Polywater®

Prelube

Cable Blowing Lubricants for Air-Assisted Installation of Fiber Cable

Lower Friction and Increase Blowing Distance

Prelube 2000™

for blowing conventional fiber optic cable

Easy to Apply

Low Overall Cost

Proven, Effective Formula

Prelube 5000™

for blowing fiber optic microcables

Thinner Viscosity

Field Developed & Tested

New, More Concentrated Formula

Polywater®

Prelube

2 0 0 0™

for blowing conventional fiber optic cable

Polywater® Prelube 2000™ reduces frictional drag during the blowing of outside plant cable into duct. It increases the length of cable that can be blown in a single shot. Prelube 2000™ can also be used to blow in the hollow microtubes intended to hold future microcables. Over the last decade, Prelube 2000™ has been proven in the blowing of tens of thousands of kilometers of cable in over 20 countries on a variety of cable blowing machines.

Features

- Polywater® Prelube 2000™ has proven superior to paraffin oils and cable pulling lubricants for cable blowing. The use of this lubricant results in longer installation distances.
- Polywater® Prelube 2000™ is recommended by most blowing equipment manufacturers. It increases installation distance on all types of machines.
- Polywater® Prelube 2000™ is more economical than prelubricated duct.
- Polywater® Prelube 2000™ is compatible with common fiber optic cable jacket.

Application

A properly installed duct system with pressure-tight duct splices is an absolute necessity for efficient cable blowing. Follow the equipment manufacturer's instructions. The duct must be clean, dry, and mandral tested. Clean the duct by blowing a tight-fitting foam sponge through the duct with high pressure. If excess water or dirt comes from the duct, repeat the process. Prelube 2000™ is effective at a coating thickness of 0.5 mg/cm^2.

For smoothwall duct and high air speed machines (no missile), squeeze the recommended amount of Prelube 2000™ Lubricant from the table below into the duct. Spread the lubricant by blowing a foam carrier through the duct. The quart squeeze bottle (Cat. # P-35) is a good package for this type of application.

Duct Size	Lubricant Quantity	
	per 1,000 Feet	per Kilometer
1 inch (2.5 cm)	4 fl. oz.	400 ml
1.25 inch (3 cm)	5 fl. oz.	500 ml
1.5 inch (4 cm)	6 fl. oz.	600 ml
2 inch (5 cm)	8 fl. oz.	800 ml

For smooth wall duct (ID 1 to 1.25 inch) and piston type machines, use 5 to 10 fl oz per thousand feet of duct (0.5 to 1.0 liter per kilometer). Place 75% of the lubricant in front of the missile and the rest behind it. The lubricant is spread by the missile as the cable is blown.

Polywater®

Prelube

5000™

for blowing fiber optic microcables

Polywater® Prelube 5000™ is more concentrated than the Prelube 2000™. It is intended for blowing microcable into small diameter microtubes. The improved chemistry allows this product to spread further and lower friction at extremely low coating levels. The lower viscosity allows practical application into the microtubes.

Features

- Polywater® Prelube 5000™ is easy to use. It can be squeezed into the small diameter microducts.
- Polywater® Prelube 5000™ works at extremely low coating levels. It coats further and more effectively than conventional blowing lubricants.
- Polywater® Prelube 5000™ has proven superior in side-by-side testing in blown microcable installations.
- Polywater® Prelube 5000™ is compatible with known microcable plastic jackets. However, it should not be used for resin-coated fiber cables.

Application

The microduct tubing must be pressure tight. Clean and dry the tubing by blowing a tight fitting foam sponge through the microduct with high pressure. If excess water or dirt comes from the microduct, repeat the process. Trapped water can block the air flow.

Prelube 5000™ is effective at quantities *as low* as 0.05 mg/cm^2. Squeeze recommended amount of lubricant into microduct. Quantity can be measured with a syringe or estimated based on duct fill length (table below). Spread lubricant by blowing a foam carrier or sponge through the microduct as many times as necessary to avoid puddling at the front of the duct.

Tube Size (OD/ID)	Lubricant per Kilometer Tube		Lubricant per 1,000 Feet Tube	
	Volume Required	Microtube Fill Length	Volume Required	Microtube Fill Length
14/12 mm	29 ml	26 cm	0.30 fl. oz.	3 in.
12/10 mm	24 ml	31 cm	0.25 fl. oz.	4 in.
10/8 mm	19 ml	39 cm	0.20 fl. oz.	5 in.
8/6 mm	14 ml	52 cm	0.15 fl. oz.	6 in.
7/5 mm	12 ml	62 cm	0.13 fl. oz.	7 in.
5/3.5 mm	9 ml	88 cm	0.09 fl. oz.	10 in.
4/3 mm	7 ml	103 cm	0.08 fl. oz.	12 in.

The quantities of lubricant appropriate for any job will vary with the size, type, and condition of the duct. Use the recommendations above as a place to start and adjust as necessary.

Cost Effectiveness

Polywater® Prelube 2000™ offers significant cost savings over "factory-lubricated" duct. In high quality HDPE duct, it lubricates efficiently at coating levels of 0.5 mg/cm² of duct surface. At these levels, the lubricant cost for 1.25" (3.2 cm) duct is approximately $2 per 1,000 feet ($6 per kilometer), much lower than the additional cost for factory-lubricated duct.

Polywater® Prelube 5000™ is extremely efficient and cost effective. It lubricates at coating levels as low as 0.05 mg/cm^2 of the tubing's interior surface. At these levels, the lubricant cost is $0.20 to $0.75 per 1,000 feet ($0.60 to $2.20 per kilometer) depending on microtube size.

Packaging and Catalog Numbers

Package Size	Prelube 2000™	Prelube 2000™ - Winter Grade	Prelube 5000™ for Microcables
1-quart squeeze bottle (0.95 l)	P-35	WP-35	
1-gallon pail (3.8 l)	P-128	WP-128	
5-gallon pail (18.9 l)	P-640	WP-640	
8-fl ounce squeeze bottle			PM-8

References

1. Installation of Fiber Optic Cables in Duct, W. Griffioen, Plumettaz S. A., 1993

2. The Use of the High Air-Speed Blown-Cable System for Placing Optical-Fiber Cables in Ducts, P. R. Briggs et al, NFOEC Conference, 1993

3. Analysis and Measurement of Friction in High Speed Air Blowing Installation of Fiber Optic Cable, J. M. Fee et al, NFOEC Conference, 1995

See the web page **www.polywater.com/airblow.html** for additional information on high speed air assisted cable installation.

LIT-PL2000FLYER/REV001

Makers of Polywater® and Dyna-Blue® Cable Lubricants and Pull-Planner™ 2000 Software

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