



Key Features

- Good tensile strength & modulus
- · Excellent thermal properties
- Good chemical resistance
- · Good flame resistance
- Good electrical insulation

Disadvantages

- Low strength to weight ratio
- Brittle filaments
- Poor abrasion resistance

FIBER-LINE® PROCESS FOR FIBERGLASS

- Coating
- Pultrusion
- Extrusion
- Precision Winding

FIBER-LINE® FIBERGLASS PRODUCTS

- Strength Members
- Industrial Fabric Yarn
- FRP Pultruded Rod
- Strength Members
- Industrial Fabric Yarn

Manufacturer

Various Suppliers.

History

The mass production of glass fibers first began in the 1930's. Fiberglass is produced into several forms and utilized in a vast array of composite and industrial applications. It is often used in thermoset and thermoplastic applications where the fiber is used as reinforcement.

Composition

Large furnaces are used to melt silica sand, limestone, and various other minerals to liquid form. The liquid is then extruded through bushings and are coated (sized) to help bundle the filaments and prepare the fibers for composite resin interface. E-Glass typically is utilized for its high modulus properties as S-Glass has a higher breaking tenacity.

Common Yields & Sizes

Various sizes & yields available.

Types E-Glass, S-Glass.





FIBERGLASS BARE FIBER PERFORMANCE

Abrasion Resistance	Yarn on Yarn Abrasion	Ultraviolet (UV) Resistance	Flame Resistance	Chemical Resistance (Acid)	Chemical Resistance (Alkali)	Chemical Resistance (Organic Solvent)
x	x	0	\checkmark	\checkmark	\checkmark	\checkmark

FIBERGLASS DATA

E-Gla	ass		S-Glass			
Property	UOM	Value	Property	UOM	Value	
Breaking Tenacity	g/d	6.0 - 7.3	Breaking Tenacity	g/d	6.7 – 9.4	
Specific Gravity	Ratio	2.58	Specific Gravity	Ratio	2.48	
Elongation @ Break	%	3.5	Elongation @ Break	%	5.5	
Tensile Modulus	g/d	200 – 275	Tensile Modulus	g/d	140 - 170	
Moisture Regain*	%	<0.03	Moisture Regain*	%	<0.03	
Creep**	%	10.0 - 20.0	Creep**	%	5.0 - 15.0	
Shrinkage***	%	0.0	Shrinkage***	%	0.0	
Melt Point	°C	846	Melt Point	°C	1056	
Decomposition Temp.	°C	TBD	Decomposition Temp.	°C	TBD	

* Equilibrium moisture regain @ 55% RH ** Creep @ 40%-58% ultimate tensile strength *** Shrinkage in dry air @ 177 C for 30 minutes

This data is provided for informational purposes only, and does not constitute a specification. FIBER-LINE® makes no warranty, express or implied, that the product conforms to these values. Contact your FIBER-LINE® representative for exact product details which conform to your specific requirements.

ABOUT FIBER-LINE®

For over 25 years, FIBER-LINE[®] has provided sciencedriven expertise that improves the performance and the end-use processing of high performance fibers. Our products enable the search for new energy reserves and extend the life of fiber optic telecommunication cables. They also add important characteristics, such as SWELLCOAT[®] water-blocking, water repellence, adhesion, color, and wear and UV-resistance to these and many other applications. We believe that our ongoing commitment to protect the environment, to remain at the forefront of fiber and coating technology, and to 'treat others as we want to be treated' will continue to drive the success of our customers, shareholders, and employees.



LOCATIONS

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