

Corporate Mantra


Manufacturing Edge

Product Portfolio

Global Opportunities

Interact with Us


 OPTICAL  
 FIBRES

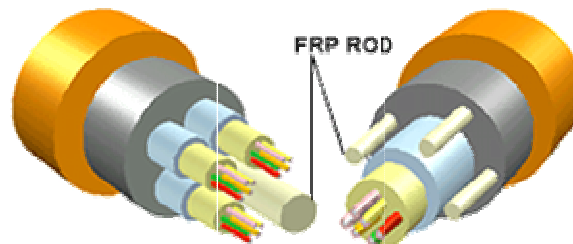

 CABLES


 FRP  
 RODS


 HOME

 Design  
 your Cable

## GLASS FIBRE REINFORCED PLASTIC RODS (FRP RODS)



**Telerod** high-performance reinforcements are specifically designed to meet your most demanding performance and cost requirements. Our team of people and facilities provide a unique combination of advanced capabilities to develop value added innovative reinforcement solution to meet your design challenges.

### Scope

This raw material standard applies to the use of Glass Fiber Reinforced Plastic Rod (FRP ROD) as strength member in Fiber Optic Cables.

### Description

The Glass Fiber Reinforced Plastic Rod or the Strength Member serves dual purpose. Its tensile strength provides the cable protection during installation and its rigidity prevents cable buckling during the life of the cable.

Glass Fiber Reinforced Plastic Rods combine the high performance properties of glass reinforcements with unique resin formulation to produce a strong and cost effective cable strength member. The consistent diameter and long, splice free lengths enhance productivity in cabling operations.

## TELEROD - G

### TYPICAL PRODUCT CHARACTERISTICS

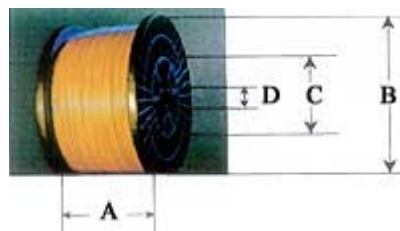
#### Physical Property

|                    |                              |
|--------------------|------------------------------|
| Glass content      | 84% by weight                |
| Density            | 2.1 gms/ cc                  |
| Diameter stability | ±0.05 mm of ordered diameter |
| Ovality            | <(=)0.05 mm                  |
| Splices            | None                         |

#### Mechanical Property

| Property                       | Units              | Specification | Test Method |
|--------------------------------|--------------------|---------------|-------------|
| Tensile strength at break      | Kg/mm <sup>2</sup> | 150           | ASTM D 3916 |
| Tensile modulus                | Kg/mm <sup>2</sup> | >(=)5000      | ASTM D 3916 |
| Elongation at break            | %                  | <3.2          | ASTM D 3916 |
| Flexural modulus               | Kg/mm <sup>2</sup> | >(=)5000      | ASTM D 790  |
| Flexural strength              | Kg/mm <sup>2</sup> | >(=)70        | ASTM D 790  |
| Water Absorption after 24 hrs. | %                  | <0.1          | ASTM D 570  |
| Min. bending radius at 25° C   | mm                 | (=)<25 D      |             |

## TYPICAL SPOOL DIMENTIONS



*All dimentions in inches*

|                    |    |
|--------------------|----|
| Traverse, A        | 18 |
| Flange diameter, B | 27 |
| Barrel diameter, C | 14 |
| Bore, D            | 3  |

## TELEROD - BA

### TYPICAL PRODUCT CHARACTERISTICS

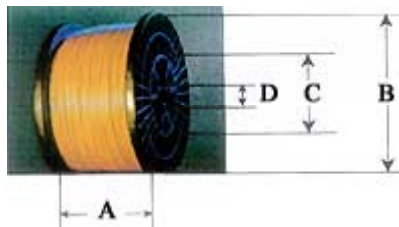
#### Physical Property

|                    |                              |
|--------------------|------------------------------|
| Glass content      | Less then 70% by weight      |
| Density            | <(=)2 gms/ cc                |
| Diameter stability | ±0.05 mm of ordered diameter |
| Ovality            | <(=)0.05 mm                  |
| Splices            | None                         |

#### Mechanical Property

| Property                       | Units              | Specification | Test Method |
|--------------------------------|--------------------|---------------|-------------|
| Tensile strength at break      | Kg/mm <sup>2</sup> | 142           | ASTM D 3916 |
| Tensile modulus                | Kg/mm <sup>2</sup> | 6000          | ASTM D 3916 |
| Elongation at break            | %                  | <2.6          | ASTM D 3916 |
| Flexural modulus               | Kg/mm <sup>2</sup> | >(=)5000      | ASTM D 790  |
| Flexural strength              | Kg/mm <sup>2</sup> | >(=)70        | ASTM D 790  |
| Water Absorption after 24 hrs. | %                  | <0.1          | ASTM D 570  |
| Min. bending radius at 25° C   | mm                 | (=)<60 D      |             |

