

TYPE MP-GC - Three Conductor

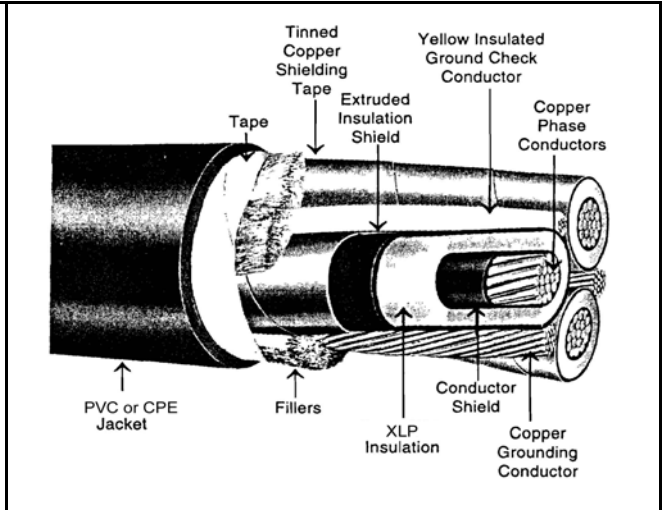
Mine Power Cable

XLP, Tape Shield, PVC or CPE Jacket, 15000 Volts

APPLICATION: Shielded high voltage power distribution cable suitable for installation in boreholes, shafts, horizontal runs in underground entries, aerial suspension on insulators and other semi-permanent mining and industrial feeder installations. For use in circuits rated 15000 volts, maximum conductor temperature 90°C.

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

CONSTRUCTION: Three insulated power conductors each consisting of stranded annealed copper, conductor shield, XLP insulation, extruded insulation shield, metallic tape shield. Two uninsulated grounding conductors of stranded annealed tinned copper. One #8 AWG 7-strand annealed uncoated copper ground check conductor with yellow insulation. Three insulated and shielded power conductors cabled together with the ground check conductor in the valley between the black and white power conductors, and one grounding conductor in each of the other two valleys. Fillers to make cable round, tape over assembly and overall PVC or CPE jacket. Imprinted with the inscription P-7K-105100-MSHA to indicate 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 |
| 15000 VOLTS, 100% INSULATION LEVEL | | | | | | | | | | | |
| 2-03MPGC15KVG | 2 | 7 | 175 | 6 | 7 | 140 | 1.95 | 2175 | 1040 | 193 | 164 |
| 1-03MPGC15KVG | 1 | 19 | 175 | 5 | 7 | 140 | 2.07 | 2505 | 1246 | 220 | 187 |
| 1/0-03MPGC15KVG | 1/0 | 19 | 175 | 4 | 7 | 140 | 2.10 | 2805 | 1517 | 254 | 215 |
| 2/0-03MPGC15KVG | 2/0 | 19 | 175 | 3 | 7 | 140 | 2.19 | 3230 | 1852 | 290 | 246 |
| 3/0-03MPGC15KVG | 3/0 | 19 | 175 | 2 | 19 | 140 | 2.29 | 3760 | 2269 | 334 | 283 |
| 4/0-03MPGC15KVG | 4/0 | 19 | 175 | 1 | 19 | 140 | 2.40 | 4415 | 2795 | 383 | 325 |
| 250-03MPGC15KVG | 250 | 37 | 175 | 1/0 | 19 | 140 | 2.53 | 5080 | 3331 | 423 | 359 |
| 350-03MPGC15KVG | 350 | 37 | 175 | 2/0 | 19 | 140 | 2.78 | 6540 | 4455 | 517 | 438 |
| 500-03MPGC15KVG | 500 | 37 | 175 | 4/0 | 19 | 140 | 3.10 | 8975 | 6358 | 632 | 536 |
| 15000 VOLTS, 133% INSULATION LEVEL | | | | | | | | | | | |
| 1-03MPGC15KVU | 1 | 19 | 220 | 5 | 7 | 140 | 2.27 | 2780 | 1246 | 220 | 187 |
| 1/0-03MPGC15KVU | 1/0 | 19 | 220 | 4 | 7 | 140 | 2.30 | 3080 | 1517 | 254 | 215 |
| 2/0-03MPGC15KVU | 2/0 | 19 | 220 | 3 | 7 | 140 | 2.39 | 3515 | 1852 | 290 | 246 |
| 3/0-03MPGC15KVU | 3/0 | 19 | 220 | 2 | 19 | 140 | 2.49 | 4055 | 2269 | 334 | 283 |
| 4/0-03MPGC15KVU | 4/0 | 19 | 220 | 1 | 19 | 140 | 2.60 | 4720 | 2795 | 383 | 325 |

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

Specification

MINE POWER CABLE - TYPE MP-GC

XLP, Tape Shield, PVC Jacket, 15000 Volts

1. SCOPE

- 1.1 This specification describes three-conductor Type MP-GC power cable with XLP (crosslinked polyethylene) insulation for use in circuits rated 15000 volts at a maximum conductor temperature of 90°C. Cables are intended for use as power distribution cable suitable for installation in boreholes, shafts, horizontal runs in underground entries, aerial suspension on insulators and other semi-permanent mining and industrial feeder installations.

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 Class B stranded, uncoated copper per Part 2 of ICEA.

4. CONDUCTOR SHIELDING

- 4.1 Conductors shall employ conductor shielding meeting the requirements of Par. 4.3.2 of ICEA.

5. INSULATION

- 5.1 A homogenous wall of XLP insulation shall be extruded over the conductor shielding. The average thickness shall be as specified in 4-4 of ICEA. The minimum thickness shall be not less than 90 percent of the specified average thickness.
- 5.2 Physical and electrical properties of the insulation shall be in accordance with Par. 4.4 of ICEA.

6. SHIELDING

- 6.1 An extruded conducting thermosetting insulation shield shall be applied over the insulation in accordance with Par. 4.5 of ICEA. An uncoated copper tape shield shall be applied over the extruded insulation shield in accordance with the requirements of Par. 4.5 of ICEA.

7. CIRCUIT IDENTIFICATION

- 7.1 A color coded tape (black, white, red) applied under the metallic shielding tape shall provide circuit identification on each power conductor in accordance with Par. 4.6 of ICEA.

8. GROUNDING CONDUCTORS

- 8.1 The grounding conductors shall be Class B stranded annealed uncoated copper of not less than the size shown in Table 4-1 of ICEA for the corresponding power conductor sizes.

9. GROUND CHECK CONDUCTOR

- 9.1 The minimum ground check conductor shall be given in Table 4-1 of ICEA for the corresponding power conductor sizes. The conductor shall have a yellow insulation meeting the requirements of Par. 4.4.2 of ICEA and shall 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 Par. 4.7 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 cable assembly.

11. JACKET

- 11.1 A thermoplastic jacket shall be extruded over the assembly in accordance with Par. 4.8 of ICEA.
- 11.2 The jacket shall be PVC (polyvinyl chloride) meeting the requirements of Table 4-7 of ICEA.

12. COMPLETED CABLE

- 12.1 The outside diameter of the cable shall be in accordance with Table 4-4 of ICEA. The outside diameter of the completed cable shall be within plus 8 and minus 5 percent of the nominal value.

13. SURFACE MARKINGS

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