Fiberglass Fabric Glossary

E-GLASS CLOTH

E-Glass Cloth has been available since the 1940's and is still the most widely used and the most economical composite reinforcement. It is made from strands of continuous glass filaments plied and twisted into yarn. It is chrome finished (Volan A) and is suitable for use with all polyester, vinyl-ester, and epoxy resins.

S-2 GLASS CLOTH

S-2 Glass Cloth was developed by Owens Corning for military missile applications. Compared to E-Glass, S-2 Glass has much greater tensile strength, flexural strength, flexural modulus, and compressive strength. S-2 Glass laminates also exhibit improved impact resistance, toughness, a high-service temperature, and reduced weight. Often used for high-performance surf and sail boards.

FIBERGLASS MAT

Knytex combines two layers of unidirectional fabrics and multidirectional mat that are stitch-bonded together with polyester yarn. Knytex fibers lie in a flat plane for greater stiffness and strength than woven fabrics. The knitting process increases fiber density and lowers the resin content to as low as 40%.

SPECIALTY FABRICS

Easy to use…like putting down two layers at one time…it does not come apart. Faster wet-out, higher impact strength, greater strength (with less weight), and reduced gel coat print-through. Resin and labor costs are reduced. Overall weight is less. Compatible with epoxy, polyester, and vinyl-ester resins.

Kevlar 49, a high modulus fabric, is designed for plastic reinforcements. It displays excellent stability over a wide range of temperatures for prolonged periods. Even at a temperature as low as -320°F (-196°C) Kevlar shows essentially no brittleness or strength loss. Excellent dimensional stability and fatigue resistance. It, also, has resistance to chemicals and moisture.

Carbon Fiber, also referred to as graphite fiber, is one of the strongest and stiffest reinforcements available. When properly engineered, carbon fiber advanced composites can achieve the strength and stiffness of metal parts at significant weight savings.

In addition to the high strength-to-weight and stiffness-to-weight ratios, carbon fibers are thermally and electrically conductive, have low thermal expansion coefficients, and have excellent fatigue resistance.