Strength Member - FRP Rods

PRODUCT DESCRIPTION

Fibre glass Reinforced Plastic (FRP) rods are used as strength members in optical fibre cables. The FRP rod is produced by pultrusion process. Fibre glass reinforcements are pultruded with unique resin formulations to produce a final thermoset FRP rod.

The round rods located in the centre of fibre optic cables, combine the high performance properties of glass reinforcements with unique resin formulations to produce strong and cost efficient cable reinforcement. ***The long, splice-free lengths enhance productivity in cabling operations***. Central strength members are common in outdoor cables and some high fibre counts indoor cables.

Features

- Superior dimensional stability
- High tensile modulus
- Designed for all-dielectric or metallic cable applications
- Provides anti-buckling properties and protection during installation
- Inexpensive way to increase diameter to accommodate designs with high fibre counts increases equipment uptime and productivity
- Long, splice-free lengths
- Consistent diameter and shape
- Adhesion to upjacketing materials

Standard Lengths

> 50 kms splice free lengths

Manufacturing Capability

- 1.0 mm to 4.0 mm with very close diameter
- Matches desired length specifications

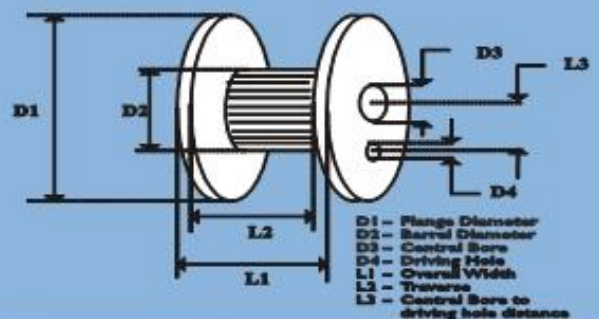
Typical Product Characteristics

Physical Properties

- Glass content: > 80 % by weight
- Density: 2.1 gm/cc
- Diameter stability : + 0.05 mm
- Ovality: < 0.05 mm

Mechanical Properties		
Ultimate tensile strength	≥ 1.50 GPa	ASTM D 3916
Tensile modulus	≥ 50 GPa	ASTM D 3916
Elongation @ break	≥ 2.5 %	ASTM D 638
Min. bend radius	25 x D @ 23°C	
Heat stress tolerance (bend radius)	8 Days @ 100°C, 50 X D	
Coefficient of thermal expansion	5.2 X 10-06/oC	ASTM D 696
Shrinkage	0%	
Flexural modulus	≥ 50 GPa	ASTM D790
Water absorption after 24 hrs	≤ 0.1 %	ASTM D 570

Reel Dimensions & Capacities



FRP size in mm	D1 mm	D2 mm	D3 mm	D4 mm	L1 mm	L2 mm	L3 mm	Length/ Reel km
1.0	625	315	80	30	614	450	120	50.4
1.8	800	400	80	30	554	490	120	50.4
2.03	935	400	80	30	614	550	120	50.4
2.3	800	400	80	30	554	490	120	25.2
3.8	935	400	80	30	614	550	120	16.8