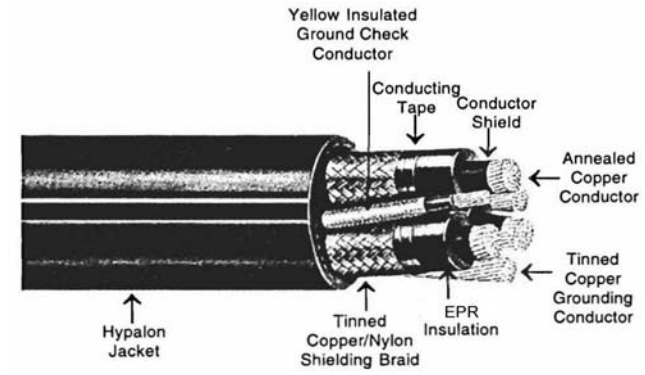
TYPE SHD-GC - Three Conductor

Portable Power Cable
EPR Insulation, 8000 Volts

APPLICATION: For heavy duty high voltage portable power applications on mobile equipment where delivery of a heavy power load is required, such as shovels, dredges, drilling rigs, underground mine power distribution, etc. For use in circuits rated 8000 volts, maximum conductor temperature of 90°C.

STANDARDS: Conforms to ICEA S-75-381(NEMA WC58).

CONSTRUCTION: Three insulated conductors consisting of flexible stranded annealed tinned copper, conductor shield, EPR ethylene-propylene rubber insulation, semiconducting tape, tinned copper/nylon shielding braid. Two uninsulated grounding conductors of flexible stranded annealed tinned copper. One #8 AWG (#6 AWG for kcmil size power conductors) flexible stranded annealed copper insulated ground check conductor. Three insulated and shielded conductors cabled together with the ground check conductor in the valley between the Black and White conductors and one grounding conductor in each of the other two valleys. Rubber fillers to make cable round, tape over assembly, overall two-layer reinforced Hypalon jacket, vulcanized in a metal mold. Embossed marking molded as an integral part of the jacket, including the inscription P-105-MSHA indicating full compliance with Federal and State of Pennsylvania Safety Codes.



USAWC Part #	Power Conductor			Grounding Conductor		Jacket Thickness Mils	Nominal Diameter Inches	Approx. Net Weight lbs/1000 ft	Copper Weight lbs/1000 ft	Ampacity*	
	Size AWG or kcmil	No. of Strands	Insulation Thickness Mils	Size AWG	No. of Strands					20°C Ambient	40°C Ambient
8000 VOLTS, 100% INSULATION LEVEL											
4-03SHDGC8KV	4	259	150	8	133	205	1.94	2140	684	144	122
2-03SHDGC8KV	2	259	150	6	168	220	2.12	2765	989	188	159
1-03SHDGC8KV	1	329	150	5	210	220	2.21	3150	1195	217	184
1/0-03SHDGC8KV	1/0	259	150	4	259	220	2.32	3500	1466	249	211
2/0-03SHDGC8KV	2/0	329	150	3	329	235	2.46	4240	1798	286	243
3/0-03SHDGC8KV	3/0	413	150	2	259	250	2.62	4830	2215	329	279
4/0-03SHDGC8KV	4/0	532	150	1	329	250	2.75	5535	2741	378	321
250-03SHDGC8KV	250	608	150	1/0	259	250	2.89	6280	3280	418	355
300-03SHDGC8KV	300	741	150	1/0	259	265	3.04	6800	3728	470	398
350-03SHDGC8KV	350	855	150	2/0	329	280	3.20	8360	4228	513	435
500-03SHDGC8KV	500	1221	150	4/0	532	295	3.56	10600	6304	632	536

*AMPACITY based upon continuous duty of 90 C conductor temperature as indicated, in free air.

Specification

PORTABLE POWER CABLE - TYPE SHD-GC

EPR Insulation, 8000 Volt

1. SCOPE
   - 1.1 This specification describes three-conductorType SHD-GC power cable with EPR (ethylene-propylene rubber) insulation for use in circuits rated 8000 volts at a maximum conductor temperature of 90°C. Cables are intended for use as heavy duty portable power cable on shovels, dredges, drilling rigs and mine power distribution systems.
2. STANDARDS
   - 2.1 The following standard shall form a part of this specification:
     - 2.1.1 ICEA Pub. No. S-75-381 for Portable and Power Feeder Cables for Use in Mines and Sirnilar Applications (NEMA WC58).
3. CONDUCTORS
   - 3.1 Minimum Class H stranded, annealed, tinned copper per Part 2 of ICEA.
4. CONDUCTOR SHIELDING
   - 4.1 Conductors shall be covered with a conducting tape meeting the requirements of Par. 3.14 of ICEA.
5. INSULATION
   - 5.1 A homogeneous wall of EPR insulation shall be extruded over the covered conductor. The average thickness shall be as specified in Table 3-21 of ICEA. The minimum thickness shall be not less than 90 percent of the specified average value.
   - 5.2 Physical and electrical properties of the insulation shall be in accordance with Par. 3.15 of ICEA.
6. SHIELDING
   - 6.1 A conducting non-metallic tape, providing 100% coverage and meeting Par. 3.17 of ICEA, shall be applied directly over the insulation.
   - 6.2 A tinned copper/nylon shielding braid shall be applied over the conducting tape meeting the requirements of Par. 3.19 of ICEA.
7. CIRCUIT IDENTIFICATION
   - 7.1 A color coded tape (black, white, red) applied under the metallic shielding braid shall provide circuit identification on each power conductor in accordance with Par. 3.18 of ICEA.
8. GROUNDING CONDUCTORS
   - 8.1 The grounding conductors shall be stranded annealed tinned copper of not less than the size and the number of wires as shown in Table 3-24 of ICEA for the corresponding power conductor sizes.
9. GROUND CHECK CONDUCTOR
   - 9.1 The minimum ground check conductor shall be as given in Table 3-21 of ICEA for the corresponding power conductor sizes.
   - 9.2 The conductor shall have a yellow insulation meeting the requirements of Par. 3.16 of ICEA and will be located between the black and white phase conductors.
10. ASSEMBLY
    - 10.1 The conductors shall be twisted together with a left hand lay meeting the requirements of Table 3-5 of ICEA. Suitable fillers shall be used to produce an essentially round cross-section in the completed cable.
    - 10.2 A binder tape shall be helically applied over the filled cable assembly.
11. JACKET
    - 11.1 A two-layer reinforced thermosetting jacket shall be extruded over the assembly in accordance with Par. 3.21 of fCEA.
    - 11.2 The jacket shall be an extra-heavy duty Hypalon meeting the requirements of Table 3-3 of ICEA.
12. COMPLETED CABLE
    - 12.1 The nominal outside diameter shall be in accordance with Table 3-21 of ICEA.
    - 12.2 The tolerances shall be within the requirements of Par. 3.22.2 of ICEA.
13. SURFACE MARKING
    - 13.1 All cable shall have an embossed print legend showing manufacturer, cable type, size, voltage and Mine Safety and Health Administration (MSHA) Approval Number.
14. TESTS
    - 14.1 Cable shall be tested in accordance with ICEA.

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