

69kV – 138kV XLPE Insulated Transmission Cable

Extruded XLPE | Sub-Transmission & Transmission Class | Underground Utility Infrastructure

PRODUCT OVERVIEW

Mirabel Energy USA 69kV–138kV XLPE insulated transmission cable represents the entry point of the high voltage underground cable class — serving sub-transmission and transmission infrastructure for electric utilities, independent power producers, large industrial campuses, and data center hyperscale developments requiring dedicated underground transmission supply. Cross-linked polyethylene (XLPE) dry-cured insulation delivers exceptional dielectric strength, low dielectric loss (tan δ), and superior thermal performance compared to legacy PILC (Paper Insulated Lead Covered) and fluid-filled designs — with no maintenance-intensive oil pressure systems. Extruded semi-conducting conductor and insulation screens provide a smooth, void-free interface that maximizes service life and dielectric integrity under continuous electrical stress. Available in single-conductor constructions with copper or aluminum conductors and copper wire or tape shield, engineered to meet AEIC CS9 and IEC 60840 specifications.

69kV – 138kV Voltage Range	90°C Normal Conductor Temp	250°C Fault Short-Circuit	IEC 60840 Primary Standard
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APPLICATIONS

- Utility sub-transmission underground cable (69kV and 115kV class)
- Transmission-level urban underground infrastructure (138kV)
- Generation interconnect — power plant to grid step-up substation
- Hyperscale data center and AI campus dedicated HV utility feed
- Industrial complex primary service entrance at 69kV–138kV
- Overhead-to-underground transition on transmission corridors

KEY SPECIFICATIONS

- 69kV–138kV rated — IEC 60840, AEIC CS9, and IEEE 404 compliant
- Triple-extruded XLPE insulation: dry cure, void-free conductor/insulation interface
- Conductor temp: 90°C normal / 130°C emergency / 250°C fault
- Copper or aluminum segmental conductors — 500 kcmil to 2500 kcmil
- Copper wire shield or copper tape shield — selectable for system design
- Longitudinal and radial water blocking — moisture barrier metallic laminate
- Polyethylene (PE) or HDPE outer jacket — UV and mechanical protection
- Available with metallic moisture barrier sheath (Al or Cu laminate)

TECHNICAL SPECIFICATIONS

Parameter	69kV Class	138kV Class
Voltage (Um)	69kV (76kV Um)	138kV (145kV Um)
BIL Rating	350kV	650kV
Insulation Type	XLPE (dry cure)	XLPE (dry cure)
Conductor Temp Normal	90°C	90°C
Conductor Temp Emerg.	130°C	130°C
Conductor Sizes	500–2500 kcmil	500–2500 kcmil
Primary Standard	IEC 60840 / AEIC CS9	IEC 60840 / AEIC CS9

CONDUCTOR SIZES & CONFIGS 500 kcmil – 2500 kcmil Cu or Al Single conductor CWS or CTS shield	STOCKING & PROCUREMENT Reno, NV · Houston, TX Long-lead and project-phased delivery supported	APPLICATION ENGINEERING GCP Energy LLC — Salt Lake City, UT Ampacity, thermal, and system design support available
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