3/C CU 5KV Type SHD-GC RHINOSHIELD™ CPE Mining Cable 90°C. MSHA Approved

Flexible Copper conductors, EPR 100% Insulation Level, Cu/Nylon Braid Shield, Extra Heavy Duty Two Layer Chlorinated Polyethylene (CPE) Jacket with Optional Reflective Stripes



Image not to scale. See Table 1 for dimensions.

CONSTRUCTION:

1. **Conductor:** Tin coated, soft drawn, annealed, flexible, rope-lay stranded copper per ASTM B33 and B172
2. **Separator Tape:** Semi-conducting tape applied between the conductor and insulation to facilitate stripping
3. **Conductor Shield:** Semi-conducting cross-linked copolymer
4. **Insulation:** Ethylene Propylene Rubber (EPR)
5. **Insulation Shield:** Strippable semi-conducting cross-linked copolymer
6. **Braid Shield:** Tin coated, soft drawn, annealed, copper braid shield (60% minimum coverage), combined with color coded nylon (Black, Blue, Red) with a 40% maximum coverage
7. **Ground Conductor:** Two uninsulated, tin coated, soft drawn, annealed, rope stranded, flexible lay copper per ASTM B33 and B172
8. **Ground Check Conductor:** Tin coated, soft drawn, annealed, rope stranded, flexible lay copper per ASTM B33 and B172 with high strength yellow, polypropylene insulation
9. **Filler:** Rubber fillers as needed
10. **Reinforcement:** Reinforcing twine applied over core
11. **Inner Jacket:** Black, mold cured, extra heavy-duty integral fill, flame resistant, thermosetting Chlorinated Polyethylene (CPE)
12. **Outer Jacket:** Black, mold cured, extra heavy-duty, flame resistant, thermosetting Chlorinated Polyethylene (CPE). Alternate jacket colors available
13. **Reflective Stripe:** Highly visible reflective stripe embedded into the outer jacket to increase safety and help prevent cable runover (optional, contact your sales representative for part number)

APPLICATIONS AND FEATURES:

RHINOSHIELD™ Type SHD-GC is a heavy-duty trailing cable where flexibility and maximum protection is required. For use with mobile, reeling, or stationary mining equipment, continuous mining machines, longwall mining systems, and blast hole drillers. It is also an ex- cellent choice for shovels, draglines, dredges, cranes and marine shore-to-ship power supplies, and anytime extra-durable, flexible cable is required. Suitable for continuous submersion in water. Ground check conductor provides fail-safe ground monitoring. Embossed print legend for easy cable identification. Cold Bend and Impact Tested to -50°C. For vertical drop requirements consult with factory application specialist.

SPECIFICATIONS:

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- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ASTM B172 Standard Specification for Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Copper Conductors
- ICEA S-75-381 Portable and Power Feeder Cables for Use in Mines
- CSA Listed File # LL65300 FT1, FT4, FT5 CSA C22.2, No. 96 Portable Power Cables
- MSHA listed: passes MSHA flame test
- Meets or exceeds ICEA requirements as applicable for ICEA S-75-381/NEMA WC 58, ASTM B-3

SAMPLE PRINT LEGEND:

SOUTHWIRE (R) RHINO™ BRAND CABLE # AWG CU 3/C EPR TYPE SHD-GC 5000V -50°C 90°C P-07-KA140005 MSHA

Table 1 – Weights and Measurements

Stock Number	Cond. Size	Cond. Number	Cond. Strands	Diameter Over Conductor	Insul. Thickness	Diameter Over Insulation	Ground	Ground Check Size	Inner Jacket Thickness	Jacket Thickness	Approx. OD	Approx. Weight	Jacket Color
	AWG/ Kcmil	No.	No.	inch	mil	inch	No. x AWG	AWG	mil	mil	inch	lb/1000ft	
589075	4	3	259	0.235	116	0.531	2 x 8	8	75	115	1.690	1836	BK
649553	2	3	308	0.302	110	0.588	2 x 6	8	85	215	1.870	2624	BK/SR STRIPE
585945	1/0	3	273	0.354	110	0.657	2 x 4	8	95	125	2.080	3078	BK
588906	2/0	3	324	0.400	110	0.714	2 x 3	8	100	120	2.200	3402	BK
643531	3/0	3	418	0.533	110	0.768	2 x 2	8	95	140	2.299	4085	BK
677992	4/0	3	532	0.550	110	0.830	2 x 1	8	120	220	2.480	4671	RD/SR STRIPE
588801	4/0	3	532	0.550	110	0.839	1 x 1	8	95	140	2.500	4439	BK
675012	250	3	608	0.610	120	0.893	2 x 1/0	6	120	150	2.690	5671	BK
589188	350	3	855	0.809	120	1.012	1 x 2/0	6	120	145	2.950	6404	YW

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
TBA stock codes are estimations only and actual product may vary. Please wait until a stock code is assigned to purchase connectors and/or fittings.

Table 2 – Electrical and Engineering Data

Cond. Size	DC Resistance @ 25°C	AC Resistance @ 90°C	Inductive Reactance	Working Tension	Min Bending Radius	Allowable Ampacity In Air 90°C
AWG/ Kcmil	Ω/1000ft	Ω/1000ft	Ω/1000ft	lb	inch	Amp
4	0.282	0.356	0.040	285	13.5	122
2	0.179	0.226	0.037	453	14.9	159
1/0	0.113	0.143	0.036	722	16.6	211
2/0	0.090	0.114	0.035	910	17.6	243
3/0	0.072	0.091	0.030	1147	18.3	279
4/0	0.057	0.073	0.031	1447	19.8	321
4/0	0.057	0.073	0.031	1447	20.0	321
250	0.046	0.061	0.032	1710	21.5	355
350	0.035	0.046	0.027	2394	23.6	435

* Ampacities based upon ICEA S-75-381 Table H-1.
* Inductive impedance is based on non-ferrous conduit with one diameter spacing center-to-center.

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