Specification for Polywater® Plus Silicone™ Lubricant NB

Description:

Polywater® Plus Silicone™ Lubricant NB is a high performance, specification grade cable pulling lubricant. Lubricant NB provides superior tension reduction in all types of cable pulling. It is ideally suited for use with silicone-lined and prelubed duct. It has high shear resistance for lubrication performance under high sidewall pressure in bends. Lubricant NB is slow drying. The residue is a thin, slippery film that contains mini-roller balls and retains its slip for months after use. Dried residue is non-conductive and non-combustible.

Polywater® Plus Silicone™ Lubricant NB is a thick, non-stringy liquid containing mini-rollers. It is pourable and pumps easily into duct systems. It is suitable for use with both electrical and communication cable.

Performance Properties:

Lubricity: Typical coefficient of friction 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.

Cable Jacket Materials	Conduit/Innerduct	Kinetic Coefficient of Friction
MDPE	PE	.09
MDPE	PVC	.12
XHHW	PVC	.09
XHHW	EMT	.14
PVC	PVC	.11
Nylon	PVC	.20

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

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

Physical Properties:

Appearance:	Cream-colored, pourable liquid
Mini-Roller Ball Content:	2% by weight
Mini-Roller Ball Size (95%):	0.35 – 0.70 mm
Wax and Grease Content:	None
Percent Non-Volatile Solids:	5.5 %
VOC Content:	None
Viscosity:	13,000 - 20,000 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® Plus Silicone™ Lubricant NB 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® Plus Silicone™ Lubricant NB 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. Rigid pail packaging complies with the State of California's Rigid Plastic Packaging Conservation Program.

Application Systems: Application systems include pumps and spreaders. Polywater® Plus Silicone™ Lubricant NB can be pumped by the LP-D5 pumping system or any rotary or diaphragm style pump. Cable tension planning software (Pull Planner™ 2000) is available.

Temperature Use Range: 20°F to 120°F (-5°C to 50°C).
Wintergrade version (Polywater® WNB): -20°F to 120°F (-30°C to 50°C).

Temperature Stability: 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® Plus Silicone™ Lubricant NB. 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 contain 2% by weight mini-roller balls. It shall have low solids content and the residue shall retain its slippery character. It shall not have a flash point.

No substitutions are permitted without certification from an officer of the manufacturer that the substitute product meets all of the requirements of this specification.

Test data available upon request.

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

American Polywater® Corporation

P.O. Box 53
Stillwater, MN 55082
U.S.A
1-800-328-9384
1-651-430-2270

http://www.polywater.com(URL) custserv@polywater.com(e-mail)

LIT-NBTECHSPEC/7-04/INTERNAL(1/05)