COMPOSITE MATERIALS

RUTAN FIBERGLASS CLOTHS

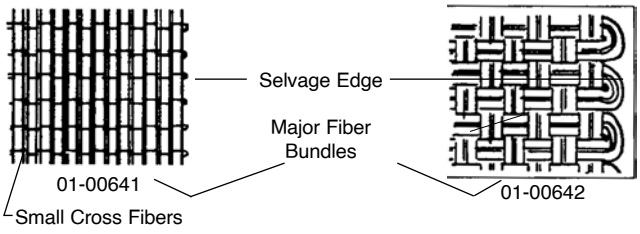
01-00641

01-00642

The most basic structural material in building a composite aircraft is glass cloth. The use of glass in aircraft structures, particularly structural sandwich composites, is a recent development. Glass cloth is available commercially in hundreds of different weights, weaves, strengths and working properties. Very few of these, however, are compatible with aircraft requirements for high strength and light weight. Even fewer are suitable for the hand-layup techniques developed by Burt Rutan for the homebuilder. The glass cloth featured here has been specifically selected for the optimum combination of workability, strength and weight. Two types of glass cloth, a bi-directional cloth (RA7725BID) and a uni-directional cloth(RA7715 UND) are used. BID cloth has half of the fibers woven parallel to the selvage edge of the cloth and the other half at right angles to the selvage, giving the cloth the same strength in both directions. UND cloth has 95% of the glass fibers woven parallel to the selvage, giving exceptional strength in that direction and very little at right angles to it. BID is generally used for pieces which are cut at a 45° angle to the selvage, a bias cut, which enables the builder to lay BID into contours with very little effort and provides the needed shear and torsion stiffness for flying surfaces. UND is used in areas where the primary loads are in one direction, such as wing skins and spar caps. Multiple layers of glass cloth are laminated together to form the aircraft structure. Each layer of cloth is called a "ply".

Unidirectional 7 oz. 38" Width Threads per inch: 80L x 18W
P/N 01-00641..... Lineal Yd.

Bidirectional 8.8 oz. 38" Width Threads per inch: 54L x 48W
P/N 01-00642..... Lineal Yd.



Quantity Discount: 15% on 500 Yds or more. Yardage must be on one fabric for discount, not combined. Discount on larger quantities quoted on request.

PRECISION SCISSORS

Experience easy, comfortable, and accurate cutting with the Precision Scissors. The extra-large handle fits up to 3 fingers in one loop to help provide more strength and comfort in the cut. Symmetrical handles also fit both left and right-handed users.

Features: Straight-edge blades easily slide through the fabric and are sharpened to the tip for smaller or appliqué cuts, OLFA's unique special honing process helps the blades grab the fabric and cut cleanly, with no material folding over the blades - even when cutting left-handed, Precision engineering, blades fully extend into the handles for durability and better cutting stability and pressure distribution, The professional quality rivet secures blade positioning for exceptional accuracy and retains smooth blade movement, even in heavy-use environments, Straight blades made of stainless steel (Blades are not serrated), Good for cutting stitchwork, thread, cloth, leather, fabrics, films, sign and graphics material, vehicle wraps, and more

P/N 01-01186 .....

BIDIRECTIONAL WOVEN KEVLAR - 120

Kevlar" 49 aramid fiber was introduced commercially in 1972 and is the Du Pont registered trademark for its new high strength, high modulus organic fiber. It combines high tensile strength (43,000 PSI) and high modulus (19 million PSI) with light weight and toughness superior to other reinforcing fibers for plastics. It is available in yarns and rovings which meet all FAA requirements for flammability. It shows no degradation in jet fuel, lubricating oils, water, salt water or high humidity. At cryogenic temperatures (-320°F.) performance is excellent with essentially no embrittlement or degradation of fiber properties. Kevlar 49 can offer both a significant weight saving and improved stiffness versus glass in addition to superior vibration damping and good impact resistance. A kayak made with Kevlar 49, for example, weighs about 18 pounds while the weight of a comparable boat made with glass would be over 30 pounds. The advantages over glass in small aircraft are similar - weight savings and improved impact resistance. Kevlar 49 is used in a number of parts on the Lockheed L-1011 because of weight savings of up to 30% compared to similar parts made of glass. One unusual benefit of Kevlar is its "quietness". A cowling made of Kevlar will be quieter and less sensitive to engine vibrations than its glass or graphite counterpart.

Although all of the processes used in combining resins with glass fiber are adaptable to Kevlar 49 with little or no modification. The vinyl ester-type system is compatible, but the use of polyesters is not recommended because of poor bonding with Kevlar. The epoxy resin systems featured in this catalog are compatible with Kevlar 49 and have good wetting characteristics.

Kevlar 49 is stocked in three different fabric styles. Kevlar #120 is a very lightweight fabric, while #281 and #285 are identical except for the weaving pattern. Other weights and weaves of Kevlar are available on a special order basis. Be sure to specify the Kevlar style when ordering.

oz./ Sq.Yd.	Weight Width	Thickness	W x F	Weave	Breaking Strength Lbs/Inch	
					Warp	Fill
1.8	38"	.0035"	34 x 34	Plain	260	250

P/N 01-38100..... Lineal Yd.

Quantity Discount: 10% on 25-50 Yds. %; 15% on 50-100 Yds.; 20% on over 100 Yds.

BIDIRECTIONAL WOVEN LUMAT ARAMID - 4 HARNESS SATIN WEAVE 1500D

Unit of Measure	Linear Yard
Material Warp	Aramid
Material Weft	Aramid
Weave	4 Harness Satin
Ends Per Inch	13
Pics Per Inch	13
Yarn Size Warp	1500d

Yarn Size Weft	1500d
Tow Size	1500d
Weight	5oz/170gsm
Width	50"/127cm
Thickness	
Resin Consumption @ 45% Resin to Fabric by Weight	4.09opsy/137gsm

P/N 01-01665..... Lineal Yd.

INDUSTRIAL FABRIC SHEARS

Wiss No. 20W heavy-duty shears, ideal for cutting fiberglass cloth and all fabrics. Hot drop-forged steel.

Right Hand Shears.....P/N 01-00397 .....

Prices Subject to Change without Notice - Valid as of June 16, 2026. Please view our website for current prices.