

BALSA Core is the finest end-grain balsa wood core material in the market, ideal for sandwich construction. It has remarkable physical properties, starting with its outstanding strength-to-weight ratios (high shear and compression strength). It is an all-natural and renewable resource coming from Ecuador. It has exceptional fatigue and impact resistance properties. And it provides phenomenal sound and thermal insulation. In addition, it is a natural fire-retardant material.

- Outstanding strength-to-weight ratios
- High chemical resistance (including styrene) and amazing bonding properties
- Completely organic, sustainable and renewable resource
- BALSASUD® Core SG is approved by DNV GL and Lloyd's Register

PROCESSING

- Prepreg processing (up to 180°C or 355°F)
- Resin infusion / injection (VARTM / RTM)
- Adhesive bonding
- Vacuum infusion
- Hand Lay-up and Spray-up
- Compression molding (GMT, SMC)



APPLICATIONS

Marine: Hulls, Decks, Superstructures, Bulkheads, Attachment points, Interiors, Engine beds, Flooring, Molds, Topsides and Stringers

Wind Energy: Rotor blades, nacelle covers and spinners

Aerospace: Aircraft structures, floor panels, structural panels, air cargo containers, interior partitions and Unmanned Aerial Vehicle (UAV)

Transportation: Primary Body Structure, Interior Structure, Sidewalls, Floors, Ceilings and Panels

Defense: Naval vessels and deckhouses, panel structures, cargo pallets, containers, aircraft structures, Shelters and Unmanned Aerial Vehicle (UAV)

Industrial: Tub & Shower, Tooling, Industrial tanks, Shelters, Construction panels (soundproofing, insulation and decoration), Sports equipment: surfboards, snowboards, skis and wakeboards

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Mechanical Properties for Balsa Core

TEST STANDARDS		Units (Imperial)	Ultra Lite (UL)	Wind Grade (WG)	Standard Grade (SG)	Heavy Weight (HW)
Density	ASTM C-271	Lbs. / cu.ft	6.5	8.2	9.5	17.5
Compressive Strength	ASTM C-365	psi	947	1342.30	1547.55	3136
Compressive Modulus	ASTM C-365	ksi	295.36	295.53	340.72	635.99
Tensile Strength	ASTM C-297	psi	1088	1810	2087	2618
Tensile Modulus	ASTM C-297	ksi	324.68	449.61	518.36	825.55
Shear Strength	ASTM C-273	psi	272	342.18	394.50	808
Shear Modulus	ASTM C-273	ksi	15.84	23.43	27.01	52.79
Thermal Conductivity at 75 °F	ASTM C-177	BTU.in/ ft ² .hr.°F	0.331	0.399	0.460	0.581
Standard Sheet	Length	inch	48	48	48	48
	Width	inch	24	24	24	24
	Thickness	inch	1/4 to 3	1/4 to 3	1/4 to 3	1/4 to 3

Nominal value is an average value of a mechanical property at a nominal density. Tests are perpendicular to the plane.

Continuous operating temperature range:	-349.6° F to +325.4° F
Moisture content:	from 6% to 12%
Density Tolerance:	+ / - 10%

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Mechanical Properties for Balsa Core

TEST STANDARDS		Units (metric)	Ultra Lite (UL)	Wind Grade (WG)	Standard Grade (SG)	Heavy Weight (HW)
Density	ASTM C-271	Kg. / m ³	100	132	152	280
Compressive Strength	ASTM C-365	MPa	6,53	9,25	10,67	21,62
Compressive Modulus	ASTM C-365	MPa	2036	2037	2349	4385
Tensile Strength	ASTM C-297	MPa	7,50	12,48	14,39	18,05
Tensile Modulus	ASTM C-297	MPa	2238	3100	3574	5692
Shear Strength	ASTM C-273	MPa	1,88	2,36	2,72	5,57
Shear Modulus	ASTM C-273	MPa	110	162	186	364
Thermal Conductivity at 24 °C	ASTM C-177	W/m.K	0,048	0,057	0,066	0,084
Standard Sheet	Length	mm	1220	1220	1220	1220
	Width	mm	610	610	610	610
	Thickness	mm	6,35 to 76,20	6,35 to 76,20	6,35 to 76,20	6,35 to 76,20

Nominal value is an average value of a mechanical property at a nominal density. Tests are perpendicular to the plane.

Continuous operating temperature range:	-212° C to +163° C
Moisture content:	from 6% to 12%
Density Tolerance:	+ / - 10%

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