



Southwire's HPFF Retrofit Solution: PTEC^{HTS}

A CUSTOMIZED, COST-EFFECTIVE SOLUTION DESIGNED PER CUSTOMER PROJECT SPECIFICATIONS.

As utilities search for ways to maintain reliable power delivery at a reasonable cost to mitigate negative aspects of maintenance and conversion, Southwire and G&W Electric, in collaboration with EPRI, have developed a HPFF (High-Pressure Fluid Filled) Retrofit Solution, PTEC^{HTS}, which allows customers to cost effectively replace old or ailing HPFF systems while continuing to utilize existing infrastructure.

HPFF cable systems are the cornerstone of the North American underground transmission grid. Because these cables are extremely rugged and reliable, they have been used in urban areas, with great success, for many years. However, as these systems age, much of this pipe-type infrastructure now requires attention.

With limited components supply and expertise to repair or replace HPFF systems, the electric utility industry has been seeking alternatives to address their specific needs. PTEC^{HTS} provides an option to update these systems with a solid dielectric cable system while utilizing the existing infrastructure, eliminating the potential for environmental hazards, and maintaining, or potentially increasing the systems' ratings.

Retrofit Considerations for HPFF Cable Systems

What if the dielectric fluid is eliminated?

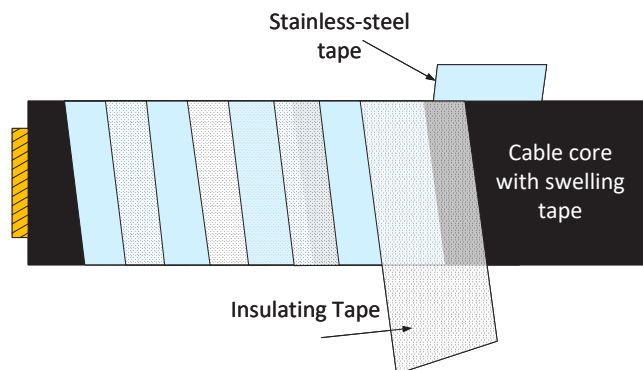
- Eliminates concerns regarding fluid leaks
- Saves the costs of locating and repairing fluid leaks
- Eliminates the need for auxiliary equipment
 - pressurizing pump plants and related operational and routine maintenance costs

What if existing steel pipes are retrofitted with extruded cable and accessories?

- Eliminates millions of dollars in construction and excavation costs
- Eliminates complicated bonding schemes for traditional underground systems
- Option to run fiber optic cable in the pipe for communications, temperature, and disturbance monitoring.

Hybrid Cable Design

- Conductor
 - Copper, compact stranded or segmented
- Insulation
 - Super smooth conductor and insulation shields
 - Super clean XPLE Insulation
- Bedding/Swelling Tape
 - Marine grade swelling tape
- Metallic Shield
 - Stainless-steel tape, interlaced with insulating tape
- Jacket
 - Provides protection against accidental water ingress into the pipe
 - HDPE Insulating jacket coextruded with semiconductive layer
- Skid wires can be installed if needed.



This product incorporates patented technology developed by the Electric Power Research Institute, Inc.
– U.S. Patent 10,991,479

Legend

Extruded Characteristics

HPFF Characteristics

*Information developed in conjunction with G&W Electric

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