



EmPowr® Fill LF

Lead-Free EmPowr® Fill LF
Medium-Voltage EAM Cables
From The Industry Leader

An Environmental Breakthrough

Rethinking for Modernization

Utilities today are tasked with modernizing and decarbonizing the nation's electrical grid with underground cabling systems that avoid disrupting the surrounding landscape while continuing to provide affordable, reliable service.

Facing these challenges amidst regulations and a fast-shifting landscape requires fundamentally rethinking how energy is distributed and calls for new, cleaner approaches that use less energy.

Utilities simply cannot achieve these goals on their own—it requires a long-standing, innovative partner. As the premier leader for nearly 60 years in underground medium-voltage cabling solutions, General Cable is that partner.





Modernization meets environment

To meet increasing energy demands, utilities today face considerable pressure to modernize the nation's electrical power infrastructure. This includes upgrading aging underground cabling systems to reduce installation and maintenance costs using cables with proven performance that are also designed with ever-increasing environmental regulatory requirements in mind. In the most heavily loaded high-temperature circuits, some utilities have traditionally used medium-voltage cables with Ethylene Propylene Rubber (EPR) filled insulations stabilized with lead. These cables are favored by some utilities over cross-linked polyethylene (XLPE & TRXLPE) due to excellent heat aging, wet electrical stability and flexibility characteristics. However, efforts around the globe to reduce the use of lead in cables have prompted General Cable to re-engineer products to be "green" without compromising the necessary safety and performance required for these demanding applications.

Designing for the environment

As a global leader in the energy cable industry, General Cable recognizes our role and responsibility towards environmental protection and sustainability in the 21st century. Through more than a decade of extensive research and development, General Cable has applied emerging technologies that allow for the removal of lead from filled insulation medium-voltage energy cables, while maintaining or exceeding the aging performance, electrical stability and flexibility of our traditional EmPowr® Fill medium-voltage cable.

Today, General Cable introduces an environmentally sound, lead-free filled insulation medium-voltage energy cable — EmPowr® Fill LF.

The **EmPowr® Fill LF** formulation is based upon advanced polymer catalyst technology and nearly a decade of comprehensive testing, which has proven that this new, lead-free technology will offer trouble-free service life, while providing complete compatibility with existing infrastructures. This formulation is referred to as ethylene alkene copolymer with the designation of EAM.

EmPowr® Fill LF offers the same features and benefits you have come to know and trust from our EmPowr® Fill formulation, such as:

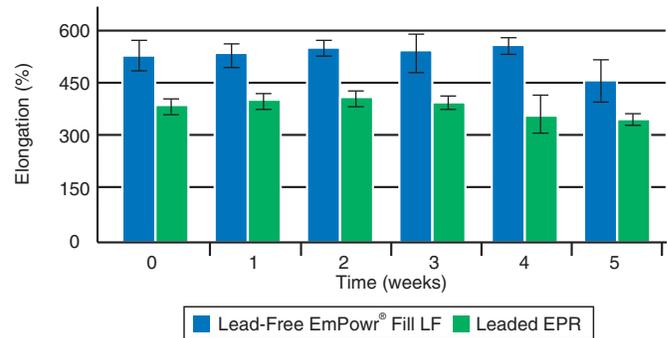
- > Excellent ICEA Cable Core Qualification test performance
- > Excellent ac breakdown strength retention during ICEA AWTT
- > Cleaner base resins and compounds
- > Continuously mixed compounds
- > Class 10000 clean room packaging and compound transfer at cable plant
- > Meets ICEA Class III Insulation 105°C/140°C Conductor Temperature Rating
- > Low insulation shield adhesion and clean stripping
- > Low dissipation factor
- > Excellent flexibility characteristics

Attentive to the challenges and transformations taking place in the utility industry, General Cable anticipated the need for a new, sustainable approach more than a decade ago. Advances in technology have enabled General Cable to pioneer a medium-voltage cable that advances the way utilities distribute power for the 21st century. The answer is **EmPowr® Fill LF**.

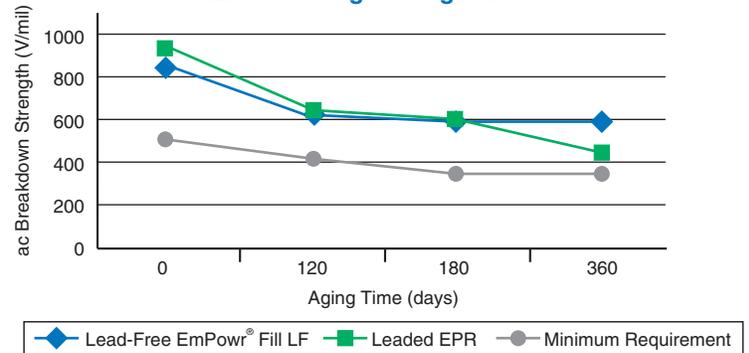
Long-term reliability and performance

Innovative **EmPowr® Fill LF** cables ensure electrical performance over the life of the cable, even in extreme conditions. Under accelerated wet (AWTT) and dry electrical testing, **EmPowr® Fill LF** exhibits excellent results—displaying high ac breakdown retention and thermal stability even under high voltage and temperature.

Insulation Heat Aging - 136°C Elongation



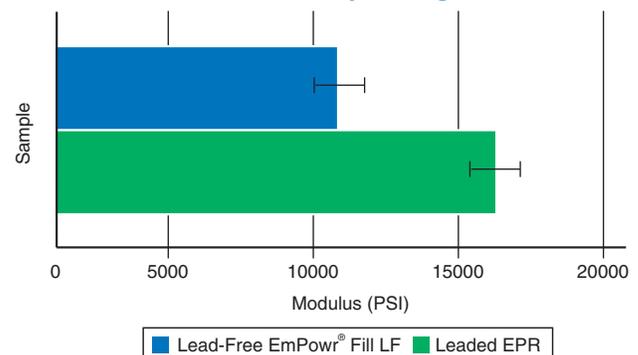
ICEA AWTT High Voltage Time Test



Demonstrated flexibility

In flexibility tests using the same insulation thickness, General Cable's **EmPowr® Fill LF** compound demonstrated flexibility characteristics superior to traditional filled insulated cables for easier cable handling during installation that helps reduce cost.

Flexibility Testing



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Form No. UTY-0050-0512