



Lub-I/-Series

Wire Pulling Lubricant

Data Sheet



Product Description

3MTM Wire Pulling Lubricant is a translucent white polymer gel which produced 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 change for cable jacket damage from high pulling forces. The lubricant is easy to handle and apply. The material is colourless 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:

| | |
|-------------|-------------|
| 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 |

Wire Lubricant Features

UL Listed File 842F
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.
Colourless, 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.

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 fibre optic cables. This lubricant is compatible with common types of cable jacket materials.

Data: Physical Properties

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: ≤% change in Brookfield viscosity from 4.4°C to 40°C.
No separation after five freeze/thaw cycles or 24 hours at 50°C
Flammability: No flash point

Lubricity

- ❖ PVC or XLPE jacketed cable in PVC conduit at 2.91 KN/M; coefficient of dynamic friction <0.11, coefficient of static friction <0.13.
- ❖ PVC or XLPE jacketed cable in EMT conduit at 2.91 KN/M normal pressure; coefficient of dynamic friction <0.13, coefficient of static friction <0.17.

Lubricity of Dried Residue:

- ❖ PVC or XLPE jacketed cable in PVC conduit at 2.91 KN/M normal pressure; coefficient of dynamic friction <0.15, coefficient of static friction <0.20.
- ❖ PVC or XLPE jacketed cable in EMT conduit at 2.91 KN/M normal pressure; coefficient of dynamic friction <0.18, coefficient of static friction <0.20.

Polyethylene Stress Cracking Non/ASTM D1693
Compatible with conductive polymeric insulation's shields and jackets, IEE P1026



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Specifications

Product:

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 affects 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.

Engineering/Architectural:

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.

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:

$$\text{Lubricant in Litres} = 0.0075 \times \frac{\text{Length in Meters} \times \text{Dia. Of conduit in Centimeters}}{1000}$$

Maintenance

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.

Availability

3M Lub-I is available in four sizes (see product description). Material Safety Data Sheets (MSDS) are available from 3M.

Important Notice

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