

TYPE G-GC - Three Conductor

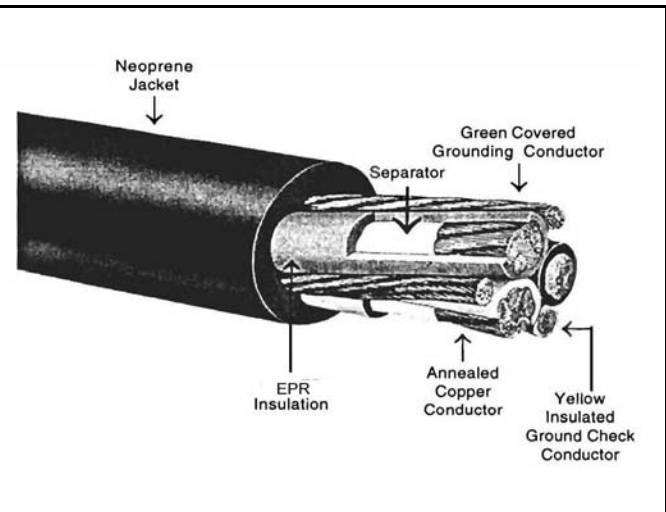
Portable Power Cable

Three Conductor Round - Type G-GC, 2000 Volts

APPLICATION: Heavy duty portable power cable for use with mobile mining equipment, such as ac shuttle cars, continuous miners, cutting or loading machines, conveyors, drills or pumps. For use in circuits not exceeding 2000 volts, maximum conductor temperature of 90°C. For three-phase ac where grounding conductors and a ground check conductor are required.

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

CONSTRUCTION: Three insulated power conductors each consisting of flexible stranded annealed tinned copper, EPR ethylene-propylene rubber insulation. Two uninsulated green-covered grounding conductors, each consisting of flexible stranded annealed tinned copper. One insulated ground check conductor consisting of flexible stranded annealed tinned copper, yellow insulation. Three insulated power conductors cabled together, the ground check conductor placed in the valley between black and white conductors with one grounding conductor in each of the other two valleys. Overall two-layer reinforced Neoprene 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 #	Size AWG or kcmil	No. of Strands	Insulation Thickness Mils	Grounding Conductor Size AWG	Ground Check Conductor Size AWG	Nominal Diameter Inches	Approx. Net Wt. lbs/1000 ft	Copper Weight lbs/1000 ft	Ampacity* 40°C Ambient
8-03GGC	8	133	60	10	10	.97	650	246	59
6-03GGC	6	168	60	10	10	1.05	820	339	79
4-03GGC	4	259	60	8	10	1.19	1080	519	104
3-03GGC	3	329	60	8	10	1.25	1280	621	120
2-03GGC	2	259	60	7	10	1.34	1485	787	138
1-03GGC	1	329	80	6	8	1.51	1805	986	161
1/0-03GGC	1/0	259	80	5	8	1.65	2280	1228	186
2/0-03GGC	2/0	329	80	4	8	1.75	2675	1541	215
3/0-03GGC	3/0	413	80	3	8	1.89	3310	1930	249
4/0-03GGC	4/0	532	80	2	8	2.04	3895	2419	287
250-03GGC	250	608	95	2	6	2.39	4880	2807	320
300-03GGC	300	741	95	1	6	2.56	5830	3375	357
350-03GGC	350	855	95	1/0	6	2.68	6500	3974	394
400-03GGC	400	988	95	1/0	6	2.82	7340	4438	430
500-03GGC	500	1221	95	2/0	6	3.03	8735	5124	487

*AMPACITY based upon continuous duty at 90 C conductor temperature, 40 C ambient temperature as indicated, cable in free air. For other ambient temperature and when cables are used with one or more layers wound on a reel, use correction factors shown in Appendix H, ICEA S-75-381

Specification

PORTABLE POWER CABLE

Three-Conductor Round - Type G-GC, 2000 Volts

1. SCOPE

- 1.1 This specification describes three-conductor round Type G-GC portable power cable with EPR (ethylene-propylene rubber) insulation for use in circuits not exceeding 2000 volts at a maximum conductor temperature of 90°C. Cables are intended for use on equipment where a heavy power load is required, such as ac shuttle cars, continuous miners, cutting or loading machines, conveyors, drills or pumps.

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 Similar Applications (NEMA WC58).

3. CONDUCTORS

- 3.1 Minimum Class H stranded, annealed, tinned copper per Part 2 of ICEA.

4. INSULATION

- 4.1 A homogeneous wall of EPR insulation shall be extruded over the conductor. The average thickness of the insulation shall be as specified in Table 3-12 of ICEA. The minimum thickness shall be not less than 90 percent of the specified average values.
- 4.2 Physical and electrical properties of the insulation shall be in accordance with Par. 3.15 of ICEA.

5. CIRCUIT IDENTIFICATION

- 5.1 Colored insulation coded black, white and red meeting the requirements of Par. 3.18 of ICEA.

6. GROUNDING CONDUCTORS

- 6.1 The grounding conductors shall be annealed tinned copper of not less than the size and number of wires in Table 3-12 of ICEA for the corresponding power conductor sizes.
- 6.2 Each grounding conductor shall have a green covering.

7. GROUND CHECK CONDUCTOR

- 7.1 The ground check conductor shall be not less than the size given in Table 3-12 of ICEA for the corresponding power conductor sizes. A minimum of 49 strands of annealed tinned copper shall be used.
- 7.2 The conductor shall have a yellow insulation meeting the requirements of Par. 3.16 and will be located between the black and white phase conductor.

8. ASSEMBLY

- 8.1 The conductors shall be twisted together with a left-hand lay meeting the requirements of Table 3-5 of ICEA. Sizes 250 and larger shall have fillers and a binder tape applied over the assembly.

9. JACKET

- 9.1 A two-layer reinforced thermosetting jacket shall be extruded over the assembly in accordance with Par. 3.21 of ICEA. For sizes 4/0 and smaller, the first layer of jacket shall be extruded into the valleys.
- 9.2 The jacket shall be extra-heavy duty Neoprene meeting the requirements of Table 3-3 of ICEA.

10. COMPLETED CABLE

- 10.1 The nominal outside diameter shall be in accordance with Table 3-12 of ICEA.
- 10.2 The tolerances shall be within the requirements of Par. 3.22.2 of ICEA.

11. SURFACE MARKING

- 11.1 All cable shall have an embossed print legend showing manufacturer, cable type, size, voltage, MSHA and State of Pennsylvania approval number.

12. TESTS

- 12.1 Cable shall be tested in accordance with ICEA.