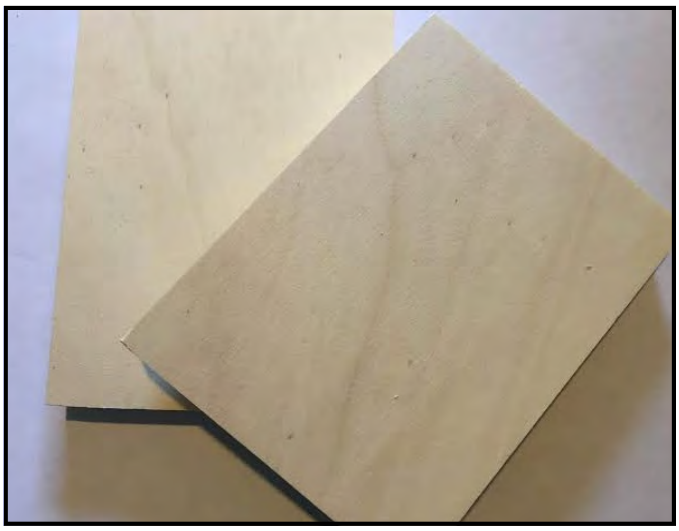
CARBON CORE
HONEYCOMB ENGINEERING

Product Data Sheet: LitePly/ Italian Poplar



Due to anisotropic properties of honeycombs, MIL handbook 17B does not recommend ASTM C393, or 3 point bend test as a valid indicator of honeycomb cored panel behavior. It is viewed as a possible quality control test but not indicative of the real attributes of the structure. It is generally felt that a better indicator would be the ASTM D 6146-99) (Standard Test Method for Two-dimensional Flexural Properties of Simply Supported Sandwich Composite Plates Subjected to a Distributed Load) or also known as "The Hydramat test". These tests have produced results that validate the accompanying Strength of Materials Data. The viscoelastic behavior of CarbonCore Plastic Honeycomb will typically permit far greater deflections without structural failures so the Deflection at Load is supplied for comparison but this does not imply a Load to fail .Deflection values based on 200lb point load centrally with support on 4 edges. (test specimen 1"wide X6" long,)

CHARACTERISTICS

- Non-Flammable
- Great impact strength
- Great strength/stiffness to weight ratio
- High insulation properties (sound an thermal)
- High heat distortion temperature
- Rot free

INDUSTIRES

- **Marine**: Superstructures, decks, hulls, bulkheads
- **Industrial:** Tanks, covers, portable shelters, container
- **Wind Power:** Nacelles, rotor blades
- **Recreational:** Kayaks, canoes, snowboards, skis, surf/wakeboards
- **Road:** Floors, doors, side skirts, roof panels, partition walls

PROCESSING

- Adhesive bonding
- Compression Molding
- Thermoforming
- Contact molding
- Vacuum Infusion

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Material	CarbonCore 10mm + LitePly/Italian Poplar	CarbonCore 13mm + LitePly/ Italian Poplar	CarbonCore 20mm + LitePly/ Italian Poplar	CarbonCore 25mm + LitePly/ Italian Poplar
Total thickness of sandwich	0.630” 16mm	0.748” 19mm	1.024” 26mm	1.221” 31mm
Modulus (MSI)	1.6 0 1.6	1.6 0 1.6	1.6 0 1.6	1.6 0 1.6
Max Ply Stress (psi)	1000 0 1000	1000 0 1000	1000 0 1000	1000 0 1000
% of Each Ply’s Ultimate Strength	100 0 100	100 0 100	100 0 100	100 0 100
Bending Stiffness	21180 lb/in²	32495 lb/in²	68396 lb/in²	104048 lb/in²
Flatwise Compression Fmax/Area	188psi	188psi	188psi	188psi

Deflection Values

Core Thickness	Span 24”	Span 36”	Span 48”
10mm	0.073”	0.166”	0.295”
13mm	0.048”	0.108”	0.192”
20mm	0.022”	0.051”	0.091”
25mm	0.015”	0.034”	0.060”
38mm	0.007”	0.016”	0.028”
50mm	0.004”	0.010”	0.017”

Approximate Weights per sq. ft. and per 48X96 Panel

Panel	5mm	7mm	10mm	13mm	16mm	20mm	25mm	30mm	38mm
LitePly/ Italian Poplar	.676psf	.713psf	.763psf	.813psf	.863psf	.93psf	1.017psf	1.104psf	1.241psf
	21.63 lb	22.82 lb	24.42 lb	26.02 lb	27.62 lb	29.76 lb	32.5 lb	35.33 lb	39.71 lb

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