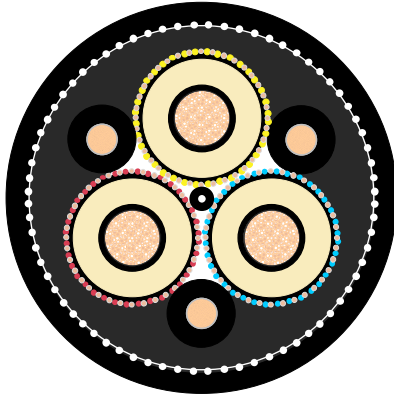


# TYPE 66 3,8/6,6 kV

SANS 1520-2

# POWERMITE

Flexible copper screened mining cables



CONSTRUCTION	
<b>Cable type</b>	Type 66 and Type 66 ECC 3,8/6,6 kV to SANS 1520-2
<b>Conductors</b>	Flexible class 5 comply to SANS 1411 - 1 from tinned annealed copper wires , left hand with semi-conducting rubber screen .
<b>Insulation</b>	Ethylene propylene thermosetting compound type RD 3 comply to SANS 1411-3 and a strippable semi-conducting core screen (triple extruded)
<b>Insulation screen</b>	The braid of tinned copper wires .
<b>Cable assembly</b>	Three tinned copper/nylon braid screened power cores and three unscreened pilot cores one in each interstice laid up in the right hand lay around semi-conductive filler centre . (Alternatively ,one pilot can be replaced with a tinned ECC conductor semi-conductive rubber covered ) .
<b>Internal sheath</b>	Poly-chloroprene thermosetting compound type RS 6 comply to SANS 1411-3 .
<b>Reinforcing braid</b>	An open nylon braid . Minimum 16 of nylon strings .
<b>Outer sheath</b>	Poly-chloroprene thermosetting compound type RS 6 comply to SANS 1411-3 . Inner and outer sheath are bonded to provide proper torsional protection , black .
<b>Physical Properties</b>	As per Table 1.
<b>Electrical Properties</b>	As per Table 2.
<b>Tests</b>	SANS 1520-2 .
<b>Marking</b>	Legible and indelible embossing as per order. TF KABLE 3 Texoprene Type 66 (size ) (Voltage) CR SANS 1520-2 (Year) + metre marking

FEATURES	
<ul style="list-style-type: none"> <li>▪ Excellent flexibility .</li> <li>▪ Abrasion , tear resistant and flame retardant .</li> <li>▪ Temperature range : min. ambient temp . -25 °C , max. conductor temp. 90°C.</li> <li>▪ UV ,sunlight , ozone ,oil, resistant .</li> </ul>	

APPLICATIONS	
<ul style="list-style-type: none"> <li>▪ Electrically driven machines , movable electric apparatus in hazardous areas, portable electric apparatus . Section feeders . Open cast mining , medium sized draglines , shovels and drills. Suitable for reeling purposes.</li> <li>▪ Other industrial applications .</li> </ul>	

# TYPE 66 3,8/6,6 kV

SANS 1520-2



**Standard length cable packing** 500 m on drums. Other forms of packing and delivery are available on request

Table 1

Physical Properties

Physical Properties										
Power cores										
Conductor sizes	(mm <sup>2</sup> )	25	35	50	70	95	120	150	185	240
Maximum wire diameter	( mm)	0.41	0.41	0.41	0.51	0.51	0.51	0.51	0.51	0.51
Approx. conductor diameter	( mm)	6.8	8.5	10.3	11.9	13.5	15.5	17.3	20.2	22.9
Maximum screen wire diameter	(mm)	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Braided screen filling factor	(%)	60	60	60	60	60	60	60	60	60
Approx. summarized screen cross-section for power cores (weighing method)	(mm <sup>2</sup> )	28	29	32	35	39	41	44	47	50
Pilot cores										
Conductor sizes	( mm <sup>2</sup> )	10	10	10	16	16	16	25	25	25
Maximum wire diameter	( mm)	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Approx. conductor diameter	( mm)	4.2	4.2	4.2	5.3	5.3	5.3	6.8	6.8	6.8
Lay Ratio (maximum)	(x PCD)	20	20	20	20	20	20	20	20	20
Approximate cable diameter *	(mm)	50.1	51.7	55.3	59.8	64.6	68.8	73.1	77.8	82.5
Cable mass (approximate)										
Type 66	(kg/m)	3.8	4.2	5.1	6.2	7.4	8.7	10.2	11.7	14.1
Type 66 ECC	(kg/m)	3.9	4.4	5.5	6.4	7.6	8.9	10.5	11.9	14.5
Minimum bending radius	(mm)	430	450	480	520	550	590	650	670	740
Maximum recommended tension	(kN)	1.1	1.6	2.3	3.2	4.3	5.4	6.8	8.3	10.8

\* Tolerance - ±5% of approx. value

Table 2

Electrical Properties										
Power cores										
Maximum cond. DC resistance @ 20°C (Ω/km)	0.795	0.565	0.393	0.277	0.210	0.164	0.132	0.108	0.0817	
Maximum cond. DC resistance @ 90°C (Ω/km)	1.05	0.749	0.521	0.368	0.279	0.218	0.176	0.145	0.110	
Reactance (Ω/km)	0.124	0.116	0.109	0.105	0.101	0.096	0.092	0.091	0.087	
Impedance (Z) @ 90°C (Ω/km)	1.06	0.758	0.532	0.383	0.297	0.238	0.199	0.171	0.140	
Minimum combined screen resistance @ 23°C (Ω/km)	1.6	1.2	0.8	0.7	0.6	0.6	0.6	0.6	0.6	
Minimum combined screen & ECC resistance (Ω/km)	0.7	0.5	0.5	0.4	0.3	0.23	0.18	0.18	0.15	
Sustained current rating @ 30°C ambient										
Laid out straight (A)	105	130	160	195	230	260	300	340	400	
Short circuit rating :										
Symmetrical fault current (kA for 1 sec)	3.1	4.3	6.1	8.5	11.6	14.6	18.3	23	29	
Earth fault current (screens) (kA for 1 sec)	1.6	2.1	3.1	3.5	4.1	4.1	4.1	4.1	4.1	
Earth fault current ECC + screens) (kA for 1 sec )	3.6	5.0	5.0	7.5	9.0	11.5	14.0	14.0	17.0	

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