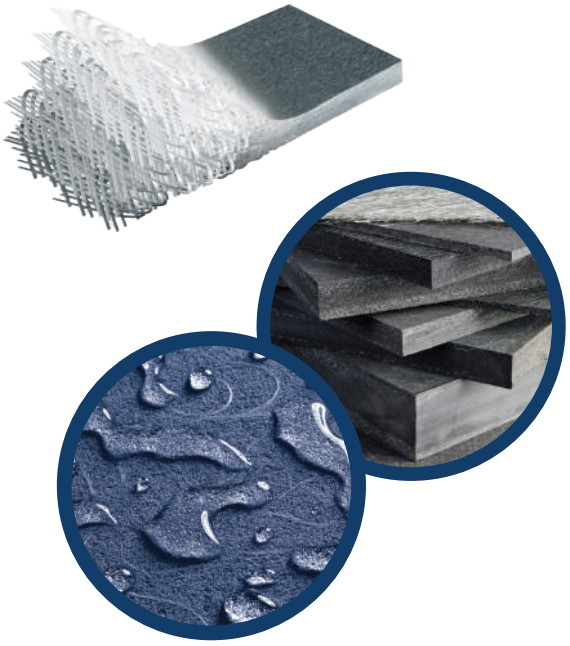
Coosa Nautical Panels

Fiber-Reinforced Structural Foam Panel



DESCRIPTION

Coosa's Nautical panels are made from closed-cell polyurethane foam, reinforced with fiberglass. They have very high mechanical properties ideally suited as core material.

The unique manufacturing process evenly distributes continuous fiberglass throughout the foam, generating a very consistent core with enhanced mechanical properties, especially in compression and shear.

Nautical panels are dimensionally stable and have very low water absorption. They are resistant to chemicals as well as high temperatures. Nautical panels are ideally used as a replacement for plywood and other core materials.

Dimensions: 4'x8' up to 5'x12'
Thicknesses: ¼" up to 2"
Densities: 15#, 20#, 24#, 30#

CHARACTERISTICS

- *Non-absorbent*
- *Lightweight and strong*
- *Good screw retention*
- *Compatible with a wide range of resins and adhesives*
- *Dimensionally stable*
- *Mold and mildew resistant*
- *High shear and compression properties*
- *Strong chemical resistance*
- *High heat resistance*
- *Self extinguishing (meets FMVSS 302 for flammability)*

CUSTOMER PROCESSES

- *Contact molding (hand/spray)*
- *Resin infusion / injection (VARTM / RTM)*
- *Adhesive bonding*
- *Pre-preg*
- *Press / compression molding*

APPLICATIONS

Transportation
- Sub-flooring
- Walls
- Cabinetry
- Portable restroom components

Construction
- Walls
- Flooring
- Doors
- Cabinetry
- Decorative elements
- Exterior cladding

Marine
- Stringers
- Hatch lids
- Bulkheads
- Deck furniture
- Transoms

Recreational Vehicles
- Sub-flooring
- Cabinetry
- Drop-down elements

MADE IN USA

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MECHANICAL PROPERTIES

NEW

Typical properties for Nautical panels		Unit (imperial)	Nautical 15	Nautical 20	Nautical 24	Nautical 30
Density	ASTM C-271 ISO-845	lb/ft³	15	20	24	30
Core Compressive (Strength)	ASTM C-365 ISO-844	psi	447	600	1,092	1,387
Core Compressive (Modulus)	ASTM C-365 ISO-844	psi	10,429	20,633	28,796	41,380
Flatwise Tensile (Strength)	ASTM C-297	psi	411	570	724	899
Flatwise Tensile (Modulus)	ASTM C-297	psi	10,849	15,434	20,461	22,623
Core Shear (Strength)	ASTM C-273 ISO 1922	psi	320	432	521	669
Core Shear (Modulus)	ASTM C-273 ISO 1922	psi	6,787	13,092	18,136	23,789
Flexural Properties (Strength)	ASTM D-790	psi	1,572	2,968	3,853	4,731
Flexural Properties (Modulus)	ASTM D-790	psi	74,297	169,755	177,190	193,210
Screw Retention*	ASTM D1761	lbs	165	278	265	549
Standard Sheet	Width	in	48	48	48	48
	Length	in	96	96	96	96
	Thickness	in	1/2 to 2	3/8 to 2	1/4 to 2	1/4 to 2

All properties evaluated on ¾" rigid sheet; other thickness will have similar performance based on that specific sheet density.
Flexural testing support span ratio 16:1. **fastener type #12 sheet metal screw*

THERMAL RESISTANCE

The R value of ½" Nautical 24 is 1.5

The R value of 1" Nautical 24 is 2.6

DIELECTRIC STRENGTH

Coosa ¼" Nautical 24 passed ASTM D149 testing up to 30,000 volts

PANEL COMPARISON (A general comparison of 4' x 8' x 3/4" composite panels.)

	Coosa Composites	Marine Grade Plywood	Engineered OSB	Plastic Honeycomb
Weight	***Nautical 30*** - 60 lbs. ***Nautical 20*** - 40 lbs. ***Nautical 24*** - 48 lbs. ***Nautical 15*** - 30 lbs.	Approx. 70 lbs.	Approx. 78 lbs.	Usually less than plywood but depends on construction
R-Value	2-3 times the R-value of plywood	Less than half of Coosa	Less than half of Coosa	Depends greatly on the construction of the panel
Dimensionally Stable	Yes	No	No	Usually
Resists Rot and Mold	Yes	No	No	Yes

Important! The information and data presented herein are based upon information reasonably available to Coosa Composites Holdings, LLC from independent testing labs at the time of publication and are presented in good faith, but are not to be construed as guarantees or warranties, express or implied, regarding performance, results to be obtained from use, comprehensiveness, and merchantability. You should thoroughly test any application, and independently determine satisfactory performance before commercialization or use.

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