

5kV Medium Voltage Power Cable — MV-90 / MV-105

XLPE & EPR Insulated | Shielded & Unshielded | Industrial, Commercial & Utility Distribution

PRODUCT OVERVIEW

Mirabel Energy USA 5kV medium voltage cable is engineered for power distribution in industrial facilities, commercial buildings, utility feeders, and renewable energy installations where system voltages require a step above low-voltage construction but the infrastructure demands of sub-transmission cable are not yet required. Available in MV-90 (90°C rated) and MV-105 (105°C rated) designations with XLPE or EPR insulation systems, these cables are suited for wet and dry locations, conduit, direct burial, and cable tray installations. Unshielded constructions are available for grounded systems per NEC 310.10(E), while copper tape-shielded designs are standard for ungrounded and resistance-grounded systems. Ideal for motor leads, transformer secondaries, and distribution feeders in manufacturing, water treatment, and data center utility infrastructure.

90°C Normal Operation	130°C Emergency Overload	250°C Short-Circuit Fault	1,000 lbs/ft Max Sidewall Pressure
5 kV (8.7kV BIL) Voltage Rating	90°C / 105°C Temp Rating	XLPE or EPR Insulation	1,000 lbs/ft Sidewall Press.

APPLICATIONS

- Industrial plant MV distribution feeders and motor leads
- Commercial building utility service entrance (5kV class)
- Renewable energy (solar / wind) MV collection circuits
- Water and wastewater treatment plant power distribution
- Data center utility infrastructure and generator tie cables
- Mining surface operations and portable substation feeds

KEY SPECIFICATIONS

- 5kV (8.7kV BIL) voltage rating — MV-90 (90°C) and MV-105 (105°C) available
- XLPE insulation: superior dielectric strength, low capacitance, chemical resistance
- EPR insulation: maximum flexibility, water-tree resistance, ideal for wet locations
- Copper tape shield option for ungrounded/resistance-grounded system applications
- Rated for wet/dry locations, conduit, cable tray, and direct burial
- Lube-free jacket options available — no lubrication required for conduit pulls
- 1,000 lbs/ft maximum sidewall pressure — designed for long conduit pulls
- Concentric stranded or compressed stranded conductors — #2 AWG through 1000 kcmil

TECHNICAL SPECIFICATIONS

Parameter	MV-90 (XLPE)	MV-90 (EPR)
Voltage Rating	5kV / 8.7kV BIL	5kV / 8.7kV BIL
Conductor Temp (Normal)	90°C	90°C
Conductor Temp (Emerg.)	130°C	130°C
Conductor Temp (Fault)	250°C	250°C
Insulation Thickness	Per ICEA S-93-639	Per ICEA S-93-639
Shield Type	Cu tape (optional)	Cu tape (optional)
Jacket	PVC / LSZH / CSPE	PVC / LSZH / CSPE

CONDUCTOR SIZES & CONFIGS #2 AWG – 1000 kcmil 1/C, 3/C Shielded and unshielded	STOCKING LOCATIONS Reno, NV · Houston, TX Standard & project-phased delivery	OEM REPRESENTATIVE GCP Energy LLC — Salt Lake City, UT portal.gcpenergy.us
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15kV Medium Voltage Power Cable — MV-90 / MV-105

XLPE & EPR Insulated | Copper Tape Shielded | Utility Distribution & Substation Feeder

PRODUCT OVERVIEW

Mirabel Energy USA 15kV medium voltage cable is the most widely specified voltage class in North American utility distribution and industrial power systems — covering the majority of underground residential distribution (URD), substation feeder, and industrial MV infrastructure. Available in MV-90 and MV-105 ratings with XLPE or EPR insulation, these cables are designed for installation in wet and dry areas, conduit and duct systems, direct burial, exposed sunlight, and anywhere superior electrical performance is required. Copper tape shielded construction is standard for utility-grade applications, with concentric neutral designs available for direct buried URD service. Jacket types are available that permit conduit installation without lubrication, and all constructions are rated for 1,000 lbs/ft maximum sidewall pressure.

