

POWER CABLE

Hendrix® kerite®

**Kerite: Standing
the Test of Time**



The Standard of Reliability

In the MV power cable industry, product reliability is the highest priority because the consequences of cable performance issues can have serious human and financial consequences. Kerite understands this, and we have made cable reliability and performance the foundation of our firm.

Here is an overview of our early history.

1854. Founded.

Austin Goodyear Day founds Kerite in Connecticut.

1865. Invented.

A.G. DeWolfe, a Kerite plant supervisor, invents the crosshead extruder, and Kerite becomes the principal supplier of insulated telegraph wire in the U.S.

1889. Seymour, CT.

Kerite becomes power cable supplier to Seymour Electric Light Company, now part of Eversource.

1898. Gowanus Canal, NY.

The first submarine power cable – made by Kerite – is installed.

1898. Long Island, New York.

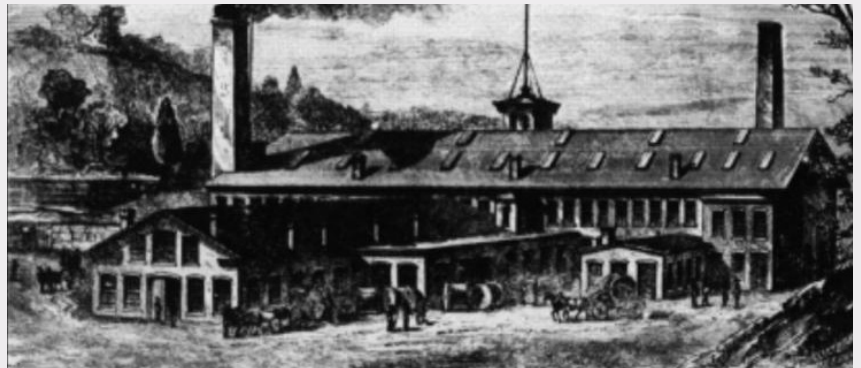
Kerite submarine cable used to reach Long Island, as Teddy Roosevelt looks on.

1908. Panama Canal.

Kerite cable installed during the initial build-out. One of our most significant accomplishments, with zero product issues to date.

1926. Fishers Island, NY.

The first underground cable installation in the U.S. is completed with Kerite HV cable.



Kerite: The Early Years

- **The original success of the company** was based on our support of the rapid expansion of the telegraph industry. Kerite extruded, insulated telegraph cable helped establish national communications infrastructure that could be counted on to perform.
- **Kerite's evolution** then led to the creation and installation of the first subsea cable, and then on to the first underground distribution cable installed in the U.S. Kerite became known for pioneering products that ensured electrical system strength.
- **The point:** The arc of our growth is based on product innovation and reliability, and we continue to build our products and our business on these attributes.

The Kerite Design Approach

The Permashield® impact. In 1962, Kerite invented Permashield, an extruded, semiconducting shield that began to replace carbon-impregnated fabric tapes as the shielding layers on MV cable.

Permashield provides stress control by virtue of its high dielectric constant, which provides stress grading at the insulation interface, blunting any concentration at the boundary between the Permashield and insulation. This design has proven highly effective over many decades, and today all Kerite cables feature the Permashield stress control layer. Testing during extrusion ensures integrity.

Discharge-Resistant EPR: An extruded solution. In 1964, the other element of the Kerite basic product design was developed. It is our proprietary Discharge-Resistant Ethylene Propylene Rubber (DR-EPR™) insulation, which we now have been formulating, compounding, and manufacturing for decades.

Discharge-Resistant EPR has electrical, mechanical, thermal and chemical properties that combine to create superior cable insulation that has been installed in all types of environments with no known cable failures due to insulation degradation or weakness. It is a record unequalled in the electrical power cable industry.

The recurring theme of reliability. Durability and performance under any conditions (including multiple underwater installations) begin with cable design, and Kerite's ability to incorporate innovation and consistent quality is why we remain a leading competitor in the industry.



Case Study: MV Cable with 55+ Years of Service Life

The facts:

- In 1958, Kerite installed 250 KCML 15kV cable in Fairfield, CT for Northeast Utilities (now Eversource).
- In 2013 (55 years later), the cable was removed for a service upgrade. The removed cable was brought back to Kerite and we tested it. Although we no longer had the original test results, the tests showed a breakdown strength of 10 times the rated operating voltage. This showed the remarkable performance and long life of the Kerite design – truly impressive cable integrity over time.

1. Breakdown strength of 10 times the operating voltage

AC Breakdown Test Results

	Average Breakdown (volts/mil)
Phase 1	400
Phase 2	393
Phase 3	399

Note: Minimum AC Breakdown Strength of 73.1 kV versus line to ground operating voltage of 7.63 kV

Ambient Impulse Breakdown Test Results

	Average Breakdown (volts/mil)
Phase 1	1183
Phase 2	735
Phase 3	1164

Note: Minimum Impulse Breakdown Strength of 137.5 kV

Lifetime Warranty

Cable service life is a function of its design properties, manufacturing, and installation. Performance, like the example outlined above, is one reason we provide our customers with a lifetime warranty – **the only one in the industry.**

Talk to Kerite

We invite your questions and thoughts regarding any aspect of our business, or of your challenges. Please contact Kerite whenever you face an MV cable issue or challenge.





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