STRANDSEAL®
Performance Innovation Reliability

What is it?
More than 30 years ago Prysmian was the first company in the United States to address the critical problem of moisture in the conductor of power cables, a major cause of water and electromechanical treeing in the insulation structure. This condition, which often results in progressive deterioration and, ultimately, premature cable failure, was traced to water ingress from a number of sources. In addition to a wet environment, these included improper pulling eyes used during cable installation, poorly made field joints, defective end seals on cable stored in unprotected outdoor areas and accidental dig-ins or cable failures.

Prysmian’s solution to the problem was the development of STRANDSEAL®, a unique proprietary compound for filling the interstices in stranded conductors during manufacturing of the cable. Application of this filling compound in production ensures complete sealing of the conductor. The result is significant reduction in treeing propagation and longer service life of the cable.

Due to Prysmian’s commitment to product development and improvement, we are proud to promote our high performance STRANDSEAL® which was made possible after years of research.

How is it made?
During conductor stranding, the patented high viscosity sealing compound, incorporating a specially developed agent, is applied at a controlled rate onto each layer of wires (except the outer layer). A precision controlled manufacturing process ensures the correct amount of sealing compound in the strand and eliminates overfilling. The outer surface of the conductor remains clean throughout the entire manufacturing process.

What does it offer?
1. Water Penetration Resistance
Qualification testing per ICEA T-31-610 requires the water penetration test to be performed on two 3-foot samples that have been exposed to three 180° reverse-bends; one sample heated to rated emergency operating temperature, and one cooled to −10°C, each for four hours. Afterward, water is applied at 5psi for one hour to one cable end. In order to pass this test, there can be no water leakage at the opposite cable end. Prysmian takes this a step further and actually passes this test at 3X the 5psi rating, 15psi.

2. Increased Service Life
Cables utilizing Prysmian’s STRANDSEAL® filling compound demonstrate improved dielectric strength over cables with unfilled conductors when tested in accordance with ICEA 1-year AWTT requirements.

STRANDSEAL® was shown to vastly improve tree retardance in standard XLPE insulated cables as well as in TRXLPE insulated cables and even in the already moisture-tolerable EPR Insulated cables.
3. Excellent Connectability
Due to the clean outer surface of the strand, STRANDSEAL® cable conductors can be spliced or terminated with standard compression type connectors using the same techniques as used for unfilled conductors.

Prysmian can supply both copper and aluminum conductors with STRANDSEAL® in a variety of low and medium voltage cables. As an added measure of protection, the following medium voltage cables provide secondary longitudinal moisture protection beneath the jacket and in the case of the TRIPLESEAL™ cable even provides a radial moisture barrier.

**PRYSMIAN’S SUPERDRI™**
- 15psi Water Penetration Resistance in the Conductor
- 5psi Water Penetration Resistance beneath the Jacket via underlying Water-Swellable Tape
- Increased Cable Flexibility due to Sleeved Jacket Design
- Easy Jacket Removal via underlying Ripcords

**PRYSMIAN’S DOUBLESEAL®**
- 15psi Water Penetration Resistance in the Conductor
- 15psi Water Penetration Resistance beneath the Jacket via Water-Swellable Powder

**PRYSMIAN’S TRIPLESEAL™**
- 15psi Longitudinal Water Penetration Resistance in the Conductor via Strandseal®
- 5psi Longitudinal Water Penetration Resistance beneath the LCShield via underlying semi-conducting Water-Swellable Tape
- 5psi Longitudinal Water Penetration Resistance beneath the Jacket via Water-Swellable Bridging Tape and Water-Swellable Powder
- 5psi Radial Water Penetration Resistance via Sealed LCShield and Water-Swellable Bridging Tape
- Many Other Performance-Based Characteristics