

EPR Insulated High Voltage Cable — 69kV to 138kV

Ethylene Propylene Rubber | Maximum Flexibility & Water-Tree Resistance | HV Submarine & Dynamic

PRODUCT OVERVIEW

Mirabel Energy USA EPR (Ethylene Propylene Rubber) insulated high voltage cable provides the industry's preferred solution for applications demanding maximum flexibility, proven water-tree resistance, and long-term reliability in dynamically stressed or continuously wet environments at transmission voltage levels. While XLPE dominates static underground land cable applications, EPR maintains a strong position in submarine cables, offshore platform power cables, and dynamic cable applications where continuous flexing and movement would rapidly fatigue a rigid XLPE insulation system. EPR's inherently flexible elastomeric structure absorbs cyclic mechanical stress without cracking or delamination at the semi-conducting screen interface — a critical advantage for floating platform risers, wave energy converters, and tidal energy applications. EPR also demonstrates superior resistance to water treeing at HV stress levels, making it the conservative choice for installations in continuously saturated environments where long maintenance intervals are required.

69kV – 138kV Voltage Range	90°C / 105°C Conductor Temp	EPR Rubber Insulation System	Dynamic Rated Flex Capability
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APPLICATIONS

- Submarine HV cable — river and bay crossings at 69kV–138kV
- Offshore platform power supply cable — fixed and semi-submersible
- Dynamic riser cable — floating production storage and offloading (FPSO)
- Tidal and wave energy converter power export cable
- Industrial facility HV cable in continuously flooded cable tunnels
- Nuclear plant safety-related HV cable requiring long qualified life

KEY SPECIFICATIONS

- EPR insulation: elastomeric — superior flexibility vs. XLPE at HV stress levels
- Proven water-tree resistance — preferred for continuously wet and submerged service
- Dynamic rated constructions available for floating platform and riser applications
- 90°C normal / 105°C emergency conductor temperature
- Available 69kV–138kV voltage class (IEC 60840 / IEEE 404)
- Armored constructions: SWA (single wire armor) or DWA (double wire armor)
- Lead or aluminum alloy sheath for radial moisture barrier in submarine designs
- Factory qualification per CIGRÉ TB 623 for submarine and dynamic service

TECHNICAL SPECIFICATIONS

Parameter	EPR HV (Land)	EPR HV (Submarine/Dynamic)
Voltage Range	69kV – 138kV	69kV – 138kV
Insulation Type	EPR	EPR (dynamic grade)
Conductor Temp Normal	90°C	90°C
Conductor Temp Emerg.	105°C	105°C
Armor	Optional SWA	SWA or DWA (standard)
Moisture Barrier	Al tape or Pb sheath	Pb alloy sheath
Standard	IEC 60840 / IEEE 404	CIGRÉ TB 623

CONDUCTOR SIZES & CONFIGS 500 kcmil – 2000 kcmil Cu or Al SWA / DWA armor Pb sheath for submarine	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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