

600–2000 V Two-Conductor Power & Control Blast-Hole Drilling Mast Cable

600–2,000 V Two-Conductor Blast-Hole Drilling Mast Cable is engineered for high-cycle vertical mast power tracks, hanging catenary loops, travelling rotary head festoons, and DC/AC top-drive assemblies on open-pit rotary blast-hole drills and heavy mining rigs. Integrating high-current power leads, equipment grounding, and custom rotary/pulldown control circuits inside one torsion-balanced reinforced rubber sheath eliminates multi-cable entanglement inside mast drag chains while resisting rock chips, drill grease, UV, sub-zero pit winds, and continuous vibration.

1. CABLE CONSTRUCTION

1. Power Conductors (2×)	Two extra-flexible rope-lay stranded annealed tinned copper conductors (1/0 AWG to 500 kcmil; 266 to 1,221 minimum wires per conductor) per ASTM B33.
2. 90°C EPR Power Insulation	Ethylene Propylene Rubber (EPR) rated +90°C continuous: 0.080 in (2.03 mm) wall for 1/0–4/0 AWG and 0.095 in (2.41 mm) wall for 250–500 kcmil.
3. Control Conductor Group	User-specified multi-conductor control sub-assembly (EPR or XL-polyolefin insulated flexible tinned copper control cores cabled in the upper interstice).
4. Equipment Grounding Wire	Flexible rope-stranded annealed tinned copper grounding conductor cabled in the opposite interstice for balanced round geometry.
5. Tape & PP Reinforcing Braid	Non-conducting separator tape over the cabled core assembly followed by a high-flex-life polypropylene reinforcing braid.
6. Mold-Cured Rubber Outer Jacket	Reinforced mold-cured thermosetting rubber (extra-heavy-duty CPE / Polychloroprene) resisting abrasion, impact, oil, heat, flame, ozone, acids, and alkalis.

Cross-Section Reference



Drilling Mast Cable cutaway: 2 large 90°C EPR power cores, 1 flexible tinned copper ground conductor, 1 cabled multi-core control group, polypropylene braid, and mold-cured black rubber sheath.

2. ELECTRICAL & MECHANICAL CHARACTERISTICS

Rated Voltage Range	600 V to 2,000 V DC / AC continuous drill mast, festoon, and power-track service
Core Architecture	Round hybrid: 2 insulated power cores + 1 flexible ground wire + user-specified control group
Maximum Conductor Temperature	+90°C continuous operation +40°C reference ambient air temperature
Dimensional & Weight Tolerance	±5% manufacturing tolerance (dependent on final custom control-group core count)
Environmental Resistance	Abrasion, impact, drill oil, grease, flame, sunlight, ozone, alkalis, and acids
Material & Conductor Standards	ICEA S-75-381 / NEMA WC 58; CAN/CSA-C22.2 No. 96; ASTM B33 annealed tinned copper

3. DIMENSIONAL, GROUNDING & AMPACITY SPECIFICATIONS

Table 1: 600–2000 V Two-Conductor Drilling Mast Cable (2 Power + Ground + User-Specified Control Group)								
Power Conductors	Area (mm²)	Min. Wires / Core	EPR Wall (in / mm)	Control Group	Ground Wire	Nominal OD (in / mm)	Weight (lb/kft / kg/km)	Ampacity 40°C (A)
2 × 1/0 AWG	53.49	266	0.080 / 2.03	User Specified	Included	1.52 / 38.6	1,780 / 2,649	217
2 × 2/0 AWG	67.43	323	0.080 / 2.03	User Specified	Included	1.65 / 41.9	2,425 / 3,609	250
2 × 3/0 AWG	85.01	418	0.080 / 2.03	User Specified	Included	1.77 / 45.0	2,872 / 4,274	286
2 × 4/0 AWG	107.2	532	0.080 / 2.03	User Specified	Included	1.92 / 48.8	3,478 / 5,176	328
2 × 250 kcmil	126.7	627	0.095 / 2.41	User Specified	Included	2.10 / 53.3	4,155 / 6,183	363
2 × 350 kcmil	177.3	888	0.095 / 2.41	User Specified	Included	2.36 / 59.9	5,483 / 8,160	436
2 × 500 kcmil	253.4	1,221	0.095 / 2.41	User Specified	Included	2.70 / 68.6	7,249 / 10,788	524

Reel & Festoon Correction Note: Listed outside diameters and weights reflect a standard baseline control sub-group; final OD is confirmed on our engineering drawing once your exact control core count/gauge is specified. For multi-layer drum reeling, apply ICEA S-75-381 multipliers: 0.85 (1 layer), 0.65 (2 layers), 0.45 (3 layers), or 0.35 (4 layers).