

# Houston Wire & Cable Company Recommends use of Polywater<sup>®</sup> Lubricant LZ with LifeGuard<sup>™</sup> Products



www.houwire.com  
1-800-HOU-WIRE

Ensure the integrity of electrical construction projects by specifying an appropriate cable pulling lubricant. Many commercially available pulling lubricants weaken LSZH/LSHF jackets and should not be used on these cables.

**Polywater<sup>®</sup> LZ** is the only pulling lubricant developed for and tested on LSZH/LSHF jackets. It meets the performance needs of power plants, mass transit systems, airports, petrochemicals, high-occupancy buildings, and other construction projects using LSZH power, control, instrumentation, and communication cables.

**Polywater<sup>®</sup> LZ** is a specification-grade, clean, slow-drying, gel lubricant that is broadly compatible with low-smoke zero-halogen jackets. Lubricant LZ provides reduced tension on all types of cable jackets. Lubricant LZ dries to a thin lubricating film that retains its lubricity for months and won't cement in the cables.

## Research on Cable Pulling Lubricant Fire Parameter

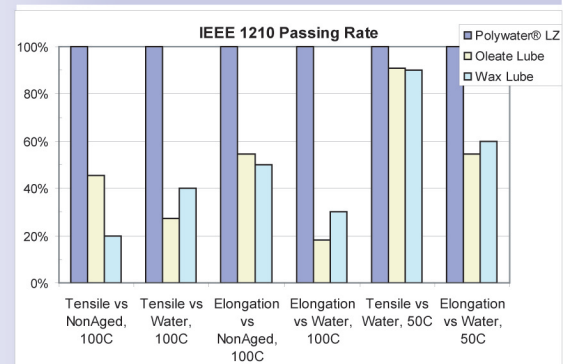
An International Wire & Cable Symposium paper entitled "Fire Parameters and Combustion Properties of Cable Pulling Compound Residues" presents startling data on lubricant residue combustibility. In the research, "wax-type" lubricants were found to melt, ignite easily, burn vigorously, and spread flame through a conduit. This paper with details on energy flux testing is available online at [www.polywater.com/IWCS.html](http://www.polywater.com/IWCS.html). Polywater<sup>®</sup> LZ will not ignite and sustain flame in standard tests. It is less combustible than fire-retardant cable jacket control samples.

## Cable Compatibility

Cable pulling lubricant compatibility is evaluated using IEEE 1210 test methods. Tensile strength and elongation tests were performed on over 29 different LSZH cable jackets representing a number of manufacturers and LSZH technologies. Cable jackets were aged in the lubricant at the temperatures specified in the standard. Polywater<sup>®</sup> LZ lubricant showed the broadest compatibility with LSZH cable jackets. Most cable pulling lubricants available through local supply houses had significant and sometimes devastating effects on LSZH cable jackets.

## Advantages of Polywater<sup>®</sup> Lubricant LZ over similar products

- Polywater<sup>®</sup> LZ is the only pulling lubricant developed for and tested on LSZH/LSHF jackets
- LZ has shown the broadest compatibility with LSZH cable jackets
- LZ dries to a thin lubricating film that retains its lubricity for months



# Polywater® Lubricant LZ

## Recommendations

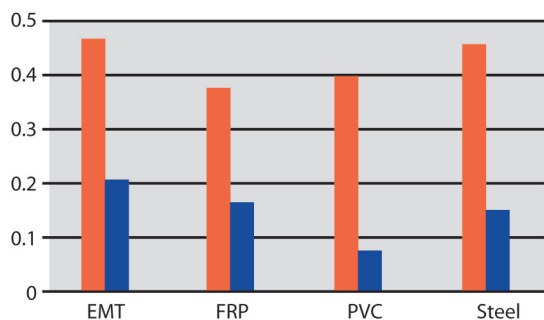
Engineers should specify a cable pulling lubricant that does not negate the fire suppression effectiveness of fire-retardant cables or degrade jacket materials. Performance specifications for lubricants should include physical property effects, jacket compatibility, ignition and flame propagation character of residues, coefficient of friction parameters specific to cable type, and manufacturer approvals. Polywater® LZ offers proven cable compatibility, superior combustion resistance, and an inherently low coefficient of friction. Polywater® LZ should be specified for installations of LSZH/LSHF cable in duct.

## Caution

Because of ongoing production and formulation advances in LSZH cable technology, please verify with cable manufacturers the current status of lubricant compatibility, or contact American Polywater directly for specific jacket details.



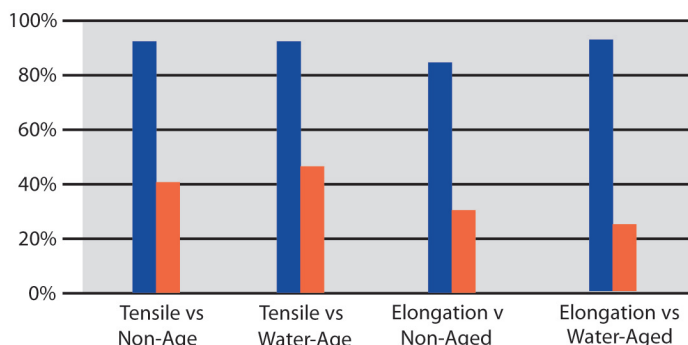
Coefficient of Friction Test Results



Polywater® LZ significantly reduces the friction of LSZH jackets in common conduits.

■ Bare (unlubricated)  
■ Polywater® LZ

IEEE Test Results



Polywater® LZ is vastly superior to wax-based lubricants in physical property retention testing.

■ Wax-Based Lubricants  
■ Polywater® LZ

PACKAGE SIZE	SUMMERGRADE POLYWATERLZ® CAT. #	WINTERGRADE POLYWATERWLZ® CAT. #
55-Gallon Drum (208 liters)	LZ-DRUM	WLZ-DRUM
5-Gallon Pail (18.9 liters)	LZ-640	WLZ-640
1-Gallon Pail (3.8 liters)	LZ-128	WLZ-128
1-Quart Bottle (0.95 liter)	LZ-35	WLZ-35

For additional information regarding Polywater® please contact your HWC representative.