



Lub-I/-Series

Wire Pulling Lubricant



1. Product Description

3M™ Wire Pulling Lubricant is a translucent white polymer gel, with 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.

- UL Listed File E162404
- Versatile (compatible with a wide range of cable types and jacket materials).
- Temperature stable.
- The lubricant can endure freezing and high temperature storage conditions and will not phase separate.
- Colorless, non-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 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.

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3. Typical Properties

| Physical Properties | Typical Value |
|--|---|
| Thixotropic translucent gel Percent non-volatile solids | 2,5 - 3,5% |
| PH | 6,5 - 8,5 |
| Temperature use range | -5°C to 45°C |
| Temperature stability | No separation after five freeze/thaw cycles or 24 hours at 50°C |
| Flammability | No flash point |

3.1 Characteristics and Test Data

Lubricity:

- PVC or XLPE jacketed cable in PVC conduit at 2,91 KN/M; typical coefficient of dynamic friction <0,11.
- PVC jacketed cable in EMT conduit at 2,91 KN/M normal pressure; typical coefficient of dynamic friction <0,11.
- XLPE jacketed cable in EMT conduit at 2,91 KN/M normal pressure; typical coefficient of dynamic friction 0,18.

Passes IEEE 1210, "Standard Tests for Determining Compatibility of Cable-Pulling Lubricants with Wire and Cable" physical and electrical testing on a wide variety of cable materials. It does not stress crack polyethylene per this standard.

4. User Information

4.1 Specifications

The lubricant shall be a polymer gel capable of use from -5°C to 45°C and storage at subfreezing or high temperature warehouse conditions without separation. The wire pulling lubricant must produce a low coefficient of friction when pulling a variety of cable types and have no adverse effects on the physical or electrical properties of cable jackets or semi-conducting shielding material. The lubricant must be colourless and non-staining. The gel must have no flash point. Lubricant shall be UL Listed.

4.2 Engineering/Architectural Specification

The wire pulling lubricant shall be 3M Brand Lub-I 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 colourless and non-staining. The lubricant shall be unaffected by normal warehouse storage conditions.

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4.3 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.

The general formula to determine application rates for a normal pull is:

$$\text{Lubricant} \quad \text{Length} \quad \text{Dia. Of conduit} \\ \text{in Litres} = 0.0075 \times \text{in Meters} \times \text{in Centimeters}$$

4.4 Shelf Life & Storage

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

It has a shelf life of 24 months after the manufacturing date which is printed on the product.

Recommended to store under normal warehouse conditions:

16° to 27°C and 40 to 50% RH and in tightly sealed containers away from direct sunlight.

4.5 Availability

3M Lub-I is available in four sizes:

| | |
|-------------|-------------|
| Lub-I/0.20 | 0,20 litre |
| Lub-I/0.95 | 0,95 litre |
| Lub-I/3.78 | 3,78 litre |
| Lub-I/18.92 | 18,92 litre |

Safety Data Sheets (SDS) are available from 3M.

5. Additional Information

To request additional product information, see address below.

Important Notice

All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method or application.

Values presented have been determined by standard test methods and are average values not meant to be used for specification purposes.

All questions of warranty and liability relating to 3M products are governed by the terms of the respective sale subject, where applicable, to the prevailing law.

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