

# INTERLOCKED ARMORED POWER CABLE 5000 TO 35000 VOLT, SHIELDED ETHYLENE-PROPYLENE RUBBER INSULATION (EPR) TYPE MV-105 OR MC, MULTI-CONDUCTOR

## SCOPE:

This specification covers Aetna Insulated Wire's standard construction for multi-conductor shielded power cables in the 5-35 kV voltage class insulated with ethylene-propylene rubber (EPR), the insulated conductors cabled with a ground wire and the assembly encased in interlocked armor, with a protective jacket overall.

## PRODUCT SPECIFICATIONS AND RATINGS:

- i) National Fire Protection Association (NFPA) 70: National Electric Code (NEC)
- ii) Underwriters Laboratories 1072 for Medium Voltage Power Cables
- iii) ICEA S-93-639/NEMA WC74 Shielded Power Cable 5 - 46KV
- iv) For ratings see the individual product specification sheets.

## APPLICATION:

All cables produced to this specification are recognized by UL as Type MV-105 or MC and are suitable for use as described in the code. The cables are suitable under the code for 5-35 kV applications, at both 100% and 133% insulation levels. Cables are rated at conductor temperatures for continuous operation at 105°C, for emergency overload at 140°C and for short circuit at 250°C. The cables meet the requirements for application in NEC Class I and II, Div 2 and Class III, Div 1 and 2, Hazardous Locations. The cables are intended for use in industrial applications where the protection of steel or aluminum armor is necessary. The cables may be used in wet or dry locations, installed in racks, trays or aerially. These cables have an overall jacket and can be direct buried and buried in concrete.

## CONSTRUCTION DATA:

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

**Conductor Shield** - The conductor shielding consists of an extruded semi-conducting layer meeting the requirements of the governing specifications above.

**Insulation** - The insulation is ethylene-propylene rubber (EPR) 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 Shielding** - Insulation shielding consists of a semi-conducting extruded compound and a 5 mil bare copper metallic tape shield overlapped a minimum of 20%.

**Conductor Coding** - Phase identification is provided by a printed color stripe on each insulated conductor (red, black, white).

**Ground Wire** - All cables include one stranded bare copper ground in one of the outer cable interstices. The ground wire is sized per NEC/UL requirements.

**Assembly** - Conductors and ground wire are cabled together with a left hand lay and suitable fillers to make the cable round. A binder tape is applied.

**Armor** - Over the taped assembly there is an interlocking armor of either aluminum or galvanized steel.

**Jacket** - A protective sunlight and ozone resistant jacket of polyvinyl chloride (PVC) or chlorinated polyethylene (CPE) is extruded for a tight fit over the interlocked armor.

## AVAILABLE OPTIONS:

- a) Four conductor cables.
- b) With or without ground wire – insulated grounds – multiple grounds
- c) Alternate shielding constructions – coated copper tape shield
- d) (-40°C) PVC jacket or LLD Polyethylene jacket.
- e) Aetna 3742 non-halogen, flame resistant, low smoke, low corrosion, non toxic jacket.