

CSA 3/C CU 8KV 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/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. **Insulation Shield:** Semi-conducting cross-linked copolymer
6. **Shield Separator:** Semi-conducting SBR tape applied to the phase insulation with a 50% overlap, adhesive side up
7. **Braid Shield:** Tin coated, soft drawn, annealed, copper braid shield (60% minimum coverage), combined with color coded nylon (black, white, red) with a 40% maximum coverage
8. **Ground Check Conductor:** Tin coated, soft drawn, annealed, rope stranded, flexible lay copper per ASTM B33/B172 with yellow, high strength, polypropylene insulation
9. **Ground Conductors:** Two uninsulated, tin coated, soft drawn, annealed, rope stranded, flexible lay copper per ASTM B33/B172
10. **Tape:** SBR tape applied over the cabled core for improved mechanical integrity and ease of stripping
11. **Inner Jacket:** Black, mold cured, extra heavy-duty modified integral fill flame resistant, thermosetting Chlorinated Polyethylene
12. **Reinforcement:** Reinforcing twine applied between the two jacket layers
13. **Outer Jacket:** Black, mold cured, extra heavy-duty, flame resistant, thermosetting Chlorinated Polyethylene (CPE). Other colors available
14. **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 excellent 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:



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UPDATED: Dec. 11, 2023, 9:29 p.m. UTC REVISION: 1.000.002

- ASTM B33 Standard Specification for Tin-Coated Soft or Annealed Copper Wire
- ICEA S-75-381 Portable and Power Feeder Cables for Use in Mines
- MSHA Approved

SAMPLE PRINT LEGEND:

SOUTHWIRE® RHINO{TM} BRAND CABLE XXX AWG CU 3/C EPR TYPE SHD-GC 8000V TC-ER -50°C 90°C SUN RES {CSA}
LL90458 FT1 FT4 FT5 P-07-KA-140005-MSHA

Table 1 – Weights and Measurements

Cond. Size	Cond. Number	Cond. Strands	Diameter Over Conductor	Insul. Thickness	Diameter Over Insulation	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.	mil	mil	inch	lb/1000ft
4	3	259	0.256	150	0.622	8	168	45	205	1.94	2270
3	3	259	0.285	150	0.651	8	168	45	205	2.02	2530
2	3	308	0.32	150	0.588	8	168	60	120	2.12	2860
2	3	308	0.338	150	0.668	6	133	60	220	2.09	2484
1	3	385	0.355	150	0.721	8	168	45	220	2.21	3230
1/0	3	273	0.385	150	0.728	8	168	60	220	2.29	3492
1/0	3	273	0.385	150	0.751	8	168	45	220	2.32	3720
2/0	3	324	0.42	150	0.768	8	168	60	235	2.46	4353
3/0	3	418	0.506	150	0.872	8	168	45	250	2.62	5050
4/0	3	532	0.577	150	0.92	8	168	60	250	2.72	5236
4/0	3	532	0.577	150	0.929	8	168	45	150	2.75	4877
250	3	608	0.61	150	0.976	6	133	60	250	2.89	6710
350	3	855	0.72	150	1.072	6	133	60	150	3.175	7740
300	3	735	0.737	150	1.103	6	133	60	265	3.04	7410
500	3	1221	0.9	150	1.248	6	133	60	160	3.56	9100

All dimensions are nominal and subject to normal manufacturing tolerances

◊ Cable marked with this symbol is a standard stock item



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Table 2 – Electrical and Engineering Data

Cond. Size	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	Ω/1000ft	Ω/1000ft	MΩ*1000ft	Ω/1000ft	lb	inch	Amp
4	0.267	0.334	0.048	0.044	285.000	15.5	122
3	0.212	0.265	0.045	0.043	360.000	16.2	140
2	0.168	0.210	0.041	0.041	454.000	17	159
2	0.168	0.210	0.041	0.041	454.000	17	159
1	0.133	0.166	0.038	0.040	572.000	17.7	184
1/0	0.111	0.139	0.036	0.039	722.000	18.6	211
1/0	0.111	0.139	0.036	0.039	722.000	18.6	211
2/0	0.085	0.106	0.034	0.038	910.000	19.7	243
3/0	0.067	0.084	0.029	0.036	1147.000	21	279
4/0	0.053	0.066	0.027	0.034	1446.000	22	321
4/0	0.053	0.066	0.027	0.034	1446.000	22	321
250	0.045	0.056	0.025	0.034	1709.000	23.1	355
350	0.032	0.040	0.022	0.032	2393	25.6	435
300	0.037	0.046	0.022	0.032	2051.000	24.3	398
500	0.023	0.029	0.018	0.031	3418.000	28.5	536

* Inductive impedance is based on non-ferrous conduit with one diameter spacing.

