

**Mining trailing & reeling cables**

SANS Type 61B (0.64/1.1 kV)

SANS 1520-1 Type 61B Copper-Screened Mining Cable (0.64/1.1 kV)

0.64/1.1 kV 3-core triple-extruded EPR + 3-pilot trailing cable with twin CR sheaths

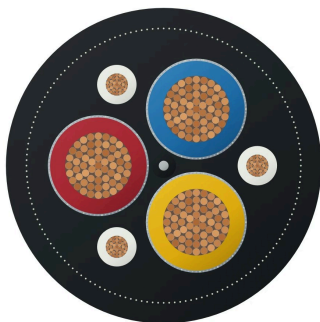
**SANS 1520-1 Type 61B****0.64/1.1 kV · 35–150 mm²****3 Screened + 3 Pilots**

Application

South African SANS 1520-1 Type 61B flexible copper-screened mining cable (0.64/1.1 kV, 35–150 mm²) with three triple-extruded RD 3 EPR power cores, 80 % fill tinned-copper braid screens, three pilot cores and twin RS 6 CR sheaths.

Typical uses: Underground coal continuous miners, Longwall shearers & stage loaders, Movable underground crushers, Gate-end box & section feeders, Hazardous-area pump stations, Surface mine skid-mounted drives

Construction



Cross-section, not to scale

1	Power conductors (3)	SANS 1411-1
2	Triple-extruded RD 3 EPR	SANS 1411-3 Type RD 3
3	Tinned copper braid screens (3)	2.1–4.1 kA 1s earth fault
4	Interstitial pilot cores (3)	
5	Inner sheath	SANS 1411-3 Type RS 6
6	Reinforcement braid	SANS 1520-1
7	Outer sheath	SANS 1520-1 · SANS 1411-3

Technical data

Typical values

Rated voltage U0/U	0.64/1.1 kV (640/1,100 V AC per SANS 1520-1 Type 61B)	Current rating (30 °C)	160 to 390 A laid out straight at 30 °C ambient
Triple-extruded EPR & copper screens	Semi-conducting conductor screen + Type RD 3 EPR + strippable core screen + tinned copper braid (80 % fill, 27–52 mm ²)	Three interstitial pilot cores	3 × unscreened pilot cores (6 mm ² on 35–50 mm ² ; 16 mm ² on 70–150 mm ²), one in each interstice
Operating temperature range	–25 °C to +90 °C	Short-circuit & earth-fault rating (1 s)	Symmetrical phase S/C: 4.3 to 18.3 kA (1 s) · Earth-fault screen rating: 2.1 to 4.1 kA (1 s)
Min. bending radius	300 mm (35 mm ²) to 500 mm (150 mm ²) — approx. 7.3 to 8 × OD	Max. tensile load	1.6 kN (35 mm ²) to 6.8 kN (150 mm ²)
Twin RS 6 polychloroprene sheaths	Type RS 6 polychloroprene inner sheath + 16-string open nylon braid + black Type RS 6 polychloroprene outer sheath	Flame, oil & water resistance	Flame retardant, oil resistant and water resistant per SANS 1411-3 Type RS 6
UV, sunlight & ozone	UV, sunlight and ozone resistant for surface and underground hazardous-area mining	Standards	SANS 1520-1 · SANS 1411-1 · SANS 1411-3

Sizes

6 standard constructions

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Designation 3P + 3Pilots	Power mm ²	Power Ø mm	Screen (80 %) mm ²	Pilots (3) mm ²	Pilot Ø mm	Cable OD mm	Mass kg/m	Mass ≈ kg/km	Min. bend R mm	Max. tension kN
☐ Type 61B · 3 × 35 + 3 × 6 mm ²	35	8.5	27	6	3.2	41.0	3.1	3,100	300	1.6
☐ Type 61B · 3 × 50 + 3 × 6 mm ²	50	10.3	32	6	3.2	42.5	3.6	3,600	340	2.3
☐ Type 61B · 3 × 70 + 3 × 16 mm ²	70	11.9	37	16	5.2	48.0	4.8	4,800	390	3.2
☐ Type 61B · 3 × 95 + 3 × 16 mm ²	95	13.5	43	16	5.2	52.3	5.7	5,700	430	4.3
☐ Type 61B · 3 × 120 + 3 × 16 mm ²	120	15.5	47	16	5.2	58.0	7.1	7,100	460	5.4
☐ Type 61B · 3 × 150 + 3 × 16 mm ²	150	17.3	52	16	5.2	63.5	8.5	8,500	500	6.8

- All sizes use an 80 % fill tinned copper wire braid screen (0.31 mm wires) and a right-hand core lay ratio of 12 × pitch circle diameter (PCD).
- Three unscreened pilot cores (one in each outer interstice) are laid up around a semi-conductive rubber centre.

Electrical & short-circuit

6 sizes

Designation Power cores	DC res. 20 °C Ω/km	DC res. 90 °C Ω/km	Reactance Ω/km	Impedance 90 °C Ω/km	Laid straight A (30 °C)	Sym. S/C (1 s) kA	Earth fault (1 s) kA
Type 61B · 3 × 35 mm ²	0.576	0.734	0.090	0.740	160	4.3	2.1
Type 61B · 3 × 50 mm ²	0.401	0.511	0.090	0.519	200	6.1	3.1
Type 61B · 3 × 70 mm ²	0.283	0.360	0.088	0.371	245	8.5	3.5
Type 61B · 3 × 95 mm ²	0.214	0.273	0.086	0.287	295	11.6	4.1
Type 61B · 3 × 120 mm ²	0.167	0.213	0.086	0.230	345	14.6	4.1
Type 61B · 3 × 150 mm ²	0.135	0.171	0.085	0.191	390	18.3	4.1

- Current rating applies to cable laid out straight at 30 °C ambient temperature.
- Earth-fault short-circuit capacity (2.1 to 4.1 kA for 1 second) is carried by the three 80 % fill tinned copper braid screens.

Standards and approvals

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

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Web

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Typical values for this cable type, based on SANS 1520-1 · SANS 1411-1 & -3. Values for your order are confirmed in the quotation. Subject to change without notice.
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