90°C Normal Operation	130°C Emergency Overload	250°C Short-Circuit Fault	1,000 lbs/ft Max Sidewall Pressure
15 kV (110kV BIL) Voltage Rating	90°C / 105°C Temp Rating	XLPE or EPR Insulation	1,000 lbs/ft Sidewall Press.

APPLICATIONS

- Utility underground distribution feeders (15kV class)
- Substation to distribution transformer primary cable
- Industrial plant MV switchgear tie cables and bus feeds
- Data center and campus utility 15kV service entrance
- Direct buried URD (Underground Residential Distribution) service
- Renewable energy collection circuits — wind and solar farms

KEY SPECIFICATIONS

- 15kV (110kV BIL) voltage rating — MV-90 and MV-105 temperature grades
- XLPE insulation: superior dielectric strength, ideal for high thermal loads
- EPR insulation: exceptional flexibility and water-tree resistance for wet locations
- Copper tape shield — standard for utility and industrial shielded applications
- Concentric neutral (CN) construction available for direct buried URD service
- Lube-free jacket options — conduit installation without lubrication
- Rated for wet/dry, conduit, duct, direct burial, and sunlight exposure
- Conductors from #2 AWG through 1000 kcmil — single and triplexed configurations

TECHNICAL SPECIFICATIONS

Parameter	MV-90 (XLPE)	MV-105 (EPR)
Voltage Rating	15kV / 110kV BIL	15kV / 110kV BIL
Conductor Temp (Normal)	90°C	105°C
Conductor Temp (Emerg.)	130°C	140°C
Conductor Temp (Fault)	250°C	250°C
Min. Insulation Thick.	175 mils	175 mils
Shield Type	Cu tape / CN	Cu tape / CN
Jacket	PVC / LSZH / CSPE	PVC / LSZH / CSPE

CONDUCTOR SIZES & CONFIGS #2 AWG – 1000 kcmil 1/C, 3/C, Triplexed Cu tape or CN shield	STOCKING LOCATIONS Reno, NV · Houston, TX Standard & project-phased delivery	OEM REPRESENTATIVE GCP Energy LLC — Salt Lake City, UT portal.gcpenergy.us
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25kV Medium Voltage Power Cable — MV-90 / MV-105

XLPE & EPR Insulated | Copper Tape Shielded | Sub-Transmission Feeder & Industrial MV

PRODUCT OVERVIEW

Mirabel Energy USA 25kV medium voltage cable is engineered for the sub-transmission and high-capacity distribution segment of North American power infrastructure — serving utility feeders, large industrial service entrances, wind and solar generation interconnects, and campus power systems requiring higher voltage class performance than 15kV distribution. Available in both MV-90 and MV-105 temperature ratings with XLPE or EPR insulation, 25kV cables are designed for demanding installation environments including long conduit pulls, direct burial, and cable tray runs where thermal performance and dielectric integrity over decades of service life are paramount. Copper tape shielded constructions are standard for all ungrounded and resistance-grounded system applications.

90°C Normal Operation	130°C Emergency Overload	250°C Short-Circuit Fault	1,000 lbs/ft Max Sidewall Pressure
25 kV (150kV BIL) Voltage Rating	90°C / 105°C Temp Rating	XLPE or EPR Insulation	260 mils Min Insul. Thick.

APPLICATIONS

- Utility sub-transmission underground feeders (25kV class)
- Large industrial facility primary service entrance (25kV)
- Wind and solar generation MV collection and step-up systems
- Military installation and federal facility power distribution
- Large data center and hyperscale campus 25kV utility infrastructure
- Refinery, petrochemical, and heavy industrial MV power systems

KEY SPECIFICATIONS

- 25kV (150kV BIL) voltage rating — MV-90 and MV-105 temperature classes
- XLPE insulation: low dielectric loss, high thermal endurance for long circuits
- EPR insulation: flexibility and aging resistance for harsh service conditions
- 260 mil minimum insulation wall — per ICEA S-93-639 for 25kV systems
- Copper tape shield — continuous helical overlap, grounded at termination points
- Suitable for solidly grounded, ungrounded, and resistance-grounded systems
- 1,000 lbs/ft maximum sidewall pressure — engineered for long underground pulls
- Single-conductor and three-conductor triplexed configurations available

