



## Cable Pulling Lubricant

### J Lubricant - Polywater

#### Part No. Various

Polywater Lubricant J is a high performance, clean, slow-drying, water-based gel lubricant. Lubricant J provides maximum tension reduction in all types of cable pulling. It is especially recommended for long pulls, multiple-bend pulls and pulls in a hot environment. Lubricant J dries to form a thin lubricating film which retains its lubricity for months after use.

Polywater Lubricant J is a specification-grade lubricant that does not promote flame propagation when used with fire-retardant cables and systems. It is harmless to humans, environmentally safe, compatible with common Australian cable jacket materials, and can be easily applied as part of the unique Polywater® Lubricant Application System.

#### Features

- High performance cable lubricant for heavy cable installations
- Maximum Friction Reduction
- High Cling Factor
- Compatible with common Australian cables
- Temperature Stable
- Non-Combustible Residue
- Specification Grade "J" - The lubricant contain no waxes, greases, silicones, or polyalkylene glycol oils
- Application System available in 'Front End Packs'
- Complete cleanup is possible with water



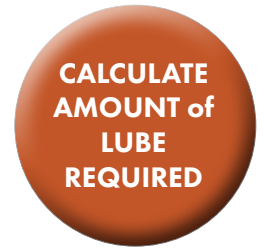
Bulk 208 litre Drum  
J-DRUM

Part No.	Description
J-128	3.8L Bucket
J-640	19L Drum
J-DRUM	208L Drum
J-99	950ml Front End Pack Suits 40mm - 75mm Conduits
J-110	1.9L Front End Pack Suits 75mm+ Conduits

### J Front End Pack™ Lubricant - Polywater

#### Part No. J-99 & J-110

The front end pack is a conduit-sized polyethylene bag of lubricant. The Front End Pack™ travels through the conduit on the winch line prelubricating the conduit ahead of the cable being pulled.



Click the above to calculate the quantity of lube required for your project



Polywater® Front End Packs  
lubricate ahead of the cable during the pull



CLICK or SCAN for  
Polywater J Application  
Video

SCAN OR CLICK TO VIEW VIDEO

## Specific Lubricants Available

- **Fibre Optic**
- **Low-Smoke Zero Halogen**
- **High Water Environments**
- **Cable Blowing**
- **Winter Conditions**

FULL RANGE OF CABLE LUBRICANTS TO SUIT ALL APPLICATIONS



# Polywater®

Solutions at work.

## Cable Pull Planning Software - Polywater

### Pull-Planner™ 4.0

#### Design Safe and Efficient Cable Pulls with Pull-Planner™ 4.0

Pull-Planner 4.0 makes the planning of small or complex, large-scale cable pulling projects easier and more efficient. Providing coefficient of friction (COF) guidance to reduce risks during cable pulls. Calculates maximum pulling and sidewall tensions to reduce joints and avoid cable damage

#### Benefits

- Calculate pulling tensions and sidewall loadings during your job planning
- Provide a detailed pull plan to your client for sign off
- Understand your coefficient of friction and maximise the length of run, based on using a high quality or specification grade lubricant\*
- See the difference in varying coefficients of friction and determine the significant value created using a specification grade lubricant from Polywater
- Resource your job with the most suitable equipment
- Designers can minimise the number of pulling pits required in a cable run, saving considerable time and money
- Calculate the impact of bends, multiple cables, rollers/sheaves, pushing devices and back tension off drums and direction of pull
- Ability to provide a field based COF once the cable pull is complete



