

Resource List – Composites – NH Guild 15 Feb 2014

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Types of composite materials

- *Carbons*
- *Kevlar (aramid fibers)*
- *Glass (fiberglass)*
- *Paper (filled and unfilled)*
- *Polyester*

Binders:

You need something to hold these fibers in position to give them strength
EPOXY is the word

ALL EPOXIES ARE EXOTHERMIC – THEY GIVE OFF LOTS OF HEAT

Flat pans preferred, no large mixing jars. Stay away from plastic.

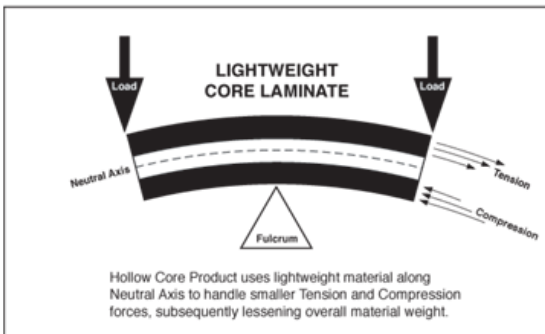
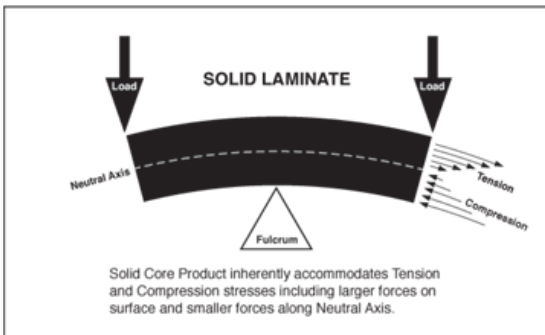
Most common uses –

Honeycomb to reduce weight

Laminations to increase rigidity

Laminations to increase strength or toughness

PRODUCT COMPARISON



My preferences:

For Epoxies – West System – easy to use, about the right consistency for my applications right out of the can. Also notable – 3M epoxy system. Only use their microballoons for fillers – introduce no water or ability to wick water.

For compression strength – carbon fiber alone

For toughness – aramid/carbon weave – 5.7 oz

For repairs/fairing – carbon tissue with microballoons and epoxy

For conference tabletops – epoxy impregnated paper with smooth surface material and carbon tissue.

For thin tabletops – NIDA type composite honeycomb

Sources:

NOTE: these suppliers may not be the least expensive, but they seem to me to combine good service with good product.

NIDA – From the manufacturer – www.nida-core.com

West System – your local marine supplier is best – will have the freshest product – West Marine is our local source. FRESH MATERIAL IS CRITICAL TO GOOD RESULTS www.westsystem.com

Local sourcing: Jamestown - <http://www.jamestowndistributors.com>

West Marine – (not related to West Systems) – www.westmarine.com

Expensive scissors and shears – www.jaeberly.com

Paper honeycomb – Tricel Honeycomb – Gurnee IL www.tricelcorp.com

Carbon and aramid fibers and matting

The Composite Store – www.cstsales.com

ACP Sales – www.acpsales.com

TAP Plastics – www.tapplastics.com

Fibre Glast Developments – www.fibreglast.com (watch spelling)

Plates and tubes: www.dragonplate.com

Other: www.materialconnexion.com