



NEW ZEALAND MADE FOR THE TRADE

Technical Data Sheet

Chemz Blue Lube Cable Pulling Lubricant

Codes - 7377 & 7379 & 7370

1. Product Description

Blue Lube Cable Pulling Lubricant is a high performance water-soluble polymer gel lubricant specifically designed to facilitate smooth pulling of electrical and communications wires and cables. It provides excellent tension reduction in underground and industrial cable pulls. It has excellent shear resistance for effective lubrication under high cable sidewall pressure in conduit bends.

It clings to the cable to provide maximum friction reduction and superior lubricity throughout the entire pull and to avoid wire damage from high pulling forces. It dries to a very thin film that will ease cable removal if required.

The residue does not propagate flame when used with fire-retardant cable systems. The residue is a thin, slippery slow drying film that retains its lubricity for months after use. Its dried residue is non-conductive and non-combustible.

Blue Lube Cable Pulling Lubricant is compatible to all commonly used cable types and conduits for electrical, electronic, telecommunications and data applications including coaxial and fibre optic cable. It has no damaging effects on physical or electrical properties of all types of cable jackets.

It is easy to apply without drips and runs allowing for clean overhead and vertical application. Excess can easily be wiped off with a cloth. Complete clean-up is possible with water.

Blue Lube Cable Pulling Lubricant contains a broad spectrum cosmetic grade preservative to prevent microbial growth (bacteria, mould and yeasts) in the product once it is opened. The preservative is non-toxic, rapidly biodegradable, does not bioaccumulate and is non-persistent in the environment.

2. Features & Benefits

- Excellent friction reduction for long pulls and difficult pulling applications.
- High cling factor.
- Compatible with a wide range of cable jackets and conduits.
- Easy application by hand, brush or pump.
- Leaves very thin slow drying film that does not block conduit and eases removal.
- Clean and non-staining. Complete clean up with water.
- Ideal for overhead applications and vertical installations.
- Temperature stable and will not liquefy or separate.
- Does not contain wax, grease or silicone.
- Non-combustible residue.
- Safe for user and environment. Non-toxic, non-flammable, harmless to skin on contact, biodegradable.
- Does not contain halogenated compounds, sulphur compounds or low melting point metals.



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3. Uses

For pulling light weight communication and data network cables including fibre optic cables.

For pulling industrial power and telecom cables over long distances.

For long cable pulls and difficult cable pulling applications.

Safe to use with all commonly used materials such as rubber, neoprene, nylon, PVC, PE and semi-conducting jackets.

4. Physical Properties

Appearance	Viscous blue gel with no odour.
Specific Gravity	1.0
pH	7.0 - 9.0
Solubility in water	Completely soluble.
Flash Point	None.
Flammability	Non-flammable.
Combustibility	Liquid gel and dried residue are not combustible.
Non-volatile Solids, % w/w	1.7
Viscosity, cP (Spindle 4 at 6 rpm)	30,000 - 50,000
Use Temperature Range, °C	0 to 40
Wax, Grease, Silicone	None contained in formula.
VOC Content, g/L	0

5. Application

Blue Lube has a viscous gel consistency that makes it easy to lift, carry and hand apply. It can also be pumped directly into the conduit or onto a cable using specialty lubricant pumps. Pumps allow hands-free transfer and consistent application of lubricant. Low-shear pumps will not change the gel character of Blue Lube.

Blue Lube can be hand applied or pumped onto the cable as it enters the conduit. For long pulls, place approximately two-thirds of the recommended quantity of lubricant into the conduit.

6. Directions for Use

Apply Blue Lube liberally to cable for superior lubrication and reduced friction. For long difficult pulls, place lubricant directly in the conduit and spread in front of the cable during the pull.

Blue Lube is non-staining. Clean-up by wiping off any excess lubricant with a cloth. Complete clean-up is possible with water.

This product is conductive when wet. Remove excess lubricant from exposed conductors and allow sufficient drying before energising circuits

Store Blue Lube in a tightly sealed container away from direct sunlight.



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7. Lubricity

Blue Lube Cable Pulling Lubricant has a low coefficient of friction for smooth low-tension cable pulling with less likelihood of cable jacket damage from high pulling forces. The low solids content means less conduit blocking if additional pulls are required.

Blue Lube shows excellent friction reduction on a variety of cable jackets and conduits.

Friction coefficient for PVC conduit

PVC or XLPE jacketed cables in PVC conduit typically have a coefficient of dynamic friction of 0.11 at 3 kN/m (200 lb/ft) normal force.

8. Cling Factor

Cling factor is a measure of the ability to apply the lubricant and have it stay on the jacket while the cable enters the conduit.

Blue Lube will wet out evenly on cable jacket surfaces. It will not bead up or rub off of the jacket sample.

A 25 mm diameter cable dipped 150 mm into Blue Lube, and then withdrawn will retain at least 25 grams of Blue Lube when held vertically for one minute

9. Recommended Lubricant Quantity

$$Q = L \times D \times k$$

Where:

Q = quantity in litres

L = length of conduit run in metres

D = ID of the conduit in mm

k = 0.0008

The quantity that is appropriate for any given pull can vary from this recommendation by 50%, depending on the complexity of the pull. Consider the following factors:

Cable weight and stiffness. Increase quantity for stiff, heavy cable.

Conduit condition - Increase quantity for old, dirty or rough conduits.

Conduit fill - Increase quantity for high percent conduit fill.

Number of bends - Increase quantity for pulls with several bends.

Pulling environment - Increase quantity for high temperatures.