#### Typical Pull-Planner™ Report

Pull-Planner™ Report

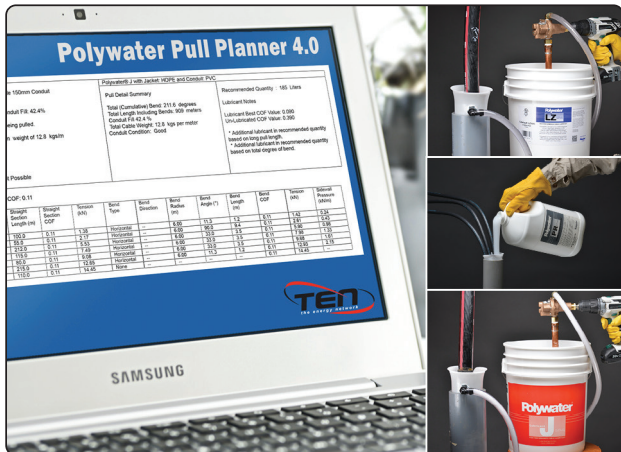
<p>Pull Name: 1C 630mm<sup>2</sup> 132kV HDPE Cable 150mm Conduit</p> <p>Conduit ID: 150 millimeter(s) Conduit Fill: 42.4%</p> <p>Total of 1 cable(s) of 1 different type(s) being pulled.</p> <p>Type #1 1 Cable(s) O.D. of 97.6 mm weight of 12.8 kgs/m</p> <p>Total cable weight: 12.8 kgs/m</p> <p>Weight correction factor set to: 1</p> <p>Configuration: Single Cable</p> <p>Jam/Clearance Analysis: Jamming Not Possible</p>	<p>Polywater® J with Jacket: HDPE and Conduit: PVC</p> <p>Pull Detail Summary</p> <p>Total (Cumulative) Bend: 211.6 degrees</p> <p>Total Length Including Bends: 909 meters</p> <p>Conduit Fill 42.4 %</p> <p>Total Cable Weight: 12.8 kgs per meter</p> <p>Conduit Condition: Good</p>	<p>Recommended Quantity : 185 Litres</p> <p>Lubricant Notes</p> <p>Lubricant Best COF Value: 0.090</p> <p>Un-Lubricated COF Value: 0.390</p> <p>* Additional lubricant in recommended quantity based on long pull length.</p> <p>* Additional lubricant in recommended quantity based on total degree of bend.</p>
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Incoming Tension: 0 kN Pull COF: 0.11

Seg #	Straight Section Slope (°)	Slope Direction	Straight Section Length (m)	Straight Section COF	Tension (kN)	Bend Type	Bend Direction	Bend Radius (m)	Bend Angle (°)	Bend Length (m)	Bend COF	Tension (kN)	Sidewall Pressure (kN/m)
1	--	--	100.0	0.11	1.38	Horizontal	--	6.00	11.3	1.2	0.11	1.42	0.24
2	--	--	55.0	0.11	2.17	Horizontal	--	6.00	30.0	9.4	0.11	2.61	0.43
3	--	--	215.0	0.11	5.53	Horizontal	--	6.00	33.0	3.5	0.11	5.90	0.98
4	--	--	115.0	0.11	7.49	Horizontal	--	6.00	33.0	3.5	0.11	7.98	1.33
5	--	--	80.0	0.11	9.08	Horizontal	--	6.00	33.0	3.5	0.11	9.68	1.61
6	--	--	215.0	0.11	12.65	Horizontal	--	6.00	11.3	1.2	0.11	12.93	2.15
7	--	--	110.0	0.11	14.45	None	--	--	--	--	0.11	14.45	--

The Pull-Planner™ 4.0 Software uses the cable pulling (tension estimation) equations common in technical studies and included in a number of industry standards. The friction coefficients in the software database are laboratory measurements. A number of field factors can influence the effective coefficient of friction. Engineering judgement and experience should be used in the selection of appropriate friction coefficients for use in the calculations.

### Program for Cable Pulling Tension Calculation and Conduit System Design



SCAN or CLICK to view Polywater's Cable Jacket Coefficient of Friction Test methods



\* See previous page for Polywater J Cable Lubricant



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Contact TEN for further information on how the Planner can help your cable pull work better.

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