

# Polywater® Communication Pourable Lubricant Type CPL

POLYWATER® Lubricant CPL is a high performance, **pourable** liquid cable pulling lubricant formulated specifically for the communications industry. It is recommended for long fiber optic, copper or coaxial cable pulls.

POLYWATER® Lubricant CPL provides maximum friction reduction between cable and conduit under both low and high sidewall bearing pressures. It is slow-drying and leaves a lubricating film after its water base has evaporated. Polywater® CPL is a liquid lubricant and can be applied by pouring into an up-turned duct or funnel.

POLYWATER® Lubricant CPL meets California regulation CCR 22. Polywater® CPL is suitable for use on PE communication cable jackets.



## Product Benefits

- High performance lubrication
- Superior friction reduction
- Effective lubrication when dry
- Lubricates cable for long distance - liquid clings to cable.
- Compatible with cable jackets—including polyethylene
- Pourable lubricant for easy underground application

## Friction Testing

Friction is measured using a standard Telcordia test procedure<sup>1</sup>. HDPE duct is wrapped 420° around a three-foot-diameter cylinder. A variable “back tension” weight is attached to the cable and the cable is pulled through the wrapped duct at a speed of 65 ft/min. A load cell measures pulling force, which, combined with the “back tension”, is used to calculate a friction coefficient. Results below are typical values.

Coefficient of Friction for MDPE Jacket Cable into HDPE Smoothwall Innerduct

<u>Back Tension</u>	<u>Unlubricated</u>	<u>Condition</u>	
		<u>Initial</u>	<u>Dry</u>
14 lb <sub>f</sub>	>0.30	0.10	0.12
25 lb <sub>f</sub>	>0.30	0.09	0.11

For the dry test, continuous, warm air was run through the conduit until the lubricant volatiles had evaporated (~1 hour). POLYWATER® Lubricant CPL shows good friction reduction even after drying. Dry coefficient of friction values are within 30% of initial value.

<sup>1</sup> Telcordia Standard TR-NWT-002811, Section 4.1.3 and 4.1.4; Generic Requirements for Cable Placing Lubricants.

## Environmental Testing

POLYWATER® Lubricant CPL is safe in the aquatic environment and passes CCR Title 22 Fathead Minnow Hazardous Waste Screen Bioassay.

<u>Product</u>	<u>Result</u>
POLYWATER® Lubricant CPL:	PASS (LC <sub>50</sub> > 750 mg/L)

## Lubricant Properties

### Appearance:

Opaque-white stringy liquid. Pourable viscosity (1,000 -3,000 cps @ 10rpm). Neutral pH (6.5 – 7.5).

### Wetting – Continuous Coat:

*Wetting is a measure of the lubricant's ability to completely coat the jacket for continued lubricity on longer pulls.*

POLYWATER® Lubricant CPL will wet out evenly on cable jacket surfaces. It will not bead up or rub off of the cable jacket. Lubricant will completely coat a one-inch diameter PE-jacketed cable dipped six inches into the lubricant; then withdrawn within 10 seconds. The lubricant coating shall cover 80% of the cable jacket without dripping off, beading up, or pulling away from the edges as it is held horizontally for one minute at 70°F (21°C).

### Polyethylene Stress Cracking:

POLYWATER® Lubricant CPL does not stress crack polyethylene jackets commonly used on communications cables. Untreated polyethylene (Union Carbide DYNK) and MDPE jacket material were both tested according to ASTM standard method.<sup>2</sup> After 168 hours exposure none of the test specimens showed failures.

<sup>2</sup> ASTM Test Method D1693, *Environmental Stress-Cracking of Ethylene Plastics*.

### Combustibility:

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

### Temperature Use Range:

Communication Lubricant CPL:  
20°F to 120°F (-5°C to 50°C)

Wintergrade Lubricant, WCPL  
-20°F to 120°F (-30°C to 50°C)

### Temperature Stability:

No more than a 20% change in Brookfield viscosity from 40°F to 100°F (5°C to 40°C). No phase-out after five freeze/thaw cycles or 5-day exposure at 120°F (50°C). *Will not separate during the shelf life of lubricant.*

### Storage and Shelf Life:

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

## Order Information

<u>Cat #</u>	<u>Package Description</u>
CPL-128	1-gallon pail (3.78 Liter) 4/case
CPL-320	2 ½- gallon jug (9.6 liter)
CPL-640	5-gallon pail (18.9 Liter)
<u>Wintergrade</u>	
WCPL-35	1-quart squeeze bottle (0.95 liter)
WCPL-128	1-gallon pail (3.78 Liter) 4/case
WCPL-320	2 ½- gallon jug (9.6 liter)

American

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Important Notice: The statements here are made in good faith based on tests and observations we believe to be reliable. However, the completeness and accuracy of the information is not guaranteed. Before using, the end-user should conduct whatever evaluations are necessary to determine that the product is suitable for the intended use.  
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