



POLYROD

Empowering Connections & Beyond

Protecting Fiber Optic Cables against Mechanical Stresses and Water Intrusion

MANUFACTURING UNIT

Polyrod, Poly Plast Chemi-Plants (I) Pvt. Ltd.
RS No 727/1 & 2, Village : Menpura, Tal. Dabhoi,
Por-Kayavarohan Road, Vadodara - 391 220, Gujarat, INDIA

SALES OFFICE

Polyplast Composites INC, 5326 Kristen Cir, Sugarland, Texas 77479, USA
Phone: +1 281 716 6963
Email: inquiry@polyrods.com / rahul.bhosale@polyplast-usa.com

OUR VISION

Polyrod is recognized as a dependable manufacturer of FRP Rods and Water Blocking Tape for telecommunication cables.

Our unwavering dedication is directed towards ensuring the timely delivery of high-quality products and sustaining growth through innovation in both new and existing products. Embraced by esteemed clients globally, our primary emphasis lies in upholding customer satisfaction.



POLYROD

PRODUCTS



UV FRP



WATER SWELLABLE FRP



FLAT FRP

MANUFACTURING UNIT

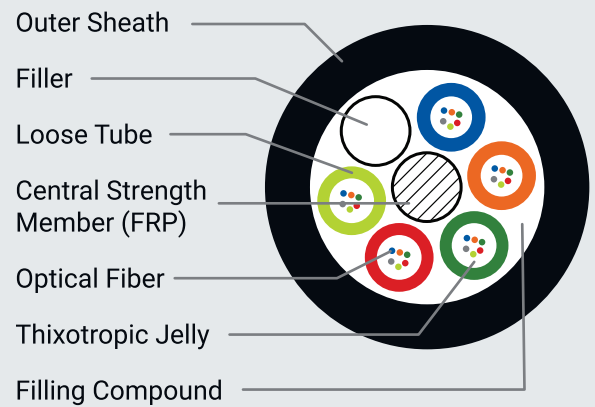
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Key Features

- ✓ High tensile strength, high modulus, high flexibility
- ✓ Low stretch, low expansion, low weight, cost effective
- ✓ Free from chemical corrosion. Compared with metal wire, FRP rod eliminates harmful gas
- ✓ Excellent insulation and immune to electromagnetic interference
- ✓ Electric resistant, consistent diameter & shape
- ✓ Higher stiffness, anti-buckling properties, used for all dielectric / metallic cables
- ✓ Smooth surface, stable sizes, easy processing and installation
- ✓ Higher glass content, higher heat resistant, higher LASE values, longer life
- ✓ Low bend radius, high torsional strength



Fibre Reinforced Plastic Rod (FRP ROD)

The telecommunication grade Fiber Reinforced Plastic (FRP) Rod is crafted through a continuous drawing process, utilizing Glass Roving reinforced with Epoxy Resin. Serving as the central strength component of Optical Fiber Cable, it imparts crucial tensile strength, safeguarding the cable during installation, while its inherent rigidity prevents cable buckling throughout its operational lifespan.

Water Swellable Frp

Water Swellable FRP is produced by employing E-glass fiber with a specialized resin system and is coated with SAP material. It is offered with a hard-coated surface for convenient handling, providing a remarkably smooth surface. This product is available in all sizes, consistent with our standard FRP rod offerings.

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POLYROD | PRODUCTS



Product Range

From 0.5mm to 5.0mm

Product Type

GRH : Uncoated FRP Rod used as Central strength member or as Peripheral Strength Member in various Design of Fiber Optic Cable

GRM : Used for Application where in specific high adhesive coatings to jacket material is required. Coating is used for the same which applied in microns by Extrusion process

Basic Properties	Fibre Reinforced Plastic	Water Swellable FRP	Flat FRP
Tensile Strength	$\geq 140\text{kg/mm}^2$	$\geq 140\text{kg/mm}^2$	$\geq 120\text{kg/mm}^2$
Tensile Modulus	$\geq 5000 \text{ kg/mm}^2$	$\geq 5000 \text{ kg/mm}^2$	$\geq 4200 \text{ kg/mm}^2$
Elongation	2.5 - 4.0 %	2.5 - 4.0 %	$\leq 3 \%$
Flexural Strength	$\geq 70\text{kg/mm}^2$	$\geq 70\text{kg/mm}^2$	—
Flexural Modulus	$\geq 5000 \text{ kg/mm}^2$	$\geq 5000 \text{ kg/mm}^2$	—
Minimum Bend Diameter/Thickness	25XD	25XD	25XT
Heat Stress	@ 80° c @ 24hrs	@ 80° c @ 24hrs	@ 80° c @ 24hrs at 50XT
Water Absorbtion %	—	>2 g/meter) (Diameter increase - $\geq 0.2 \text{ mm}$)	—

