WL Wire Pulling Lubricant

Data Sheet

LR 108775

LISTED 842F

1. Product Description

3M™ Wire Pulling Lubricant is a translucent white polymer gel which produces a low coefficient of friction for smooth, low tension wire and cable pulling. A low coefficient of friction makes cable pulling easier and safer with less chance for cable jacket damage from high pulling forces. The lubricant is easy to handle and apply. The material is colorless and non-staining and affords quick and easy cleanup. The low solids content means less conduit blocking if additional pulls are required.
The 3M Wire Lubricant is available in four sizes.

WL-QT	1 qt. squeeze bottle
WL-1	1 gallon pail
WL-5	5 gallon pail
WL-55	55 gallon drum (special order)

Wire Pulling Lubricant Features

- UL Listed File E162404
- CSA Certified File LR108775
- Versatile (compatible with a wide range of of cable types and jacket materials).
- Temperature stable. The lubricant can endure freezing and high temperature storage conditions and will not phase separate.
- Colorless, not-staining and is easy to cleanup.
- Low coefficient of friction.
- Low solids content. < 3.5% solids.
- Does not contain any wax, grease or silicone.

2. Applications

3M Wire Pulling Lubricant is suitable for pulling a wide variety of cable types, such as power, control, instrumentation and communication cables. This includes coaxial and fiber optic cables. This lubricant is compatible with common types of cable jacket materials.

3. Data: Physical Properties

Thixotropic translucent gel

Percent non-volatile solids:	2.5-3.5%
pH:	6.5-8.5
Temperature use range:	20°F - 110°F

Temperature stability:
< 10% change in Brookfield viscosity from 40°F to 100°F. No separation after five freeze/thaw cycles or 24 hours at 120°F.

Flammability: No flash point.

Lubricity:

- PVC or XLP jacketed cable on PVC conduit at 200 lbs/ft; coefficient of dynamic friction < 0.11, coefficient of static friction <0.13.
- PVC or XLP jacketed cable on EMT conduit at 200 lbs/ft normal pressure; coefficient of dynamic friction < 0.18, coefficient of static friction <0.20.

Lubricity of Dried Residue:

- PVC or XLP jacketed cable on PVC conduit at 200 lbs/ft normal pressure; coefficient of dynamic friction < 0.15, coefficient of static friction <0.20.
- PVC or XLP jacketed cable on EMT conduit at 200 lbs/ft normal pressure; coefficient of dynamic friction < 0.13, coefficient of static friction <0.17.

Polyethylene Stress Cracking: None / ASTM D1693

Compatible with conductive polymeric insulation's shields and jackets IEEE P1026

4. Specifications

Product

The lubricant shall be a polymer gel capable of use from 20°F to 110°F and storage at subfreezing or high temperature warehouse conditions without phase separation. The wire pulling lubricant must produce a low coefficient of friction when pulling a variety of cable types and have no adverse affects on the physical or electrical properties of cable jackets or semi-conducting shielding material. The lubricant must be colorless and non-staining. The gel must have no flash point. Lubricant shall be UL Listed and CSA Certified.

Engineering Specifications

The wire pulling lubricant shall be 3M™ WL Wire Pulling Lubricant. The lubricant shall be a polymer gel type material and must be compatible with a wide variety of cable jacketing materials. The lubricant must be colorless and non-staining. The lubricant shall be unaffected by normal warehouse storage conditions.

5. Installation Techniques

The lubricant needs to reach all points where the cable and conduit rub together to obtain optimum tension reduction. Normal application is by wiping on the cable jackets as the cable is pulled into the conduit. The cable will generally carry enough lubricant to complete an average pull. If cable pulls are long or difficult, inject the lubricant directly into the conduit and spread ahead of the cable in addition to wiping on the jackets.

The amount of lubricant needed can vary greatly depending on the difficulty of the pull. A general formula to determine application rates for a normal pull is: Quantity (gallons) = .0015 x L x D. Where L equals length of pull in feet and D equals diameter of conduit in inches. For example, approximately 3/4 gallon per 100’ of 5” conduit.

6. Maintenance

3M WL Wire Pulling Lubricant is unimpaired by normal warehouse storage conditions. Opened containers should be tightly resealed to prevent evaporation of he material.

7. Availability

3M WL Wire Pulling Lubricant is available in 1 quart squeeze bottles or 1 and 5 gallon pails from electrical distributors. Fifty-five gallon drums may be special ordered. Material Safety Data Sheets (MSDS) are available from 3M or your electrical distributor.

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IMPORTANT NOTICE

Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use.

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