

Metric Cables (Pty) Ltd

87 NEWTON ROAD
MEADOWDALE
GAUTENG

PO BOX 1234
BEDFORDVIEW 2008
2008

TEL: 011 392 2345
FAX: (011) 392 2362
E-MAIL metricc@global.co.za

TRACKLESS MINING TYPE 61 CABLES

CABLE DESCRIPTION

Cable: Mining Cable for reeling and non-reeling applications
Conductors: Flexible tinned or plain soft copper – Class 5
Insulation: EPM extruded cores according to SANS 1411-3 RD3
Sheath: CM (Black or Yellow), mid-sheath reinforced EHD
Cores: Three individually screened phase cores. Two unscreened Pilot cores, one Earth core, continuity Conductors laid up around an elastomeric dummy centre.

TECHNICAL DATA

POWER CORES							
Conductor size	mm ²	2.5	16	25	35	50	70
Maximum wire diameter	mm ²	0.26	0.41	0.41	0.41	0.41	0.51
Approximate conductor diameter	mm	2.1	5.2	6.7	8.4	10.3	11.7
Maximum screen wire diameter	mm	0.21	0.31	0.31	0.31	0.31	0.31
Braided screen filling factor	%	80	80	80	80	80	80
PILOT CORES							
Number of pilot cores		-	2	2	2	1	2
Conductor size	mm ²	-	4	6	6	10	10
Maximum wire diameter	mm	-	0.31	0.31	0.31	0.41	0.41
Approximate conductor diameter	mm	-	2.7	3.2	3.2	4.2	4.2
EARTH CORES							
Number of earth cores		1	1	1	1	2	1
Conductor size	mm ²	1.5	10	16	16	10	16
Maximum wire diameter	mm	0.26	0.41	0.41	0.41	0.25	0.41
Approximate conductor diameter	mm	1.6	4.2	5.2	5.2	4.2	5.2
CABLE DIAMETER							
Approximate lower limit	mm	15.9	32	36.4	37.8	45.1	50.1
Approximate upper limit	mm	16.4	35	37.2	38.6	46.2	54.0
Cable Mass (approximate)	kg/m	0.41	2	2.5	2.96	3.8	5.2
Minimum bending radius	mm	98	190	240	260	290	320
Max. recommended tension	kN	0.12	0.79	1.24	1.73	2.5	3.2
POWER CORES ELECTRICAL DATA							
Max. conductor dc resistance @ 20°C	Ω/km	8.54	1.34	0.859	0.610	0.424	0.299

Max. conductor ac resistance @ 105°C	Ω/km	11.39	1.79	1.15	0.814	0.566	0.399
Reactance	Ω/km	0.121	0.103	0.100	0.090	0.090	0.088
Impedance (Z) @ 150°C	Ω/km	11.39	1.79	1.15	0.819	0.573	0.409
Min.dielectric resistance @ 23°C	Ω/km	400	250	250	200	200	150
Max. combined screen resistance	Ω/km	5.0	2.5	1.6	1.2	0.8	0.7
Nominal volt drop	mV/A/m	19.7	3.10	1.99	1.42	0.99	0.71
SUSTAINED CURRENT RATING @ 30°C							
Laid out straight (105°C cont. temp.)	A	35	110	140	180	220	270
1 layer on drum (105°C cont. temp.)	A	29	90	120	150	180	230
2 layer on drum (105°C cont. temp.)	A	23	70	90	120	140	180
3 layer on drum (105°C cont. temp.)	A	16	50	60	80	100	120
SHORT CIRCUIT RATING							
Symmetrical fault current (105 to 200°C)	kA for 1 sec	0.3	1.8	2.8	4.0	5.7	7.9
Earth fault current (screens)	kA for 1 sec	0.3	1.0	1.6	2.1	3.1	3.5

*Approximate value for continuous operation at 90°C ambient air temperature 30°C
Installed in free air not coiled, blanketed or heated; multiple cores equally loaded*