TECHNICAL SPECIFICATIONS

Parameter	MV-90 (XLPE)	MV-105 (EPR)
Voltage Rating	25kV / 150kV BIL	25kV / 150kV BIL
Conductor Temp (Normal)	90°C	105°C
Conductor Temp (Emerg.)	130°C	140°C
Conductor Temp (Fault)	250°C	250°C
Min. Insulation Thick.	260 mils	260 mils
Shield Type	Copper tape	Copper tape
Jacket	PVC / LSZH / CSPE	PVC / LSZH / CSPE

35kV Medium Voltage Power Cable — MV-90 / MV-105

XLPE & EPR Insulated | Copper Tape Shielded | Sub-Transmission & Generation Tie Cable

PRODUCT OVERVIEW

Mirabel Energy USA 35kV medium voltage cable represents the upper boundary of the MV cable class — serving sub-transmission feeders, generation step-up interconnects, and large industrial systems operating at the highest distribution voltages. 35kV cable is the primary choice for connecting utility substations to major industrial customers, wind and solar generation sites to the grid, and for underground sub-transmission in urban environments transitioning away from overhead lines. XLPE insulated constructions per AEIC CS9 provide maximum thermal performance and dielectric strength for thermally demanding underground circuits, while EPR insulated designs offer flexibility and proven long-term reliability in cyclic loading and moisture-exposed environments. Available with copper tape shield, wire shield, or LC (lead-covered) constructions.

90°C Normal Operation	130°C Emergency Overload	250°C Short-Circuit Fault	1,000 lbs/ft Max Sidewall Pressure
35 kV (200kV BIL) Voltage Rating	90°C / 105°C Temp Rating	345 mils Min Insul.	Cu Tape / Wire Shield

APPLICATIONS

- Utility underground sub-transmission feeders (34.5kV)
- Wind and solar generation interconnect tie cable to utility grid
- Industrial and refinery 35kV service entrance and bus feed
- Substation interconnect — transformer primary and bus cable
- Urban underground sub-transmission replacement of overhead lines
- Data center hyperscale utility 35kV primary service infrastructure

KEY SPECIFICATIONS

- 35kV (200kV BIL) voltage rating — top of MV class, suitable for 34.5kV systems
- XLPE per AEIC CS9: premium dielectric performance for high-stress applications
- EPR: maximum long-term reliability in cyclic loading and wet installations
- 345 mil minimum insulation wall per ICEA S-93-639 / AEIC CS9
- Copper tape shield or copper wire shield — selectable per system grounding requirements
- Extruded semi-conducting conductor and insulation shields — smooth interface
- Available with metallic moisture barrier (aluminum/lead) for critical installations
- 1,000 lbs/ft maximum sidewall pressure rating across all conductor sizes

TECHNICAL SPECIFICATIONS

Parameter	MV-90 / AEIC CS9 (XLPE)	MV-90 (EPR)
Voltage Rating	35kV / 200kV BIL	35kV / 200kV BIL
Conductor Temp (Normal)	90°C	90°C
Conductor Temp (Emerg.)	130°C	130°C
Conductor Temp (Fault)	250°C	250°C
Min. Insulation Thick.	345 mils	345 mils
Shield Type	Cu tape or wire	Cu tape or wire
Standard Reference	AEIC CS9 / UL 1072	ICEA S-93-639 / UL 1072

CONDUCTOR SIZES & CONFIGS 1/0 AWG – 1000 kcmil 1/C and triplexed Cu tape or wire shield AEIC CS9 available	STOCKING LOCATIONS Reno, NV · Houston, TX Standard & project-phased delivery	OEM REPRESENTATIVE GCP Energy LLC — Salt Lake City, UT portal.gcpenergy.us
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Underground Residential Distribution (URD) Cable

Concentric Neutral (CN) | Jacketed & Unjacketed | 15kV & 25kV | Direct Burial Service

PRODUCT OVERVIEW

Mirabel Energy USA URD (Underground Residential Distribution) cable with concentric neutral construction is the standard for direct buried underground electric service in utility distribution systems across North America. The concentric neutral design uses helically applied copper wires around the insulated conductor to simultaneously serve as the system neutral, shielding layer, and fault current return path — eliminating the need for a separate neutral conductor in direct buried applications. Available in 15kV and 25kV voltage classes with XLPE or TR-XLPE (Tree-Retardant Cross-Linked Polyethylene) insulation per ICEA S-97-682 and RUS specifications. Jacketed concentric neutral (JCN) constructions provide additional corrosion protection for coastal, highly conductive soil, and stray current environments. The preferred cable for utility cooperatives, municipal utilities, and IOUs deploying underground distribution.

