Hybrid Fabrics Aramid / Glass

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Product Description

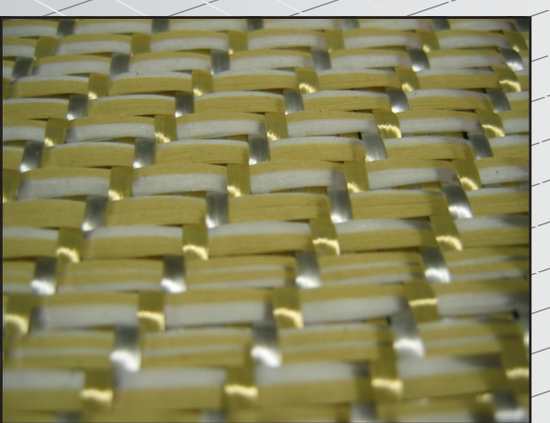
Hybrid aramid/glass fabrics are a combination of FGI's outstanding glass with the added strength and toughness of aramid fibers mixed into the construction. Aramid fiber is pound for pound 3x stronger than glass fiber in tension. Aramid fiber is 45% lighter than glass. The woven or stitched FGI hybrid aramid /glass fabrics are designed to contain a 50:50 combination of aramid and glass fiber (based on volume). The volume basis is used in engineering calculations to determine overall properties, such as modulus, density, and strength. These hybrid fiberglass fabrics are ideal for hand lay-up molding, resin infusion processes, SRIM, RRIM, and SCRIMP processes. FGI's proprietary sizing allows the end user complete compatibility with Polyester, Vinyl Ester, Epoxy, and Polyurethane. We offer these hybrid fabrics in both stitched and woven constructions.

Features and Benefits

- Greater tensile strength and lower weight compared to 100% glass fabrics
- Easier to wet-out and process compared to 100% aramid fabrics
- Greater toughness and resistance to puncture than 100% glass fabrics
- Better delamination and peel resistance than 100% aramid fabrics.
- The aramid fiber is "locked" to the glass fiber, either interwoven or by stitching

Applications

- Boat hulls where resistance to puncture is of paramount important
- Ballistic applications requiring high tensile strength and damage resistance
- Applications requiring abrasion resistance and light weight
- Applications requiring damage resistance and light weight.
- Applications requiring high tensile strength and low weight.



U.S.A.

Ask your friendly local sales representative about fabric constructions and your specific needs.

Fiber Glass Industries, Inc.
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Hybrid Aramid / Glass Fabric Data

Fiber	Tensile Strength* (MPa, ksi)	Density (g/cc, lb/cu in)	Strength to (Weight, Density) Ratio	Strength to Weight Ratio (Relative to Glass)	Tensile Modulus (GPa , msi)
E-Glass	2240, 325	2.60, 0.094	861, 3457	1	73, 10.5
Aramid	3620, 525	1.44, 0.052	2514, 10100	3	105, 15

* Based on ASTM D2343 test protocol

Fabrics Available

SXEK1308 is a 13 oz/sqyd double bias (+/-45) stitched hybrid fabric with 0.75 oz / sqft chopped glass.
K2SM1308 is a 13 oz/sqyd woven hybrid fabric with 0.75 oz/sqft chopped glass.
K2SM2808 is a 28 oz/sqyd woven hybrid fabric with 0.75 oz/sqft chopped glass.

Product Specifications

Product	**K2SM1308**	**K2SM2808**	**SXEK1308A1**
Fiber Configuration	(0,90)	(0,90)	(+45,-45)
Warp Direction			
0 (or +45) Glass (oz/sqyd)	3.84	8.96	4.07
0 (or +45) Aramid (oz/sqyd)	2.24	3.92	2.33
0 (or +45) Total (oz/sqyd)	6.08	12.88	6.40
Weft Direction			
90 (or -45) Glass (oz/sqyd)	3.84	10.24	4.07
90 (or -45) Aramid (oz/sqyd)	2.24	4.48	2.33
90 (or -45) Total (oz/sqyd)	6.08	14.72	6.40
Fabric Components			
Chopped Glass (oz/sqyd)	8.1	8.1	8.1
Glass Yield (yd/lb)	1200	450	1500
Total Glass (oz/sqyd)	7.68	19.20	8.14
Aramid yield (yd/lb)	2054	1029	3145
Total Aramid (oz/sqyd)	4.49	8.40	4.66
Total Weight / Volume			
Fabric **without** chopped glass	12.17	27.60	12.80
Fabric **with** chopped glass	20.18	33.90	21.31
%Weight Aramid (**without** chopped glass)	37%	30%	36%
% Volume Aramid (**without** chopped glass)	51%	44%	50%

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