PRYSMIAN CABLES & SYSTEMS

SUPERTUF®

Performance | Innovation | Reliability

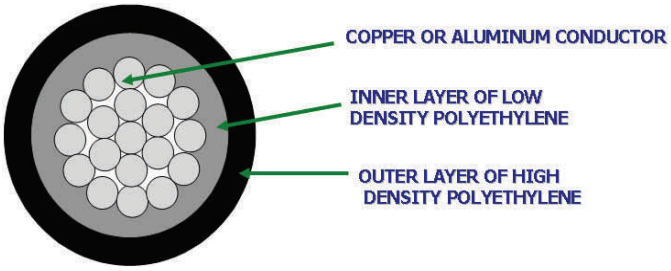
Cable Design

Secondary cable reliability is very important in today's low voltage underground marketplace due to the fact that secondary failures can be very time consuming and expensive. A survey of 25 major utilities found that the average cost to replace a secondary failure was $700/issue.

Through continuous research and design, Prysmian has developed a cable that takes the standard XLPE insulated cable to the next level of reliability. Prysmian developed Supertuf® cables

(ruggedized XLPE) that meet and exceed applicable design standard ICEA S-81-570.

Supertuf cables were designed to improve the resistance of the standard XLPE cable to mechanical damage commonly associated with direct buried applications. The Supertuf design incorporates an inner layer of low density



polyethylene and an outer layer of high density polyethylene. This ruggedized XLPE construction is formulated to provide a balance of mechanical toughness and flexibility.

Performance

Mechanical abuse tests were performed in accordance with ICEA Publication S-81-570 "Guide for 600 Volt Direct Burial Cable Single Electrical Conductors and Assemblies with Ruggedized Extruded Insulation". The comparative results of the sharp impact, blunt impact, abrasion, scoring, puncture, and crush tests are shown in the following table.

	RUGGEDIZED XLPE	STANDARD XLPE
SHARP IMPACT IMPACT RESISTANCE TO FAILURE	120%	100%
BLUNT IMPACT IMPACT RESISTANCE TO FAILURE	140%	100%
ABRASION CYCLES TO CONTACT	495%	100%
CRUSH POUNDS TO CONTACT	140%	100%
PUNCTURE POUNDS TO CONTACT	140%	100%
SCORING CYCLES TO CONTACT	6500%	100%

Advantage Supertuf

The data provided in the above table, gives a statistical justification for ruggedized XLPE vs. standard XLPE. Another justification for the use of Supertuf is the elimination of conduit. Because Supertuf is a ruggedized design, it provides a more worry-free installation when direct buried. This feature improves installation time and decreases installation costs! Also recognize that a direct buried cable can be operated at a higher ampacity than a cable in conduit. Therefore, the removal of conduit possibly affords a smaller conductor size and lower initial costs, while accomplishing the same job.

Installation Options

Supertuf cables are rated to operate up to 600V at 90°C in the following environments:

- Direct Buried
- Underground Duct
- Wet Locations
- Dry Locations
- Utility Secondary
- Industrial
- Underground Service Entrance

Key Design Features

Conductor

- Aluminum 1350 per ASTM
  - Class B Compressed Unilay (1 AWG to 4/0 AWG)
  - Class B Compressed Round

Phase Insulation

- Low density polyethylene inner layer and high density polyethylene outer layer

Neutral Insulation

- Low density polyethylene inner layer and high density polyethylene outer layer with extruded yellow stripes for neutral identification

Assembly

- For multiple cable assemblies, one, two, or three phase conductors with one neutral twisted together

Cable Markings

- Sequential footage markings on one phase conductor. Phase identification surface printed in white ink: 1/C "Phase A", 1/C "Phase B", 1/C "Phase C", as applicable

Optional manufacturing capabilities are further detailed below:

- Strandseal®
- Copper Conductors
- Series 8000 Aluminum Conductors
- Paralleled
- Solid Black Neutral

Industry Standards

Prysmian's Supertuf cables are manufactured to the latest versions of the following industry standards:

UL 854: Type USE-2
ICEA S-81-570
REA U-2

The KEY is choosing the right cable for the right application

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