

Type SHD Flat 3/C + Ground 2000 V Portable Mining Power Cable

Type SHD Flat 2000 V trailing cable solves severe drum-capacity and low-seam clearance constraints on underground AC shuttle cars, continuous miners, roof bolters, and mobile face haulers where circuits require individual metallic phase shielding and grounding without an internal ground-check pilot wire. Its parallel flat profile stacks neatly across level-wind reels without cross-over pinching and flexes effortlessly around small-diameter guide sheaves.

1. CABLE CONSTRUCTION

1. Power Conductors (3×)	Three flexible rope-lay stranded annealed tinned copper conductors (e.g., 2/0 AWG built as 329 strands / 7×47 rope lay) per ASTM B172 and ASTM B33.
2. Power Insulation	90°C heat-, moisture-, and ozone-resistant Ethylene Propylene Rubber (EPR), nominal 0.070–0.080 in (1.78–2.03 mm) wall thickness.
3. Individual Phase Shielding	Flexible tinned copper and reinforcing textile composite braid shield applied directly over each insulated power phase.
4. Grounding Conductor (1×)	One flexible rope-lay stranded tinned copper grounding conductor (e.g., 3 AWG / 204 strands on 2/0 AWG cable) laid parallel between the shielded power cores in continuous shield contact.
5. Binder / Separator Tape	Reinforcing separator tape applied over the parallel core assembly to maintain flat web alignment during mold curing.
6. Flat Mold-Cured Jacket	Extra-heavy-duty black mold-cured thermosetting Chlorinated Polyethylene (CPE) or Polychloroprene (Neoprene) with permanent embossed identification.

Cross-Section Reference



Type SHD Flat 2kV cutaway: 3 parallel EPR power cores with individual tinned copper/textile braid shields + 1 parallel bare tinned copper ground inside a mold-cured flat CPE/Neoprene sheath.

2. ELECTRICAL & MECHANICAL CHARACTERISTICS

Rated Voltage	Up to 2,000 V AC phase-to-phase
Configuration	Flat parallel 3 shielded power conductors + 1 grounding conductor (no GC core)
Maximum Conductor Temperature	+90°C continuous operation +250°C short-circuit rating
Minimum Bending Radius (Minor Axis)	6 × minor flat cable thickness (H) over reels and guide rollers
Dimensional Tolerances	±0.050 in (±1.27 mm) on minor height (H) ±0.080 in (±2.03 mm) on major width (W)
Standards & Flame Compliance	ICEA S-75-381 / NEMA WC 58; ASTM B172 & ASTM B33; MSHA & Pennsylvania DEP flame-resistant reference

3. DIMENSIONAL, GROUNDING & AMPACITY SPECIFICATIONS

Table 1: Type SHD Flat 3/C + Ground 2000 V — Dimensional & Ampacity Specifications						
Power + Ground Size	Power / Ground Strands	EPR Wall (in / mm)	Nominal H × W (in)	Nominal H × W (mm)	Approx. Weight (lb/kft / kg/km)	Ampacity 40°C (A)
3 × 6 AWG + 8 AWG Gnd	133 / 133	0.070 / 1.78	0.88 × 2.05	22.4 × 52.1	1,390 / 2,069	93
3 × 4 AWG + 7 AWG Gnd	259 / 133	0.070 / 1.78	0.95 × 2.24	24.1 × 56.9	1,760 / 2,619	122
3 × 2 AWG + 5 AWG Gnd	259 / 133	0.070 / 1.78	1.04 × 2.50	26.4 × 63.5	2,290 / 3,408	159
3 × 1 AWG + 4 AWG Gnd	259 / 259	0.080 / 2.03	1.13 × 2.76	28.7 × 70.1	2,850 / 4,241	184
3 × 1/0 AWG + 3 AWG Gnd	266 / 259	0.080 / 2.03	1.17 × 2.86	29.7 × 72.6	3,210 / 4,777	211
3 × 2/0 AWG + 3 AWG Gnd	329 (7×47) / 204 (6×34)	0.080 / 2.03	1.205 × 2.970	30.6 × 75.4	3,600 / 5,357	243
3 × 3/0 AWG + 2 AWG Gnd	418 / 259	0.080 / 2.03	1.28 × 3.18	32.5 × 80.8	4,180 / 6,220	279
3 × 4/0 AWG + 1 AWG Gnd	532 / 259	0.080 / 2.03	1.36 × 3.42	34.5 × 86.9	4,950 / 7,366	321

Shuttle-Car Reel Note: When wound in multiple flat layers on shuttle-car drums, apply ICEA S-75-381 reel layer derating factors (0.85 for 1 layer, 0.65 for 2 layers, 0.45 for 3 layers, 0.35 for 4+ layers).