



Mining trailing & reeling cables

AS/NZS 2802

Mining Reeling & Trailing Cables

Eight cable types for mobile mining plant, 1.1 to 33 kV

AS/NZS 2802

1.1-33 kV

Class 1 & 2

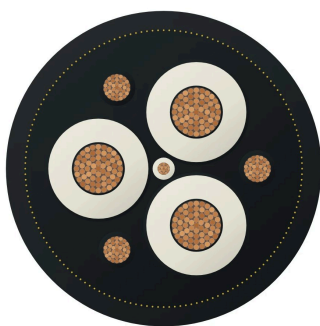


Application

Elastomer-insulated, heavy-duty sheathed power cables for draglines, shovels, drills and pumps in open-cut and metalliferous mines. Choose the type by screen, earth and pilot design, then the voltage grade and size.

Typical uses: Draglines & shovels, Excavators, Blasthole drills, Mine pumps, Stackers & reclaimers, Wharf cranes

Construction



Cross-section, not to scale

1	Conductor	AS/NZS 1125
2	Conductor screen	
3	Insulation	AS/NZS 3808
4	Composite screen	Coloured tracers identify phases from 3.3 kV
5	Pilot	
6	Sheath	AS/NZS 3808

Technical data

Typical values

Rated voltage U0/U	1.1/1.1 to 33/33 kV, by type	Screen / Field control	Composite copper or semiconductive, by type
Current rating	IEC 60287, 40 °C air — see table	Derating on drums	× 0.85 / 0.65 / 0.45 / 0.35 for 1–4 layers
Pilot DC resistance	≤ 3 Ω/100 m (≤ 35 mm ²), ≤ 2 Ω/100 m above	AC test voltage	4.2 kV (1.1/1.1 kV types)
Short-circuit temperature	+250 °C (5 s)	Max. conductor temperature	+90 °C
Min. operating temperature	–25 °C	Min. bending radius, repeated reeling	12 × OD; 10 × OD at 1.1 kV
Min. bending radius, free flexing	10 × OD; 6 × OD at 1.1 kV	Min. bending radius, fixed	6 × OD; 4 × OD at 1.1 kV
Min. bending radius, over sheaves	20 × OD; 10 × OD at 1.1 kV	Max. pulling tension	20 N/mm ² × phase-conductor area
Sheath reinforcement	Polyaramid braid (optional on 409)	Armour (Type 412)	Galvanised steel pliable armour
Flame retardance	Fire retardant	Water	Immersion / temporary coverage
UV & weather	Direct sun and weather	Chemicals	Very good, frequent exposure
Mechanical impact	Heavy	Standards	AS/NZS 2802

Sizes

17 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Type · grade · size	U0/U kV	Earth each mm ²	Pilot mm ²	Screen /phase mm ²	Insulation mm	Sheath mm	Outer Ø ≈ mm	Mass ≈ kg/km
Type 409 · Class 2 · 1.1–22 kV 3 sizes								
☐ Type 409.1 · 3 × 6 mm ²	1.1/1.1	8.2	–	–	1.5	3.8	32.2	1,600
☐ Type 409.1 · 3 × 10 mm ²	1.1/1.1	8.2	–	–	1.5	3.8	34.3	1,850
☐ Type 409.3 · 3 × 95 mm ²	3.3/3.3	21.0	–	–	3.0	7.1	66.5	7,650
Type 412 · Class 2 · 1.1/1.1 kV 2 sizes								
☐ Type 412.1 · 3 × 35 mm ²	1.1/1.1	5.3	–	–	1.6	4.0	44.6	4,150
☐ Type 412.1 · 3 × 50 mm ²	1.1/1.1	8.1	–	–	1.7	4.4	49.2	5,000
Type 440 · Class 2 · 1.1–22 kV 2 sizes								
☐ Type 440.1 · 3 × 6 mm ²	1.1/1.1	–	1.0	8.2	1.5	3.8	31.0	1,500
☐ Type 440.1 · 3 × 10 mm ²	1.1/1.1	–	1.5	8.2	1.5	3.8	33.3	1,750
Type 441 · Class 1 · 3.3–22 kV 2 sizes								
☐ Type 441.3 · 3 × 16 mm ²	3.3/3.3	–	–	–	2.2	4.6	43.5	2,430
☐ Type 441.3 · 3 × 25 mm ²	3.3/3.3	5.3	–	–	2.2	4.9	45.9	3,200
Type 441.1 · Class 2 · 1.1/1.1 kV 2 sizes								
☐ Type 441.1 · 3 × 6 mm ²	1.1/1.1	2.1	–	–	1.5	3.8	30.7	1,400
☐ Type 441.1 · 3 × 10 mm ²	1.1/1.1	3.4	–	–	1.5	3.8	32.8	1,650
Type 450 · Class 1 · 3.3–33 kV 2 sizes								
☐ Type 450.3 · 3 × 16 mm ²	3.3/3.3	–	–	6.3	2.2	4.5	42.9	2,680
☐ Type 450.3 · 3 × 25 mm ²	3.3/3.3	8.0	8.0	7.9	2.2	4.8	46.7	3,550
Type 451 · Class 1 · 3.3–22 kV 2 sizes								
☐ Type 451.3 · 3 × 25 mm ²	3.3/3.3	8.0	9.0	7.9	2.2	4.8	46.7	3,600
☐ Type 451.3 · 3 × 35 mm ²	3.3/3.3	8.0	9.0	8.5	2.2	5.1	49.7	4,150