## TYPICAL SPOOL DIMENTIONS



*All dimentions in inches*

|                    |    |
|--------------------|----|
| Traverse, A        | 18 |
| Flange diameter, B | 27 |
| Barrel diameter, C | 14 |
| Bore, D            | 3  |

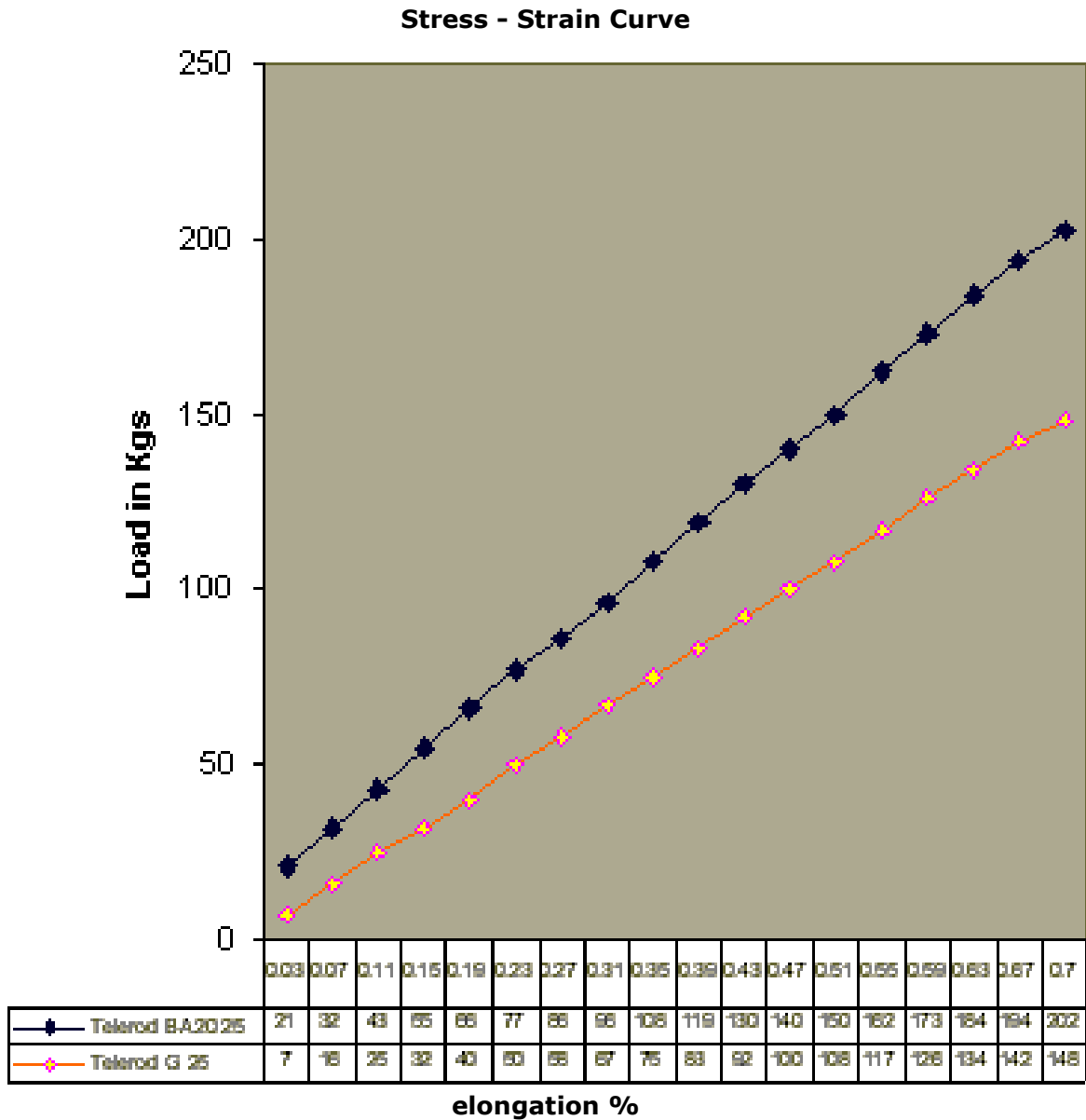
A new range of Fibre reinforced rod Telerod BA has been developed addressing the requirement of Optical Fibre Cable manufacturers for strength members having better performance in the 0 to 0.75 % strain range. The advantages over conventional glass rods are:

**Advantages**

1. Higher Y Modulus
2. Higher strength for same cross-section.
3. Higher strength for same weight of rod
4. Better FASE 0.5
5. Lower co-efficient of linear expansion
6. Cost effective

**Disadvantages**

1. Elongation at yield 2.5% (lower then Telerod G)
2. Ultimate tensile strength (lower then Telerod G)



**Stress - Strain Curve**

