

# MINE POWER FEEDER CABLE, TYPE MP-GC CROSS-LINKED POLYETHYLENE INSULATION (XLP) SHIELDED, 5000 TO 15000 VOLT 90°C CONDUCTOR TEMPERATURE

## SCOPE:

This specification covers Aetna Insulated Wire's standard construction for three conductor mine power feeder cables with two ground conductors and one ground check conductor. The cable is insulated with solid dielectric cross-linked polyethylene (XLP) and an overall jacket of polyvinylchloride (PVC) or chlorinated polyethylene (CPE). All power cables manufactured under this specification comply in all respects with the referenced specifications.

## PRODUCT SPECIFICATIONS AND RATINGS:

- i) ICEA S-75-381/NEMA WC58 Portable and Power Feeder Cables for Use in Mines and Similar Applications.
- ii) Federal Register 30 CFR Part 7K
- iii) Underwriters Laboratories 1072 for Medium Voltage Power Cables
- iv) ICEA S-93-639/NEMA WC74 Shielded Power Cable 5 - 46KV
- v) See individual product sheets for specific listings and ratings.

## APPLICATION:

Mine Power Feeder cables are recommended for use as primary power distribution cable in mines, mine tunnels and properly supported in shafts. All power cables manufactured under this specification are suitable for 5000 V to 15,000 V operation, at the 100 and 133% insulation levels. MP-GC is suitable for aerial suspension, in direct burial applications, in ducts and in other semi-permanent mining or industrial feeder applications. The cable may be used in wet or dry locations at conductor temperatures of 90°C continuous, 130°C emergency overload and 250°C short circuit.

## CONSTRUCTION DATA:

**Conductors** - The conductor consists of uncoated soft copper strands meeting the requirements of ASTM B3. Unless otherwise specified the conductor is supplied as Class B compact per ASTM B496.

**Conductor Shield** - The conductor shield consists of an extruded semi-conducting layer meeting the re-

quirements of the governing specifications above.

**Insulation** - The insulation is cross-linked polyethylene (XLP) extruded concentrically over the conductor to the wall thickness as specified in the governing specifications listed and as shown on the individual product specification sheets.

**Insulation Shield** - Insulation shield consists of a semi-conducting extruded compound and a 5 mil bare copper metallic tape overlapped a minimum of 20%.

**Conductor Coding** - Phase identification for multi conductor cables is provided by a colored stripe on the insulation shield of each of the conductors (red, black, white).

**Ground Wires** - Cables include two stranded bare copper ground wires, one in each of two interstices.

**Ground Check Conductor** - One yellow insulated ground check conductor, size #8 AWG is located in the third interstice.

**Assembly** - Three insulated shielded conductors, two ground wires and one ground check conductor are cabled together. Suitable fillers are used in the interstices to round out the cable cross section. A mylar binder is applied over the assembly.

**Jacket** - A sunlight and ozone resistant jacket of PVC or CPE is extruded over the assembly. Optional jacket materials are available that offer enhanced ratings and performance.

## AVAILABLE OPTIONS:

- a) Tree Retardant XLP insulation
- b) (-40°C) PVC jacket
- c) Aetna 3742 non-halogen, flame resistant, low smoke, low corrosion, non toxic jacket
- d) Custom grounds