90°C Normal Operation	130°C Emergency Overload	250°C Short-Circuit Fault	1,000 lbs/ft Max Sidewall Pressure
Direct Burial CN Construction	TR-XLPE / XLPE Insulation	15kV / 25kV Voltage	RUS Approved Standard

APPLICATIONS

- Utility underground residential and commercial distribution service
- Rural electric cooperative underground network construction
- Municipal utility underground conversion from overhead lines
- Subdivision and planned community underground electric distribution
- Padmount transformer primary feed in residential and commercial areas
- Underground service lateral — utility pole to meter base

KEY SPECIFICATIONS

- Concentric neutral (CN): copper wires serve as shield, neutral, and fault return
- Jacketed CN (JCN) and unjacketed CN available — JCN for corrosive soil environments
- TR-XLPE (Tree-Retardant XLPE) insulation — extended service life in wet environments
- 15kV and 25kV voltage classes per ICEA S-97-682 and RUS Bulletin 1728F-U1
- Full and 1/3 concentric neutral configurations — selectable for system design
- Black LLDPE outer jacket for JCN constructions — UV and moisture resistant
- Conductor sizes: #2 AWG through 1000 kcmil stranded aluminum or copper
- Compatible with standard utility compression and mechanical connectors

TECHNICAL SPECIFICATIONS

Parameter	15kV CN (TR-XLPE)	25kV CN (TR-XLPE)
Voltage Rating	15kV / 110kV BIL	25kV / 150kV BIL
Insulation Type	TR-XLPE	TR-XLPE
Insulation Thickness	175 mils	260 mils
Neutral Construction	Concentric Cu wire	Concentric Cu wire
Jacket (JCN)	Black LLDPE	Black LLDPE
Conductor Material	Al or Cu stranded	Al or Cu stranded
Standard	ICEA S-97-682 / RUS	ICEA S-97-682 / RUS

EPR Insulated Medium Voltage Cable — 5kV through 35kV

Ethylene Propylene Rubber | Maximum Flexibility & Water-Tree Resistance | Harsh Environments

PRODUCT OVERVIEW

Mirabel Energy USA EPR (Ethylene Propylene Rubber) insulated medium voltage cable is engineered for installations where flexibility, water-tree resistance, and long-term performance in thermally and mechanically demanding environments are the primary selection criteria. EPR's inherent elastomeric properties make it the preferred insulation for cables subject to continuous flexing, frequent re-routing, and installations in confined or congested spaces where repeated bending stresses would cause premature degradation in stiffer XLPE constructions. EPR cable performs exceptionally in wet and damp locations, demonstrating superior resistance to water treeing — the primary failure mechanism for underground MV cables exposed to moisture over long service periods. Available from 5kV through 35kV in single and multi-conductor configurations, EPR insulated cables are widely specified for industrial plants, offshore platforms, marine applications, nuclear facilities, and wherever long cable service life in challenging conditions is non-negotiable.

90°C Normal Operation	130°C Emergency Overload	250°C Short-Circuit Fault	1,000 lbs/ft Max Sidewall Pressure
5kV – 35kV Voltage Range	Superior to XLPE Flexibility	Highly Resistant Water Tree	140°C Temp (Emerg.)

