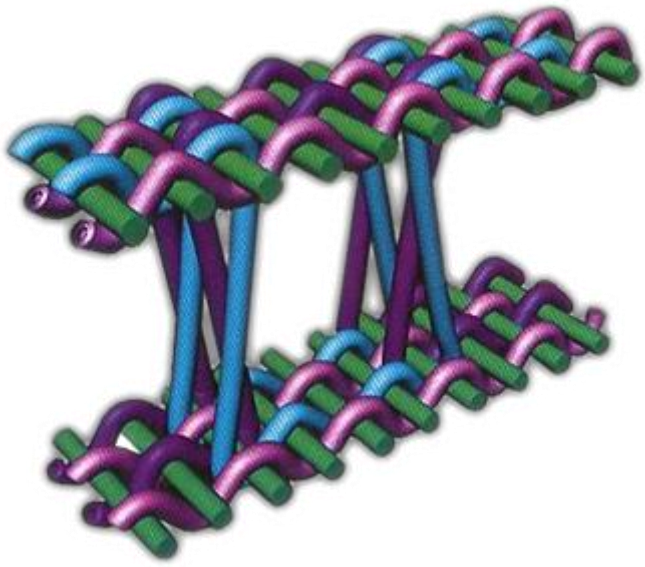
3-D Fiberglass Sandwich Woven Fabrics

3-D sandwich woven fabrics are made of 100% E-glass yarns, as well as carbon fiber, basalt fiber of other high performance fibers. Two deck layers bonded together by Z-piles to the specified height of 2-25mm.



Above: Woven structure of 3-D Sandwich

When the fabric is impregnated with a thermoset resin, the fabric immediately absorbs the resin and due to the capillary forces of the Z-piles, the fabric rises to the preset height.

Because the composite material is a kind of hollow integrated core sandwich structure that offers excellent mechanical properties and design-versatility.

The composite material is widely used for many applications in the core composites industry, such as ships, railways, automotive, aviation, wind energy, double wall tanks and construction, while offering multiple advantages (delamination, impact etc) against traditional sandwiches such as honeycombs, foams, balsa, and more.

Applications

- GRP Tanks
- Steel-GRP Tanks
- Ships
- Automotive
- Construction
- Linings
- Wind Energy
- Decoration
- Sport
- Radar Cover
- Mould
- Railway
- Aviation

51A Harrison Street • Balcatta WA 6021 • AUSTRALIA
Tel +614 1893 4827 • mail@LBIE.com • ABN 47 243 059 295
www.LBIE.com

Specifications

Type			2	3	5	8	10	12	15	18	20
Core	(N)	mm	2.0	3.0	5.0	8.0	10.0	12.0	15.0	18.0	20.0
Face	(N)	Mm	0.36	0.36	0.36	0.36	0.58	0.58	0.58	0.58	0.58
Fabric	(N)	g/m2	715	780	850	940	1440	1520	1620	1710	1790
Fabric	(M)	g/m2	510	550	620	700	780	850	980	1200	1380
Laminate	Polyester Resin (N)	g/m2	1550	1600	1720	1920	2930	3100	3300	3440	3510
Laminate	Polyester Resin (M)	g/m2	980	1060	1180	1320	1500	1620	1910	2310	2700
Thermal Conductivity	DIN 52616 (N)	W/mk	0.05	0.06	0.06	0.06	0.08	0.08	0.08	0.08	0.08
Thermal Resistance	DIN 52616 (N)	m2k/w	0.04	0.05	0.08	0.12	0.13	0.15	0.18	0.21	0.24
Tensile Strength	ASTM D1689/579 (N)	Mpa	273 204	282 208	305 216	317 224	324 228	333 232	341 239	352 245	361 238
Horizontal Wise Compression	ASTM365 (N)	Mpa	10.2 8.9	8.7 7.5	5.1 3.9	4.5 3.1	2.6 2.3	2.4 2.0	2.2 1.9	1.9 1.4	1.3 0.9
Shear Strength	ASTM273 (N)	Mpa	3.6 2.1	3.0 1.7	2.8 1.4	2.9 1.2	2.7 1.0	2.5 1.0	2.1 0.8	1.8 0.6	1.3 0.3
Shear Modulus	ASTM273 (N)	Mpa	77 21	73 24	62 31	56 27	47 24	44 21	39 18	31 19	26 18
Bending Strength	ASTM393 (N)	Mpa	114 47	116 51	111 48	107 45	104 42	97 39	92 35	89 37	85 34
Roll Type	800mm (35m2), 1000mm (40m2), 1270mm (50m2), 1600mm (65m2)										

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