

Specification for Polywater[®] Lubricant J

Description:

Polywater[®] Lubricant J is a high performance, specification grade cable pulling lubricant. Lubricant J provides excellent tension reduction in all types of cable pulling. It has high shear resistance for lubrication performance under high sidewall pressure in bends. It does not promote flame propagation when used with fire retardant cables and systems. Lubricant J is slow drying. The residue is a thin, slippery film that retains its slip for months after use. Dried residue is non-conductive and non-combustible.

Polywater[®] Lubricant J is a stringy gel that can be applied by hand or with Polywater's LP Pumps or the unique Front End Pack[™] Bag System. It is recommended for use with both electrical and communication cable.

Official Approvals: UL & CSA Listed

Performance Properties:

Lubricity: Typical values at 200 lbs/ft (2.91 kN/m) normal pressure. Results are based on the Friction Table Method described in the IEEE paper, Friction Theory and Lubrication Techniques for Improved Cable Pulling, 1985.

<u>Cable Jacket Materials</u>	<u>Conduit/Innerduct</u>	<u>Kinetic Coefficient of Friction</u>
Rubber (Hypalon)	PVC	.08
XLPE	PVC	.11
XLPE	Rigid	.13
PVC	PVC	.12
Nylon	EMT	.22
Nylon	PVC	.17

Coefficient of friction data is available on additional cable jackets and conduit substrates from American Polywater Corporation.

Cling Factor: Six inches of a one-inch diameter cable will hold at least 75 grams of lubricant for one minute when held vertically (at 70°F).

Coatability: Material will wet out evenly on all surfaces. It will not bead up or rub off of the cable jacket.

Combustibility: Lubricant has no flash point and dried residue is non-flammable. A 200-gram sample of the lubricant, when placed in a one-foot, split metal conduit and fully dried for 24 hours at 105°C, shall not spread a flame more than three inches beyond a point of ignition at a continued heat flux of 40 kW/m². Total time of test shall be one-half hour.

Physical Properties:

Appearance:	Cream-colored, stringy gel
Wax, Grease and Silicone Content:	None
Percent Non-Volatile Solids:	3.5 %
VOC Content:	None
Viscosity:	25,000 - 40,000 cps @ 10rpm
pH:	7.5 - 9.0
Toxicity:	Non-toxic and non-sensitizing

Cable Compatibility:

No deleterious effects on physical or electrical properties of cable jackets.

Polyethylene Stress Cracking: No stress cracking on LDPE cable jackets when tested per IEEE Standard 1210, Standard Tests for Determining Compatibility of Cable-Pulling Lubricants with Wire and Cable.

Tensile and Elongation Effects: Cable jacket materials LLDPE, XLPE, CPE, PVC and EPR heat aged in Polywater® Lubricant J pass tensile and elongation compatibility requirements from IEEE Standard 1210, Standard Tests for Determining Compatibility of Cable-Pulling Lubricants with Wire and Cable.

Volume Resistivity: There are no significant changes in the conductive properties of XLPE and EPR semi-conducting compounds when volume resistivity is tested according to IEEE Standard 1210, Standard Tests for Determining Compatibility of Cable-Pulling Lubricants with Wire and Cable.

Cable Approvals: Polywater® J Lubricant is approved by most cable manufacturers. Contact American Polywater for further information.

Application Properties:

Package Availability: Multiple packages, from quarts to drums, are available for use. Includes the Front End Pack™, a conduit sized polyethylene bag of lubricant. The Front End Pack™ attaches to the winch line and prelubricates the conduit ahead of the cable being pulled.

Application Systems: Application systems includes Front End Pack™ bags, pumps, and spreaders. Cable tension planning software (Pull Planner™ 2000 for Windows™) available.

Temperature Use Range: 20°F to 140°F (-5°C to 60°C).
Wintergrade version (Polywater® WJ): -20°F to 140°F (-30°C to 60°C).

Temperature Stability: No more than a 10% change in Brookfield viscosity from 40°F to 100°F (5°C to 40°C). No phase-out after five freeze/thaw cycles or 5-day exposure at 140°F (60°C).

Clean-Up: Non-staining. Complete clean-up possible with water.

Model Specification:

The cable pulling lubricant shall be Polywater® Lubricant J. It shall produce a low coefficient of friction on a wide variety of cable jacket materials and have no adverse physical or electrical effects on these materials. The lubricant shall have a low solids content and the residue shall retain its slippery character. It shall not have a flash point and the dried residue shall be non-combustible. No substitutions are permitted without certification from an officer of the manufacturer that the substitute product meets all of the requirements of this specification. **Visit <http://www.polywater.com/modelspc.html> for more details**

Test data and application information available upon request. Please call 800-328-9384.

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Makers of Polywater® and Dyna-Blue® Cable Lubricants
and Pull-Planner™ 2000 Software

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