APPLICATIONS

- Industrial plants with frequent cable re-routing and flex demands
- Offshore platform and marine vessel MV power distribution
- Nuclear facility safety-class and non-safety MV cable applications
- Pumping stations, lock and dam facilities — continuous wet environments
- Mining surface and underground MV power feeder cable
- Chemical plant and refinery MV distribution in corrosive environments

KEY SPECIFICATIONS

- EPR insulation: elastomeric, superior flexibility vs. XLPE across all voltage classes
- Exceptional water-tree resistance — extended service life in wet/flooded installations
- Available 5kV through 35kV — single product line simplifies specification
- MV-90 (90°C normal) and MV-105 (105°C normal) temperature ratings
- Emergency overload rating: 140°C (EPR) vs. 130°C (XLPE)
- Copper tape shield or unshielded — per system grounding configuration
- CSPE (Hypalon®) or CPE jacket options for maximum chemical and oil resistance
- Passes IEEE 383 flame test — suitable for tray installations in industrial plants

TECHNICAL SPECIFICATIONS

Parameter	EPR MV-90	EPR MV-105
Voltage Range	5kV – 35kV	5kV – 35kV
Conductor Temp (Normal)	90°C	105°C
Conductor Temp (Emerg.)	140°C	140°C
Conductor Temp (Fault)	250°C	250°C
Water Tree Resistance	Superior	Superior
Flexibility vs XLPE	Significantly higher	Significantly higher
Jacket Options	PVC / CSPE / CPE	PVC / CSPE / CPE

Armored Medium Voltage Cable — 5kV through 35kV

Interlocked Armor (IAC) · Wire Armor | XLPE & EPR | Industrial, Tray & Direct Burial

PRODUCT OVERVIEW

Mirabel Energy USA armored medium voltage cable combines the dielectric performance of MV-90/MV-105 rated XLPE or EPR insulation with the mechanical protection of interlocked aluminum armor (IAC) or steel wire armor — creating a self-protecting cable system for installation environments where physical damage is a primary risk. Armored MV cable eliminates the need for conduit in many industrial and commercial applications, enabling direct installation in cable trays, raceways, and on structural steel with cable cleats. Interlocked armor constructions are standard for North American industrial and commercial applications, while steel wire armor (SWA) is preferred for direct burial and submarine applications requiring axial tensile strength. All constructions are UL 1072 listed and rated for tray, conduit, direct burial, and exposed surface installation.

90°C Normal Operation	130°C Emergency Overload	250°C Short-Circuit Fault	1,000 lbs/ft Max Sidewall Pressure
5kV – 35kV Voltage Range	IAC or SWA Armor Type	Required (IAC) No Conduit	UL 1072 Listed Rating

APPLICATIONS

- Industrial plant cable tray runs — no conduit required
- Outdoor exposed surface mounting on structural steel with cable cleats
- Direct buried MV service in corrosive or rocky soil (SWA)
- Substation control building underground entry protection
- Offshore platform and industrial dock MV power distribution
- Congested mechanical areas where physical cable protection is critical

KEY SPECIFICATIONS

- Interlocked aluminum armor (IAC): crush-resistant, eliminates conduit in cable tray
- Steel wire armor (SWA): axial tensile strength for direct burial and pulling applications
- XLPE or EPR insulation — 5kV through 35kV voltage classes
- MV-90 rated — 90°C normal / 130°C emergency / 250°C fault
- Copper tape shield under armor — maintains shielding continuity
- UL 1072 listed — suitable for tray, conduit, direct burial, and exposed installation
- Single and three-conductor (triplexed) constructions available
- Overall PVC, LSZH, or CSPE outer jacket over armor for corrosion protection

TECHNICAL SPECIFICATIONS

Parameter	Interlocked Armor (IAC)	Wire Armor (SWA)
Armor Material	Aluminum	Galvanized steel wire
Primary Advantage	No conduit in tray	Direct burial tensile
Voltage Range	5kV – 35kV	5kV – 35kV
Crush Resistance	High	Very high
Axial Tensile Strength	Moderate	High
Installation Method	Tray / surface / conduit	Direct burial / conduit
Jacket Over Armor	PVC / LSZH / CSPE	PVC / LSZH

CONDUCTOR SIZES & CONFIGS #2 AWG – 750 kcmil 1/C and 3/C IAC or SWA XLPE or EPR insulation	STOCKING LOCATIONS Reno, NV · Houston, TX Standard & project-phased delivery	OEM REPRESENTATIVE GCP Energy LLC — Salt Lake City, UT portal.gcpenergy.us
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