

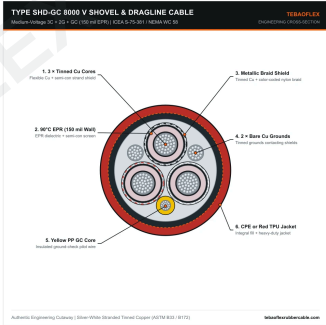
Type SHD-GC 3/C 8000 V Shovel & Dragline Mining Trailing Cable

Type SHD-GC 8000 V trailing cable is the primary medium-voltage mobile power lifeline for 6.6 kV, 6.9 kV, and 7.2 kV open-pit electric mining shovels, walking draglines, overburden drills, floating dredges, and portable pit skid substations. Built to ICEA S-75-381 / NEMA WC 58, its uniform 150 mil (3.81 mm) discharge-resistant EPR wall and heavy 205–295 mil reinforced CPE or TPU sheath withstand crushing haul-road crossings, rocky bench dragging, and extreme solar UV or Arctic pit winters.

1. CABLE CONSTRUCTION

1. Power Conductors (3×)	Flexible rope-lay stranded annealed tinned copper conductors, 4 AWG (259 strands) through 500 kcmil (1,221 strands), per ASTM B172 and ASTM B33.
2. Conductor Stress Shield	Extruded thermosetting semi-conducting layer applied smoothly over each stranded tinned copper phase conductor.
3. 8 kV EPR Insulation	150 mil (3.81 mm) corona-, moisture-, and ozone-resistant +90°C Ethylene Propylene Rubber (EPR) dielectric across all conductor sizes.
4. Insulation Screen & Braid	Extruded/taped semi-conducting insulation shield covered by a tinned copper and color-coded nylon phase-identification braid shield over each power core.
5. Grounds (2×) & GC Pilot (1×)	Two uninsulated flexible tinned copper grounding conductors (8 AWG to 4/0 AWG) laid in two interstices, plus one 8 AWG yellow polypropylene-insulated ground-check core.
6. Outer Jacket (CPE or TPU)	Torsion-stabilized integral fill and reinforcing yarn beneath a 205–295 mil mold-cured black CPE jacket or high-visibility red/orange/black extra-tough TPU jacket.

Cross-Section Reference



Type SHD-GC 8kV shovel cable cutaway: 3 phases with semi-con shields, 150 mil EPR wall, tinned copper braid screens, 2 bare grounds, 8 AWG yellow GC, and heavy CPE/TPU jacket.

2. ELECTRICAL & MECHANICAL CHARACTERISTICS

Rated System Voltage	8,000 V AC maximum phase-to-phase (standard for 6.6 kV, 6.9 kV & 7.2 kV shovel/dragline grids)
Conductor Operating Temp.	+90°C continuous +130°C emergency overload +250°C short circuit
Cold-Climate Flexibility	-40°C cold bend (CPE) -50°C Arctic pit grade (TPU option)
Minimum Bending Radius	6 × overall cable diameter (static routing); 8–10 × OD on shovel cable reels and sheaves
Nominal Insulation & Jacket Wall	150 mil (3.81 mm) EPR insulation; 205–295 mil (5.21–7.49 mm) heavy outer jacket
Governing Standards	ICEA S-75-381 / NEMA WC 58; ASTM B172 & ASTM B33; CAN/CSA-C22.2 No. 96; MSHA flame-resistant reference

3. DIMENSIONAL, GROUNDING & AMPACITY SPECIFICATIONS

Table 1: Type SHD-GC 3/C 8000 V — Reinforced Mold-Cured CPE Jacket (4 AWG to 500 kcmil)								
Power Cores	Area (mm²)	Power Strands	Grounding 2 × AWG (Strands)	GC Pilot	Insul. / Jkt (mil)	Nominal OD (in / mm)	Approx. Weight (lb/kft / kg/km)	Ampacity 40°C (A)
3 × 4 AWG	21.15	259	2 × 8 (133)	8 AWG	150 / 205	1.94 / 49.3	2,180 / 3,244	122
3 × 2 AWG	33.62	259	2 × 6 (133)	8 AWG	150 / 220	2.12 / 53.8	2,830 / 4,211	159
3 × 1 AWG	42.41	259	2 × 5 (133)	8 AWG	150 / 220	2.21 / 56.1	3,350 / 4,985	184
3 × 1/0 AWG	53.49	266	2 × 4 (259)	8 AWG	150 / 220	2.32 / 58.9	3,590 / 5,342	211
3 × 2/0 AWG	67.43	323	2 × 3 (259)	8 AWG	150 / 235	2.46 / 62.5	4,190 / 6,235	243
3 × 3/0 AWG	85.01	418	2 × 2 (259)	8 AWG	150 / 250	2.62 / 66.5	5,075 / 7,552	279
3 × 4/0 AWG	107.2	532	2 × 1 (259)	8 AWG	150 / 250	2.75 / 69.8	5,660 / 8,423	321
3 × 250 kcmil	126.7	627	2 × 1/0 (266)	8 AWG	150 / 250	2.89 / 73.4	6,740 / 10,030	355
3 × 350 kcmil	177.3	888	2 × 2/0 (323)	8 AWG	150 / 280	3.20 / 81.3	8,460 / 12,590	435
3 × 500 kcmil	253.4	1221	2 × 4/0 (532)	8 AWG	150 / 295	3.56 / 90.4	10,700 / 15,923	536

Table 2: Type SHD-GC 3/C 8000 V — Extra-Tough TPU Shovel & Dragline Jacket (4 AWG to 500 kcmil)								
Power Cores	Area (mm²)	Power Strands	Grounding 2 × AWG (Strands)	GC Pilot	Insul. / Jkt (mil)	Nominal OD (in / mm)	Approx. Weight (lb/kft / kg/km)	Ampacity 40°C (A)
3 × 4 AWG	21.15	259	2 × 8 (133)	8 AWG	150 / 205	1.94 / 49.3	2,019 / 3,005	122
3 × 2 AWG	33.62	259	2 × 6 (133)	8 AWG	150 / 220	2.12 / 53.8	2,603 / 3,874	159
3 × 1 AWG	42.41	259	2 × 5 (133)	8 AWG	150 / 220	2.21 / 56.1	2,913 / 4,335	184
3 × 1/0 AWG	53.49	266	2 × 4 (259)	8 AWG	150 / 220	2.32 / 58.9	3,351 / 4,987	211
3 × 2/0 AWG	67.43	323	2 × 3 (259)	8 AWG	150 / 235	2.46 / 62.5	3,946 / 5,872	243
3 × 3/0 AWG	85.01	418	2 × 2 (259)	8 AWG	150 / 250	2.62 / 66.5	4,582 / 6,819	279
3 × 4/0 AWG	107.2	532	2 × 1 (259)	8 AWG	150 / 250	2.75 / 69.8	5,321 / 7,918	321
3 × 250 kcmil	126.7	627	2 × 1/0 (266)	8 AWG	150 / 250	2.89 / 73.4	6,101 / 9,079	355
3 × 350 kcmil	177.3	888	2 × 2/0 (323)	8 AWG	150 / 280	3.20 / 81.3	7,696 / 11,453	435
3 × 500 kcmil	253.4	1221	2 × 4/0 (532)	8 AWG	150 / 295	3.56 / 90.4	10,199 / 15,178	536

Field Coupler & Skid Integration: TEBAOFLEX supplies 8 kV Type SHD-GC in custom continuous pit lengths (e.g., 1,000 ft / 305 m or 1,500 ft / 457 m steel drums) ready for industry-standard 8 kV mine couplers or factory-potted coupler assemblies on request.