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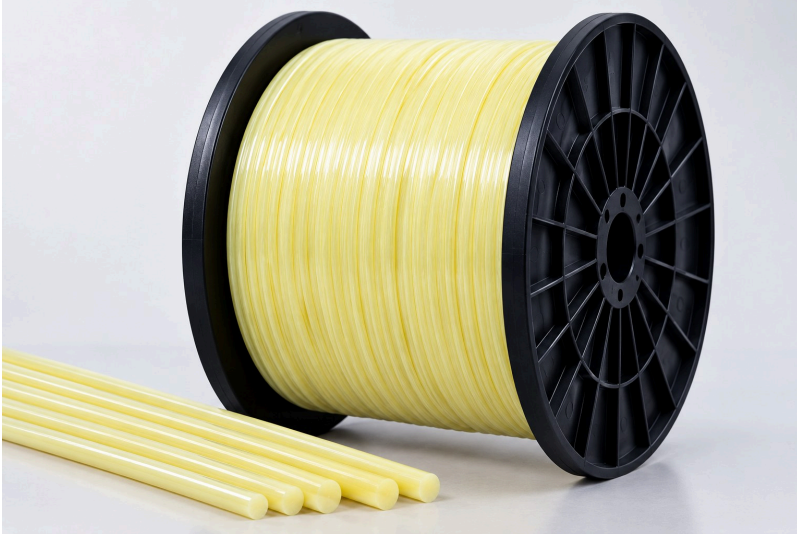
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POLYROD | PRODUCTS

ARAMID REINFORCED PLASTIC ROD (ARP)



Aramid Content
 68 ± 2 % by weight

Tensile Strength
 ≥ 1500 MPa

Tensile Modulus
 ≥ 65 GPa

Elongation at Break
 ≥ 2.5 %

Diameter Stability
 ± 0.03 mm

S.No.	Properties	Unit	Specifications	Test Method
1	Appearance	-	Smooth, Free from harmful cracks	Visual
2	Aramid Content	%	68 ± 2	By Weight
3	Bare Diameter Stability	mm	± 0.03	Micrometer
4	Ovality	mm	< 0.03	Micrometer
5	Unit Weight	gm/m	0.25 ± 0.05	By Weight
6	Tensile Strength	MPa	≥ 1500	ASTM D3916
7	Tensile Modulus	GPa	≥ 65	ASTM D3916
8	Elongation at Break	%	≥ 2.5	ASTM D3916
9	Min. Bending Diameter at 25°C	mm	16 x Diameter of Rod	Mandrel Bend
10	Moisture Content	%	< 2.0	Oven, 150°C at 30 Min
11	Heat Stress (Min. Bending Radius) at 80°C for 24 hours	mm	50 x Diameter of Rod	ASTM D696
12	EAA Coating Thickness (As per Customer Requirement)	microns	40 ± 20	Micrometer
13	Length	Kms	As per Customer Requirement	Counter Meter

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POLYTAPE | PRODUCTS

Water Blocking Tape (WBT)

Water blocking tapes rapidly absorb liquid at the point of insulation failure & quickly swell to block any further ingress. without being messy. This ensure any cable damage minimized. Semi-conductive tape facilitates complete insulation and protects the cable against water ingress as well. Non-conductive WBT are made using non-woven or woven fabric & adhesive coated with SAP powder giving it water swellable properties. For an additional conductive compound is added as a coating material, giving it semiconductive properties. It is available in slitted pads, which convert into a bobbin through a traverse whose length is longer than the Pad, which helps to doing much bigger production efficiencies.



WATER BLOCKING TAPE PAD



WATER BLOCKING TAPE BOBBIN

Basic Properties	Semi Conductive WB Tape	Non Conductive WB Tape
Thickness	0.20 mm to 0.40 mm	0.15 mm to 0.40 mm
Tensile	≥ 25 N/cm	10 N/cm to 30 N/cm
Swelling Height	≥ 20 mm, Excellent	≥ 15 mm, Excellent
Gel Strength	Excellent	Excellent
GSM Range	60 to 120 g/m ²	60 to 90 g/m ²
	No loose Carbon presence on the conductor offers perfect surface and volume resistance	Stable over a long period. easy to process and deal for high speed line manufacturing

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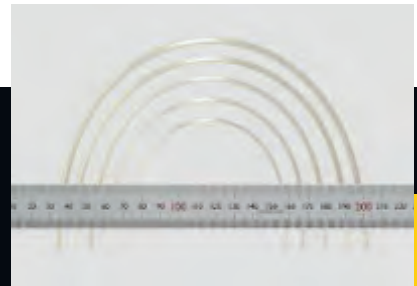
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QUALITY MANAGEMENT & CERTIFICATIONS

Polyrod consistently prioritizes delivering high-quality materials to its customers and firmly believes in fostering a culture centered on quality. This commitment helps us establish trust and satisfaction among our customers.

Our collective goal is to attain zero complaints, and all team members undergo the necessary training to achieve this objective. We are proud to hold certifications such as CACT certification and FRP compliance certificates from Geo tech.

TESTING FACILITY



Our production area covers over 7,000 square meters and we have an open storage area of 4,000 square meters.

Universal Testing Machine: Tensile Strength, Tensile Modulus, Elongation, Flexural Strength, Flexural Modulus

Oven: Heat Stress, Thermal Resistance.

Muffle Furnace: Glass Content, Filler Content, Etc

Water Bath: Water Resistance Test

Weighing Balance: Linear Density

Micrometer: Dia, Coating Thickness

Viscometer: Viscosity

Thickness Gauge: Thickness

Swelling Cup: Swelling Speed/Height

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REPRESENTATIVE OFFICES GLOBALLY



Indonesia

Israel

Mumbai

Netherlands

Oman

Qatar

Saudi Arabia

UAE

Vadodara

NEW FACTORY



LOCATIONS IN INDIA

HO - Mumbai

Karjan, Vadodara

Por, Vadodara

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