



3M™ Multi-Purpose Liquid Cable Lubricant

Product Description

3M™ Multi-Purpose Liquid is a high performance silicone enhanced lubricant that offers superior friction reduction recommended for use with most types of communication cable including copper, fiber optic and coaxial. Pourable formula is especially suitable for longer cable pulls. This lubricant is suitable for low viscosity cable pulls in the outside environment.



Friction Testing

Friction is determined using standard Telcordia test procedure¹. The duct is wrapped 420° around a three-foot diameter. A 25-lb incoming weight is attached to the cable as it is pulled at a set rate of 65 feet per minute. A load cell takes pulling tension data which is used to determine a “dynamic” friction coefficient. Below is typical data.

Coefficient of Friction for MDPE Jacket Cable into HDPE Smoothwall Innerduct

Tension Incoming (lb)	Unlubricated	Lubricated with 3M MPL
25	>0.30	0.08

Product Features and Benefits

Feature	Benefit
Compatible with most commonly used communication cable jackets	One solution used for variety of cable pulling jobs
Non-staining/non hazardous	Safe to use/dispose Easy to clean off
Slow drying for continuous lubricity	Reduces the need to re-lubricate the cable during a pull Increase in productivity and cost-effective
High cling	Stays on the cable and completely covers it Decreases friction
Temperature stable	Consistent results for each job
Silicone enhanced for superior friction reduction	Low probability for damaged cables during pull

¹ Telcordia Standard TR-NWT-002811; Generic Requirements for Cable Placing Lubricants.



Application Use

Use for all types of cable installations, including:

- Ideal for longer cable pulls
- Silicone-lined and pre-lubricated ducts
- Lightweight cable, building construction
- Suitable for fiber optic, copper and coaxial communication cable
- Outside environment

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Cable Lubricant Usage in Gallons

Quantity of 3M Multi-Purpose Liquid Cable Lubricant in Gallons (Liters)

Length of Pull Feet (Meters)

Conduit Size inches (CM)	500 (152)	1,000 (304)	2,000 (608)	3,000 (912)	4,000 (1,216)	5,000 (1,520)	6,000 (1,824)
1 (2.5)	0.75 (2.83)	1.5 (5.67)	3 (11.35)	4.5 (17.03)	6 (22.71)	7.5 (28.39)	9 (34.06)
2 (5.0)	1.5 (5.67)	3 (11.35)	6 (22.71)	9 (34.06)	12 (45.42)	15 (56.78)	18 (68.13)
3 (7.5)	2.25 (8.51)	4.5 (17.03)	9 (34.06)	13.5 (51.10)	18 (68.13)	22.5 (85.17)	27 (102.20)
4 (10)	3 (11.35)	6 (22.71)	12 (45.42)	18 (68.13)	24 (90.84)	30 (113.56)	36 (136.27)
5 (12.5)	3.75 (14.19)	7.5 (28.39)	15 (56.78)	22.5 (85.17)	30 (113.56)	37.5 (141.95)	45 (170.34)
6 (15)	4.5 (17.03)	9 (34.06)	18 (68.13)	27 (102.20)	36 (136.27)	45 (170.34)	54 (204.41)

Formula: $.0015 \cdot l \cdot d$

L= length in feet

D= diameter of conduit in inches

Formulation calculates how many gallons of lubricant are necessary to provide a 10 mil coating over the entire length of conduit

Cable Compatibility & Performance

Polyethylene Stress Cracking:

3M™ Multi-Purpose Liquid Cable Lubricant does not cause environmental stress cracking of polyethylene jackets commonly found on communications cables. Untreated polyethylene (Union Carbide DYNK) and MDPE jacket material were both tested according to ASTM standard method.¹ After 168 hours exposure none of the test specimens showed failures.

Polycarbonate Stress Cracking:

3M™ Multi-Purpose Liquid Cable Lubricant will not stress crack polycarbonate. Polycarbonate bars are bent to a defined strain and exposed to lubricant as described in the Telcordia standard², Section 8.2, Stress Cracking of Polycarbonate. After 48 hours, none of the test specimens showed signs of cracking.

Combustibility:

Lubricant has no flash point and dried residue is non-flammable.

¹ ASTM Test Method D1693, Environmental Stress-Cracking of Ethylene Plastics.

² Telcordia Standard TR-NWT-002811; Generic Requirements for Cable Placing Lubricants.

Physical Properties

	Property	Result
Application Properties:	Appearance:	Opaque-white, stringy liquid
	Percent Non-Volatile Solids:	2 %
Temperature Use Range: 20°F to 120°F (-5°C to 50°C)	VOC Content:	0 gms/liter
	Viscosity:	1,000 – 3,000 cps @10rpm
	pH:	6.5 – 7.5

Temperature Stability:

No phase-out after five freeze/thaw cycles or five-day exposure at 120°F (50°C). Will not phase out or separate during the shelf life of lubricant.

Clean-Up:

Use water to clean up the area

Storage and Shelf Life:

Store product tightly sealed and away from direct sunlight. Lubricant shelf life is one year past the date of manufacture.

Directions for Use

3M™ Multi-Purpose Liquid Cable Lubricant can be poured directly onto the cable. Directly lubricate the cable during the entire portion of the pull as it enters the conduit.

For clean-up, use a cloth to wipe off excess lubricant from the end of the cable. The remaining residue will evaporate quickly.

Ordering Information

Product Number	Product Description	3M ID	MOQ
CL-MPL-1	CL-MPL-1 Multi-Purpose Cable Lubricant Liquid One Gallon Jug	80-6113-3179-6	4
CL-MPL-5	CL-MPL-5 Multi-Purpose Cable Lubricant Liquid Five Gallon Pail	80-6113-3180-4	1



In addition to 3M™ Multi-Purpose Liquid Cable Lubricant, 3M also makes 3M™ Concentrated Multi-Purpose Cable Lubricant and 3M™ Multi-Purpose Gel Cable Lubricant, available in many sizes to fit your needs.

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