



Screened power & VFD / motor supply cables

# VFD Mining Power 2 kV

## VFD Mining Power Cable (2,000 V · 3P+3G+GC)

Braid- and foil-shielded 2 kV symmetrical VFD mining cable with ground-check



ICEA S-75-381 / NEMA WC 58

2,000 V · 3P+3G+GC

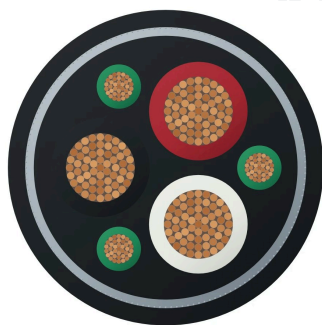
Braid + Foil EMC Shield

### Application

North American 2,000 V VFD portable mining cable to ICEA S-75-381 with three rope-lay tinned copper phases, three symmetrical green grounds, a yellow ground-check pilot and a 100 % foil + tinned copper braid shield.

**Typical uses:** VFD continuous miners & shearers, VFD shuttle cars & haulers, Mine hoist, fan & crusher drives, Slurry & dewatering VFD pumps, Mobile power centres & skid drives, Surface mine conveyor drives

### Construction



Cross-section, not to scale

|   |                                |                                  |
|---|--------------------------------|----------------------------------|
| 1 | Phase conductors (3)           | ASTM B172 & ASTM B33             |
| 2 | Phase insulation               | ICEA S-75-381                    |
| 3 | Central ground-check pilot (1) |                                  |
| 4 | Symmetrical grounds (3)        | Balanced 120° ground return      |
| 5 | Foil shield (100 % coverage)   |                                  |
| 6 | Overall copper braid shield    |                                  |
| 7 | Outer jacket                   | ICEA S-75-381 / CSA C22.2 No. 96 |

## Technical data

Typical values

|                                        |                                                                                                                 |                                               |                                                                                                        |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Rated voltage</b>                   | 2,000 V AC (designed for PWM inverter voltage spikes up to 2 kV class)                                          | <b>Ampacity range</b>                         | 159 to 536 A (90 °C conductor, 40 °C ambient in free air)                                              |
| <b>Reel derating factors</b>           | 1 layer: × 0.85 · 2 layers: × 0.65 · 3 layers: × 0.45 · 4 layers: × 0.35                                        | <b>Overall EMC shield</b>                     | 100 % coverage aluminum/polyester foil tape + overall tinned copper wire braid (≥ 85 % braid coverage) |
| <b>Symmetrical grounds &amp; pilot</b> | Three green-insulated tinned copper grounds (3 × 8 AWG to 3 × 1/0 AWG) + central yellow ground-check (≥ 14 AWG) | <b>Max. continuous conductor temp.</b>        | +90 °C (Type II EPDM / EPR)                                                                            |
| <b>Min. operating temperature</b>      | −40 °C                                                                                                          | <b>Emergency overload &amp; short-circuit</b> | +130 °C overload · +250 °C short-circuit                                                               |
| <b>Min. bending radius</b>             | 8 × OD (shielded 2 kV portable power cable per ICEA S-75-381)                                                   | <b>Conductor stranding</b>                    | Extra-flexible rope-lay stranded annealed tinned copper per ASTM B172 & ASTM B33                       |
| <b>Outer jacket wall</b>               | Reinforced mold-cured thermoset CPE jacket (0.155 to 0.265 in / 3.9 to 6.7 mm nominal wall)                     | <b>Flame retardance</b>                       | MSHA 30 CFR Part 7 flame resistance · CSA C22.2 No. 96 FT4                                             |
| <b>Oil, chemical &amp; ozone</b>       | Ozone-resistant Type II EPDM insulation + oil-, acid- and abrasion-resistant mold-cured CPE jacket              | <b>Water &amp; sunlight</b>                   | 90 °C wet/dry rated for surface and underground mining VFD installations                               |
| <b>Standards</b>                       | ICEA S-75-381 / NEMA WC 58 · CSA C22.2 No. 96                                                                   |                                               |                                                                                                        |

## Sizes

9 standard constructions

Tick the sizes you need and send this page to [info@tebaoflex.com](mailto:info@tebaoflex.com) or WhatsApp +86 185 9591 3361.

| Power cores<br>3×AWG/kcmil                        | Grounds (3)<br>AWG/kcmil | Ground-check<br>pilot | Jacket<br>in | Jacket<br>mm | Nominal OD<br>in | Nominal OD<br>mm | Weight ≈<br>lb/kft | Mass ≈<br>kg/km | Ampacity<br>A (40 °C) |
|---------------------------------------------------|--------------------------|-----------------------|--------------|--------------|------------------|------------------|--------------------|-----------------|-----------------------|
| <input type="checkbox"/> VFD 2 kV · 3 × 2 AWG     | 3 × 8                    | 1 × GC (≥14 AWG)      | 0.155        | 3.9          | 1.43             | 36.3             | 1,790              | 2,664           | 159                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 1 AWG     | 3 × 7                    | 1 × GC (≥14 AWG)      | 0.170        | 4.3          | 1.64             | 41.7             | 2,150              | 3,200           | 184                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 1/0 AWG   | 3 × 6                    | 1 × GC (≥14 AWG)      | 0.170        | 4.3          | 1.74             | 44.2             | 2,550              | 3,795           | 211                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 2/0 AWG   | 3 × 5                    | 1 × GC (≥14 AWG)      | 0.190        | 4.8          | 1.89             | 48.0             | 3,100              | 4,613           | 243                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 3/0 AWG   | 3 × 4                    | 1 × GC (≥14 AWG)      | 0.190        | 4.8          | 2.01             | 51.1             | 4,050              | 6,027           | 279                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 4/0 AWG   | 3 × 3                    | 1 × GC (≥14 AWG)      | 0.220        | 5.6          | 2.17             | 55.1             | 4,390              | 6,533           | 321                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 250 kcmil | 3 × 3                    | 1 × GC (≥14 AWG)      | 0.220        | 5.6          | 2.40             | 61.0             | 5,950              | 8,855           | 355                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 350 kcmil | 3 × 1                    | 1 × GC (≥14 AWG)      | 0.235        | 6.0          | 2.68             | 68.1             | 7,840              | 11,667          | 435                   |
| <input type="checkbox"/> VFD 2 kV · 3 × 500 kcmil | 3 × 1/0                  | 1 × GC (≥14 AWG)      | 0.265        | 6.7          | 3.03             | 77.0             | 9,730              | 14,480          | 536                   |

- Ampacity calculated at 90 °C conductor temperature and 40 °C ambient air; apply reel correction factors (1 layer: 0.85, 2: 0.65, 3: 0.45, 4: 0.35) when wound on drums.
- Each cable includes 3 green-insulated grounding conductors and 1 yellow-insulated ground-check conductor under an overall foil + tinned copper braid shield.

## 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

info@tebaoflex.com

Web

tebaoflex.com/cables/vfd-mining-power-cable



Typical values for this cable type, based on ICEA S-75-381 / NEMA WC 58 · CSA C22.2 No. 96. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.