

Polywater®

Lubricant J Compatibility

SUBJECT: POLYWATER® Lubricant J Compatibility with Cable Jacket Materials

DESCRIPTION: POLYWATER® Lubricant J is a slow-drying, water-based gel lubricant that is especially recommended for long pulls, high shear situations, multiple bend pulls, and pulls in a hot environment. It provides the maximum friction reduction possible between cable jacket and conduit surfaces. POLYWATER® Lubricant J is composed of polymers and other materials dispersed in water. It retains its lubricity long after the water has evaporated. It continues to lubricate on difficult pulls after other lubricants dry out.

I. COMPATIBILITY TEST - ACCELERATED AGING

Purpose: This test checks for possible migration of lubricant into the cable jacket material. Such migration might cause stress cracking and/or changes in the electrical and physical properties of the material.

Materials: The following cable jacket materials have been tested. These materials are representative of most cable jacket materials presently in use.

Polyvinyl Chloride (PVC)	Chlorosulfinated Polyethylene (CSPE, Hypalon)®
Cross-linked Polyethylene (XLP)	Ethylene Propylene (EPR)
High-molecular-weight Polyethylene(HMWPE)	Polychloroprene(CR, Neoprene)
Chlorinated Polyethylene (CPE)	Silicone Rubber
Low Density Polyethylene (LDPE)	Ethylenetetraflouroethylene (ETFE, Tefzel)®

Procedure: Approximately 10 grams of each cable jacket material were allowed to soak in POLYWATER® Lubricant J for 70 hours at 158°F (70°C). The samples were then checked for weight gain/loss and other physical effects.

Results: No weight gain ($\pm 2\%$ of original weight) and no other negative physical effects were observed. POLYWATER® Lubricant J is not a solvent for these cable jacket materials and will not permeate the polymeric compounds or alter their physical properties.

II. COMPATIBILITY TEST - VOLUME RESISTIVITY

Purpose: This test checks for the effect of POLYWATER® Lubricant J on the semi-conducting properties of a polymeric compound.

Materials: The test was performed with Union Carbide XLPE compound #0691.

Procedure: The test was performed according to the procedure described in the ICEA Publication #T-25-425.

Results: No significant changes in the conductive properties of the material were observed.

DISCUSSION: Based on the above results, POLYWATER® Lubricant J has no negative effects on cable jacketing. American Polywater Corporation recommends the use of POLYWATER® Lubricant J with all of the above cable jacket materials. The materials represent cable jackets presently in use.

Detailed compatibility test results or specific cable manufacturer approvals are available on request. Contact American Polywater at 651-430-2270 for more information.

Visit this web address for a free, pre-written model performance spec on Polywater® J that is suitable for inclusion in an overall electrical project specification. We've done the work for you!

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