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

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/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) 100% Insulation Level
5. **Shield Separator:** Semi-conducting SBR tape applied to the phase insulation with a 50% overlap, adhesive side up
6. **Braid Shield:** Tin coated, soft drawn, annealed, copper braid shield (60% minimum coverage), combined with colour coded nylon (Black, Blue, Red) with a 40% maximum coverage
7. **Ground Check Conductor:** Tin coated, soft drawn, annealed, rope stranded, flexible lay copper per ASTM B33/B172 with high strength yellow polypropylene insulation
8. **Ground Conductors:** Two uninsulated, tin coated, soft drawn, annealed, rope stranded, flexible lay copper per ASTM B33/B172
9. **Tape:** SBR tape applied over the cabled core for improved mechanical integrity and ease of stripping
10. **Inner Jacket:** Black, mold cured, extra heavy-duty modified integral fill, flame resistant, thermosetting Chlorinated Polyethylene (CPE)
11. **Reinforcement:** Reinforcing twine applied between the two jacket layers
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 run-over (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.

SPECIFICATIONS:

- 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 Size	Ground Strands	Ground Check Size	Ground Check Strands	Ground Check Insulation Thickness	Jacket Thickness	Approx. OD	Approx. Weight
	AWG/ Kcmil	No.	No.	inch	mil	inch	AWG	No.	AWG	No.	mil	mil	inch	lb/1000ft
TBA	6	3	133	0.21	110	0.496	10	104	8	168	45	185	1.56	1480
TBA	4	3	259	0.256	110	0.542	8	168	8	168	45	185	1.68	1830
TBA	3	3	259	0.285	110	0.571	7	49	8	168	45	205	1.78	2100
597844	2	3	308	0.32	110	0.606	6	133	8	168	60	205	1.85	2234
TBA	2	3	308	0.32	110	0.606	6	133	8	168	45	205	1.87	2400
TBA	1	3	385	0.355	110	0.641	5	133	8	168	45	205	1.95	2730
TBA	1/0	3	273	0.385	110	0.671	4	259	8	168	45	220	2.08	3230
646499	2/0	3	324	0.42	110	0.714	3	259	8	168	60	248	2.17	3094
TBA	3/0	3	418	0.506	110	0.792	2	308	8	168	45	235	2.36	4460
677992^	4/0	3	532	0.577	110	0.83	1	385	8	168	60	340	2.48	4649
TBA	250	3	608	0.61	120	0.916	1/0	273	6	133	60	250	2.69	6190
TBA	300	3	735	0.680	120	1.043	1/0	273	6	133	60	250	2.81	6790
TBA	350	3	855	0.72	120	1.026	2/0	324	6	133	60	265	2.95	7900
599538^^	500	3	1221	0.9	120	1.188	4/0	532	6	133	60	280	3.31	8648

All dimensions are nominal and subject to normal manufacturing tolerances
◊ Cable marked with this symbol is a standard stock item
^ red jacket with stripe
^^ red jacket

Table 2 – Electrical and Engineering Data

Stock Number	Cond. Size	Cond. Number	DC Resistance @ 25°C	AC Resistance @ 90°C	Capacitive Reactance	Inductive Reactance	Working Tension	Min Bending Radius	Allowable Ampacity In Air 90°C†
	AWG/ Kcmil	No.	Ω/1000ft	Ω/1000ft	MΩ*1000ft	MΩ/1000ft	lb	inch	Amp
TBA	6	3	0.421	0.526	0.046	0.041	179.000	9.4	93
TBA	4	3	0.267	0.334	0.040	0.039	285.000	10.1	122
TBA	3	3	0.212	0.265	0.038	0.038	360.000	10.7	140
597844	2	3	0.168	0.210	0.034	0.036	454.000	11.2	159
TBA	2	3	0.168	0.210	0.034	0.036	454.000	11.2	159
TBA	1	3	0.133	0.166	0.032	0.035	572.000	11.7	184
TBA	1/0	3	0.111	0.139	0.030	0.034	722.000	12.5	211
646499	2/0	3	0.085	0.106	0.028	0.034	910.000	13.2	243
TBA	3/0	3	0.067	0.084	0.024	0.032	1147.000	14.2	279
677992^	4/0	3	0.053	0.066	0.022	0.031	1446.000	15	321
TBA	250	3	0.045	0.056	0.022	0.031	1709.000	16.1	355
TBA	300	3	0.037	0.046	0.019	0.030	2051.000	16.9	398
TBA	350	3	0.032	0.040	0.019	0.030	2393.000	17.7	435
599538^^	500	3	0.023	0.029	0.016	0.028	3418.000	19.9	536

† Ampacity based on ICEA S-75-381 Table H-1 and is for a single isolated cable in air operated with an open-circuited shield at an ambient temperature of 40°C and a conductor temperature of 90°C