

## Product Data Sheet

Last Revised: November 2, 2016

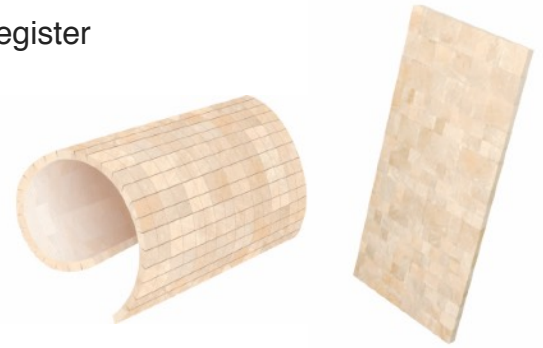
### BALSASUD® Core - Product Data Sheet

BALSASUD® 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

**USA - Florida**  
1060 E. 30 St.  
Miami, FL 33013, USA  
T +1 (305) 921-4292  
F +1 (305) 691-9094

**USA - Texas**  
5101 Norwood Road  
Dallas, TX 75247, USA  
T +1 (214) 905-4359  
F +1 (214) 905-4365

**Ecuador**  
Km. 24 Via Daule  
Guayaquil, Ecuador  
T +593 4-226-7008  
F +593 4-226-7007

**Europe**  
Via Enrico Fermi, 170  
46011 – Acquanegra s/C (MN), Italy  
T +39 3398 107391  
F +39 0376 727248

## Mechanical Properties for BALSASUD® 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 <sup>2</sup> .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%

**Disclaimer:** The information provided in this Data Sheet has been obtained through different tests and experience. The values provided are approximate and should be treated as such. The information is believed to be correct. However, there is no warranty, either expressed or implied, regarding the precision of results obtained by using such information. The company shares no liability for its misuse.

BALSASUD® Core SG is approved by DNV GL and Lloyd's Register.

**USA - Florida**  
1060 E. 30 St.  
Miami, FL 33013, USA  
T +1 (305) 921-4292  
F +1 (305) 691-9094

**USA - Texas**  
5101 Norwood Road  
Dallas, TX 75247, USA  
T +1 (214) 905-4359  
F +1 (214) 905-4365

**Ecuador**  
Km. 24 Via Daule  
Guayaquil, Ecuador  
T +593 4-226-7008  
F +593 4-226-7007

**Europe**  
Via Enrico Fermi, 170  
46011 – Acquanegra s/C (MN), Italy  
T +39 3398 107391  
F +39 0376 727248

## Mechanical Properties for BALSASUD® Core

TEST STANDARDS		Units (metric)	Ultra Lite (UL)	Wind Grade (WG)	Standard Grade (SG)	Heavy Weight (HW)
Density	ASTM C-271	Kg. / m <sup>3</sup>	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%

**Disclaimer:** The information provided in this Data Sheet has been obtained through different tests and experience. The values provided are approximate and should be treated as such. The information is believed to be correct. However, there is no warranty, either expressed or implied, regarding the precision of results obtained by using such information. The company shares no liability for its misuse.

BALSASUD® Core SG is approved by DNV GL and Lloyd's Register.

**USA - Florida**  
1060 E. 30 St.  
Miami, FL 33013, USA  
T +1 (305) 921-4292  
F +1 (305) 691-9094

**USA - Texas**  
5101 Norwood Road  
Dallas, TX 75247, USA  
T +1 (214) 905-4359  
F +1 (214) 905-4365

**Ecuador**  
Km. 24 Via Daule  
Guayaquil, Ecuador  
T +593 4-226-7008  
F +593 4-226-7007

**Europe**  
Via Enrico Fermi, 170  
46011 – Acquanegra s/C (MN), Italy  
T +39 3398 107391  
F +39 0376 727248

Driven by innovation,  
inspired by **possibilities**,  
powered by **nature**,  
built for **you**,  
we are proud to make the most  
**sustainable** core material on earth.

Learn more



imagine.  
create.  
enjoy.

**USA - Florida**  
1060 E. 30 St.  
Miami, FL 33013, USA  
T +1 (305) 921-4292  
F +1 (305) 691-9094

**USA - Texas**  
5101 Norwood Road  
Dallas, TX 75247, USA  
T +1 (214) 905-4359  
F +1 (214) 905-4365

**Ecuador**  
Km. 24 Via Daule  
Guayaquil, Ecuador  
T +593 4-226-7008  
F +593 4-226-7007

**Europe**  
Via Enrico Fermi, 170  
46011 – Acquanegra s/C (MN), Italy  
T +39 3398 107391  
F +39 0376 727248