Type · grade · size	U0/U kV	Earth each mm ²	Pilot mm ²	Screen /phase mm ²	Insulation mm	Sheath mm	Outer Ø ≈ mm	Mass ≈ kg/km
Type 455 · Class 1 · 3.3–33 kV 2 sizes								
☐ Type 455.3 · 3 × 16 mm ²	3.3/3.3	–	–	–	2.2	4.2	39.5	2,260
☐ Type 455.3 · 3 × 25 mm ²	3.3/3.3	8.0	8.0	–	2.2	4.5	42.2	3,000

- Types 409 and 440: earth through the composite screens (Earth = screen earth area). Types 450 and 455: earth and pilot cores of equal size.
- Mass in kg/km (converted from kg/100 m where published that way).

Electrical data

15 sizes

Type · grade · size	Conductor Ø mm	AC resistance 90 °C Ω/km	Reactance 50 Hz Ω/km	Volt drop mV/A·m	Capacitance µF/phase/km
Type 409 · Class 2 · 1.1–22 kV 3 sizes					
Type 409.1 · 3 × 6 mm ²	3.5	4.32	0.145	7.49	0.259
Type 409.1 · 3 × 10 mm ²	4.6	2.58	0.133	4.47	0.314
Type 409.3 · 3 × 95 mm ²	13.3	0.271	0.102	0.502	0.439
Type 440 · Class 2 · 1.1–22 kV 2 sizes					
Type 440.1 · 3 × 6 mm ²	3.5	4.32	0.141	7.49	0.259
Type 440.1 · 3 × 10 mm ²	4.6	2.58	0.13	4.47	0.314
Type 441 · Class 1 · 3.3–22 kV 2 sizes					
Type 441.3 · 3 × 25 mm ²	7.2	0.951	0.12	1.66	0.395
Type 441.3 · 3 × 35 mm ²	8.4	0.698	0.115	1.23	0.437
Type 441.1 · Class 2 · 1.1/1.1 kV 2 sizes					
Type 441.1 · 3 × 6 mm ²	3.5	4.32	0.143	7.49	0.259
Type 441.1 · 3 × 10 mm ²	4.6	2.58	0.13	4.47	0.314
Type 450 · Class 1 · 3.3–33 kV 2 sizes					
Type 450.3 · 3 × 25 mm ²	7.2	0.951	0.118	1.66	0.395
Type 450.3 · 3 × 35 mm ²	8.4	0.698	0.113	1.22	0.437
Type 451 · Class 1 · 3.3–22 kV 2 sizes					
Type 451.3 · 3 × 25 mm ²	7.2	0.951	0.118	1.66	0.395
Type 451.3 · 3 × 35 mm ²	8.4	0.698	0.113	1.22	0.437
Type 455 · Class 1 · 3.3–33 kV 2 sizes					
Type 455.3 · 3 × 25 mm ²	7.3	0.951	0.112	1.66	0.404
Type 455.3 · 3 × 35 mm ²	8.9	0.698	0.105	1.22	0.462

- AC resistance and voltage drop at 90 °C and 50 Hz, three-phase.

Current ratings

2 sizes

Conductor mm ²	1.1 kV, shaded A	1.1 kV, in sun A	3.3–33 kV, shaded A	3.3–33 kV, in sun A
6	49	38	—	—
10	66	51	—	—

- Continuous rating, cable in air, 40 °C ambient, conductor 90 °C; guidance values per IEC 60287.
- On drums multiply by 0.85 (1 layer), 0.65 (2), 0.45 (3), 0.35 (4 layers).

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

tebaoflex.com/cables/as-nzs-2802-surface-mining-cable



Typical values for this cable type, based on AS/NZS 2802. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.