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# SUPER SIDE LIGHT FIBRE OPTIC CABLE

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- Unique patented fibre optic cable
- Specially formulated to distribute light over a required length
- Distributes light evenly over lengths of 0.5m to 6m
- Operated by LED light source at one or two ends of fibre
- Range of diameters available from 4.5mm to 30mm

## Poly Optics Super Side Lit Fibre Optic Cable

### Technical Specifications:

#### HOW IT WORKS...

Poly Optics super side lit fibre optic cable is formulated with a patented light dispersion polymer which is uniformly distributed through the optic core.

Super side light optic fibre can be manufactured with different concentrations of this dispersion polymer, allowing light to be distributed evenly over different specified lengths for different applications.

#### 1. Mechanical Characteristics:

- Optical Core Composition: Solid optical gel core made from optically pure case acrylic monomers, including MMA, to ensure flexibility, and superior light transmission.
- Cladding Composition: The optical core is clad in a sheath of clear Teflon.
- Bend Radius: Less than 6x diameter.
- Spool length: 500 or 1000 ft
- Optic Sizes Available:

Product Code	Size O.D.	Tolerance
POLY 30	3.0 mm	+/- 0.3 mm
POLY 40	4.0 mm	+/- 0.3 mm
POLY 55	5.5 mm	+/- 0.3 mm
POLY 65	6.5 mm	+/- 0.4 mm
POLY 70	7.0 mm	+/- 0.4 mm
POLY 90	9.0 mm	+/- 0.5 mm
POLY 100	10.0 mm	+/- 0.5 mm
POLY 120	12.0 mm	+/- 0.5 mm
POLY 130	13.0 mm	+/- 0.5 mm
POLY 140	14.0 mm	+/- 0.5mm

## 2. Optical Characteristics:

- Spectral Range: 370 to 690 nm – visible wavelength range.
- Acceptance Angle: 45°
- Numerical Aperture: 0.68
- Glass transition Temperature: 53.8°C (129°F)
- Attenuation: Less than 3% per metre

## 3. Environmental Characteristics:

- Thermal Stability: Core to 120°C (248°F). Cladding to 390°C (734°F).
- Operating Temperature Range: Minimum: -40°C (-104°F)  
Maximum: +120°C (+248°F)
- Moisture Absorption: Core composition is hygroscopic. Optics ends must be sealed to avoid absorption.
- Chemical Resistance: Teflon cladding is chemically resistant and impervious to solvents.  
*Core is affected by strong solvents.*
- Storage: Dark/dry location where temperature is within specifications.
- **Warranty: 1 year when installed to manufacturers specifications.**

SS Concentration (Light Dispersion Polymer)	Optimal Distance LED Light Source			
	LED at one end		LED at both ends	
	Metres	Feet	Metres	Feet
SS 2	3.0	9.8	6.0	19.7
SS 10	2.0	6.5	4.0	13.1
SS 36	1.5	4.9	3.0	9.8
SS 80	1.2	3.9	2.4	7.8
SS 120	1.2	3.9	2.0	6.5
SS 180	0.8	2.6	1.5	4.9
SS 400	0.6	1.9	1.2	3.9

### **HOW TO ORDER...**

- Choose diameter that best suits your application
- Select concentration required according to length of fibre

Example:

7mm diameter fibre = Poly 70

Distance required = 2.5 metres with LED at each end

Therefore concentration required = SS 80

Therefore you would order Poly 70 SS 80

## **Poly Optics Australia Pty. Ltd.**

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