CONTINUOUSLY CORRUGATED WELDED ALUMINUM ARMOR POWER CABLE , 5000 TO 35000 VOLT, SHIELDED ETHYLENE-PROPYLENE RUBBER INSULATION (EPR) TYPE MV-105 OR MC-HL, OR CROSSLINKED POLYETHYLENE (XLP) TYPE MV-90 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) or crosslinked polyethylene (XLP), the insulated conductors cabled with ground wire(s) and the assembly encased in continuous corrugated welded armor, and a protective polyvinyl chloride (PVC) 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) IEEE 1202 - Flame Testing of Cable for use in Cable Tray in Industrial and Commercial Occupancies (70,000 BTU)
v) ICEA T-29-520 Vertical Cable Tray Flame Tests (210,000 BTU)
vi) UL 2225 Cables and Cable Fittings For Use in Hazardous Locations
vii) For ratings see the individual product specification sheets.

APPLICATION:
All cables produced to this specification are recognized by the NEC as Type MC-HL and Type MV-105 (EPR) or Type MC and Type MV-90 (XLP) and are suitable for use as described in the code. The cables are suitable for 5-35 kV applications, both 100% and 133% insulation levels. EPR cables are rated at conductor temperatures for continuous operation of 105°C, for emergency overload at 140°C and for a short circuit of 250°C. XLP cables are rated at conductor temperatures for continuous operation at 90°C, for emergency overload at 130°C and for short circuit at 250°C. The cables meet the requirements for application in NEC Class I , Class II and Class III, Div 1 and 2, Hazardous Locations covered under NEC Articles 501, 502 and 503. The cables are intended for use in industrial applications where aluminum armor protection is necessary. The continuously welded sheath serves to provide a completely moisture impervious barrier for the core as well as providing superior electro static shielding characteristics. The cables are manufactured with three symmetrically placed grounds making them advantageous for use in pulse-width modulated cables and variable frequency drive applications. The cables may be used in wet or dry applications, installed in racks, trays or aerially. These cables have an overall jacket and can be direct buried in earth 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) or crosslinked 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. Tree-retardant crosslinked polyethylene (TR-XLP) is available upon request.

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, blue).

Ground Wire - All cables include three stranded bare copper ground wires each in one of the outer cable interstices. The combined cross section is sized per NEC/UL requirements. However, custom ground sizes and configurations are available upon request.

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 a continuously corrugated welded aluminum armor.

Jacket - A protective sunlight and ozone resistant jacket of polyvinyl chloride (PVC) is extruded for a tight fit over the welded armor.

AVAILABLE OPTIONS:
a) TR-XLP insulation
b) Custom ground configurations
c) CPE jacket
d) Low temperature PVC jacket
e) Aetna 3742 non-halogen, flame resistant, low smoke, low corrosion, non toxic jacket.

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