

# UNDERGROUND DISTRIBUTION POWER CABLE (UD/URD) CROSS-LINKED POLYETHYLENE INSULATION (XLP) 5000 TO 35000 VOLT

## DESCRIPTION:

This specification covers Aetna Insulated Wire's standard construction for primary underground distribution power cable insulated with solid dielectric cross-linked polyethylene (XLP), applied concentric neutral and overall jacket.

## PRODUCT SPECIFICATIONS AND RATINGS:

- i) ICEA S-94-649 Concentric Neutral Cables Rated 5-46 kV
- ii) AEIC CS8 Specification for Extruded Dielectric Shielded Power Cables Rated 5 through 46 kV
- iii) See individual product sheets for specific listings and ratings.

## APPLICATION:

All power cables manufactured under this specification are intended for use in underground primary distribution systems. The cables may be used in wet or dry locations, installed underground in ducts or conduits, exposed to weather, in the presence of various chemicals, oils or ozone and are suitable for direct burial. Cables are designed for a continuous operating temperature of 90°C, an emergency overload temperature of 130°C and a short circuit temperature of 250°C.

## CONSTRUCTION DATA AND SPECIFICATIONS:

**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 requirements of the governing specifications above.

**Insulation** - The insulation is cross-linked polyethylene (XLP) extruded in a single pass with the conductor and insulation shields 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 an extruded semi-conducting material meeting the requirements of the governing specifications above.

**Concentric Conductor** - Applied spirally over the

semi-conducting layer is a concentric neutral conductor consisting of annealed soft bare copper wires. The wires are approximately evenly spaced and are made available as either a full neutral having the same circular mil area as the central conductor, or a 1/3rd neutral having a circular mil area equal to one-third the area of the central conductor. The size and number of wires is as show in the individual product spec sheets. As appropriate, a binder is applied over the concentric wires.

**Overall Jacket** - A sunlight and ozone resistant jacket of polyvinylchloride (PVC) or linear low density polyethylene (LLDPE) is extruded overall.

## AVAILABLE OPTIONS:

- a) Tree Retardant Cross-Linked Polyethylene Insulation
- b) Reduced or enhanced concentric sizes.
- c) Encapsulating jackets with LLDPE.
- d) (-40°C) PVC jacket.
- e) Aetna 3742 non-halogen, flame resistant, low smoke, low corrosion, non toxic jacket.