

Specification Grade Polywater® Lubricant LZ

Do you specify or install low-smoke zero-halogen cables?

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® 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® 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 Parameters

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

Polywater® 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® 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. Shown at lower right is a photograph where improper cable lubricant choice contributed to LSZH cable jacket failure.



Wax-based lubricants destroyed some low-smoke zero-halogen cable jackets in aging tests.



Lubricant residue from an adjacent duct system contributed to LSZH jacket failure.

Polywater® Lubricant LZ

Recommendations

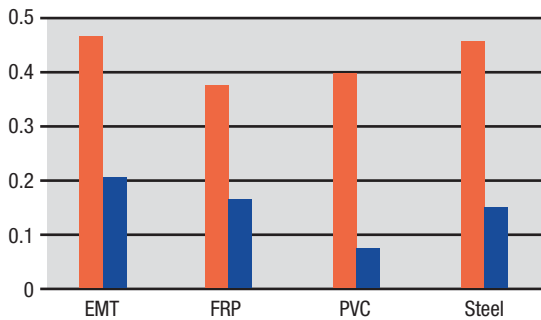
Engineers should specify a cable pulling lubricant that does not negate the fire suppression effectiveness of fire-retardant cables or degrade jacket materials. Performance specifications for lubricants should include physical property effects, jacket compatibility, ignition and flame propagation character 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.



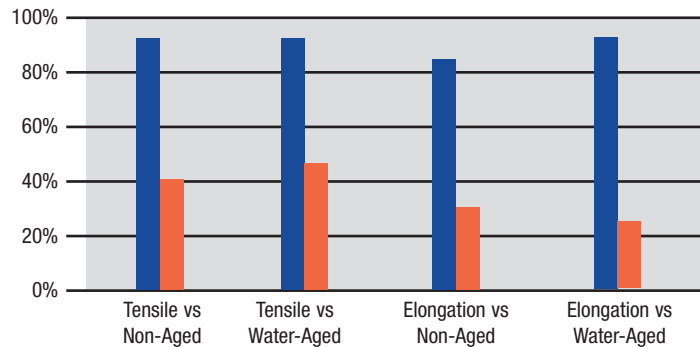
Coefficient of Friction Test Results



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 POLYWATER® LZ CAT. #	WINTERGRADE POLYWATER® WLZ 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

www.polywater.com/polyLZ.asp

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IMPORTANT NOTICE: The statements here are made in good faith based on tests and observations we believe to be reliable. However, the completeness and accuracy of the information is not guaranteed. Before using, the end-user should conduct whatever evaluations are necessary to determine that the product is suitable for the intended use.

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