type 321

Description

Type 331

Flexible tinned annealed copper (TAC) conductors, MEPR insulated, 3 copper/nylon screened power cores plus 1 unscreened earth core, laid up around a PCP centre, elastomeric bedding sheathed overall with a heavy duty flame retardant elastomeric compound.

Type 321

As type 331, except that the power cores are unscreened.



Type 331 and 321 Flexible Trailing Cables

TECHNICAL DETAILS Type 331

Phase Conductor								
Number and CSA	mm ²	3 x 25 mm ²	3 x 35 mm ²	3 x 50 mm ²	3 x 70 mm ²	3 x 95 mm ²	3 x 120 mm ²	3 x 150 mm ² *
Nominal diameter over insulation and tape	mm	13.50	15.10	16.20	18.15	19.60	21.95	23.10
Nominal diameter over screen	mm	15.50	17.10	18.20	20.15	21.60	23.95	25.40
Earth Conductor								
Number and CSA	mm ²	1 x 16 mm ²	1 x 25 mm ²	1 x 35 mm ²	1 x 50 mm ²	1 x 70 mm ²	1 x 70 mm ²	1 x 70 mm ²
Nominal diameter over insulation and tape	mm	15.50	17.10	18.20	20.15	21.60	23.95	25.40
Cable Details								
Diameter over inner sheath - minimum	mm	42.20	48.20	52.60	60.00	65.10	68.80	71.50
Diameter over inner sheath - maximum	mm	44.70	50.70	55.60	63.00	68.90	72.60	74.00
Overall diameter - minimum	mm	57.80	64.60	69.80	80.30	86.40	90.90	93.80
Overall diameter - maximum	mm	61.60	68.40	73.80	84.60	90.70	95.20	98.10
Minimum bending radius	mm	620	690	740	850	910	960	980
Maximum pulling tension	kgf	540	780	1110	1560	2000	2000	2000
Approximate cable weight	kg/km	6400	7800	9100	12400	14600	16300	18200
Electrical Details								
Continuous current rating at 25°C ambient	Amps	110	135	170	205	250	295	320
Maximum d.c. resistance at 20°C:								
- Power conductor	Ω/km	0.795	0.565	0.393	0.277	0.210	0.164	0.132
- Earth conductor	Ω/km	1.240	0.795	0.565	0.393	0.277	0.277	0.277
- Screens in parallel	Ω/km	1.350	0.800	0.700	0.690	0.840	0.550	0.55
- Armour	Ω/km	0.965	0.844	0.715	0.488	0.382	0.299	0.24
Nominal reactance at 50 Hz	Ω/km	0.125	0.117	0.113	0.108	0.105	0.101	0.098
Nominal reactance at 60 Hz	Ω/km	0.150	0.140	0.136	0.129	0.126	0.121	0.118
Minimum insulation resistance of power cores at 20°C	MΩ/km	1250	1100	950	820	720	660	600
3 Phase volt drop based on full load current at 50 Hz	mV/A/mt	1.69	1.21	0.85	0.61	0.48	0.39	0.32

* Not included in BS 6708, but designed in accordance with the specification requirements.

TECHNICAL DETAILS Type 321

Phase Conductor						
Number and CSA	mm ²	3 x 35 mm ²	3 x 50 mm ²	3 x 70 mm ²	3 x 95 mm ²	3 x 120 mm ²
Nominal diameter over insulation and tape	mm	15.10	16.20	18.15	19.60	21.95
Earth Conductor						
Number and CSA	mm ²	1 x 35 mm ²	1 x 50 mm ²	1 x 70 mm ²	1 x 95 mm ²	1 x 120 mm ²
Nominal diameter over insulation and tape	mm	15.10	16.20	18.15	19.60	21.95
Cable Details						
Diameter over inner sheath - minimum	mm	44.30	51.30	56.40	63.80	67.50
Diameter over inner sheath - maximum	mm	46.80	54.30	59.40	66.80	71.30
Overall diameter - minimum	mm	60.30	68.30	74.40	84.90	89.40
Overall diameter - maximum	mm	64.10	72.30	78.40	89.20	93.70
Minimum bending radius	mm	640	720	790	890	940
Maximum pulling tension	kgf	840	1200	1680	2000	2000
Approximate cable weight	kg/km	4900	6400	7700	10800	12300
Electrical Details						
Continuous current rating at 25°C ambient	Amps	135	170	205	250	295
Maximum d.c. resistance at 20°C:						
- Power conductor	Ω/km	0.565	0.393	0.277	0.210	0.164
- Earth conductor	Ω/km	0.565	0.393	0.277	0.210	0.164
- Armour	Ω/km	0.990	0.760	0.530	0.400	0.320
Nominal reactance at 50 Hz	Ω/km	0.117	0.113	0.108	0.105	0.101
Nominal reactance at 60 Hz	Ω/km	0.140	0.136	0.129	0.126	0.121
Minimum insulation resistance of power cores at 20°C	MΩ/km	1100	950	820	720	660
3 Phase volt drop based on full load current at 50 Hz	mV/A/mt	1.21	0.85	0.61	0.48	0.39

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