Kelleys Island Subsea Cable Installation

Kelleys Island, one of the most popular tourist destinations anywhere in Ohio, is entirely served by Hancock-Wood Electric Cooperative. The power that energizes Kelleys Island comes via two 4-mile-long underwater cables from Marblehead on the mainland. That redundancy helps ensure that the power stays on even if one cable is damaged or otherwise becomes incapable of its supply duties. The power cable to the west was laid in 2003 using Kerite subsea cable and Kerite Cable Services supervision, and it is fully capable of supplying all the island's needs well into the future. The east cable, however, was last replaced in 1970, when the island's operating voltage was less than half of what it is today. If something were to happen to the west cable, the east cable would no longer be able to power the island on its own.
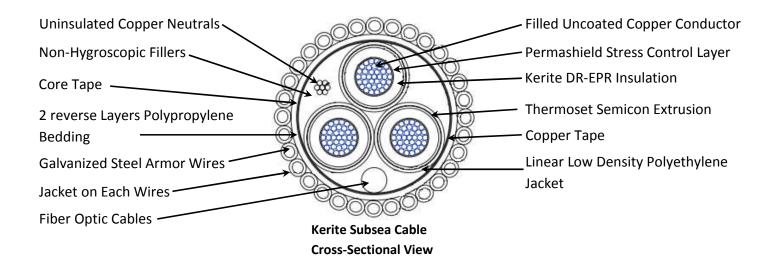
Solution

Kerite Cable Services worked on the design and supervision for 20,500ft of 15kV three conductor subsea cables. The installation workscope included the removal of existing power cable from the mainland to Kelleys Island. The cable way, lies on the lake bottom and is covered with articulating concrete block mats. Cable was terminated on the newly installed riser pole on the land side, and within a new switchgear cabinet on Kelleys Island. Final acceptance testing was completed on the power cable and fiber optical member upon completion on December of 2018.
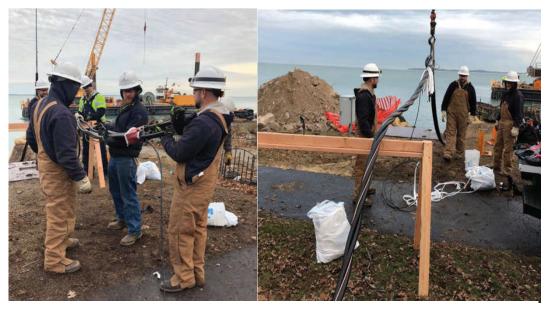
Results

Hancock-Wood Electric Cooperative made the decision to use Kerite products and services based on the great experience they had with the cable replacement project back in 2003. The new Kerite subsea cable was successfully installed without incident. The cable was tested and fully energized right before Christmas. Kerite subsea cable's unique insulation and structural properties along with its life time warranty will provide the needed reliability this customer is looking for (barring damage from a severe ice incident or entanglement with a super-sized anchor).

Uninsulated Copper Neutrals

Non-Hygroscopic Fillers

Core Tape

2 reverse Layers Polypropylene Bedding

Galvanized Steel Armor Wires

Jacket on Each Wires

Fiber Optic Cables

Filled Uncoated Copper Conductor

Permashield Stress Control Layer

Kerite DR-EPR Insulation

Thermoset Semicon Extrusion

Copper Tape

Linear Low Density Polyethylene Jacket

**Kerite Subsea Cable
Cross-Sectional View**

Installation Crew