BALTEK®

ALCAN

Data Sheet / Issue 02/05 / Replaces Issue 11/04

# BALTEK® SB
# STRUCTURAL END-GRAIN BALSA

**Description**

A core material produced from certified kiln-dried balsa wood in the 'end-grain' configuration. The properties of balsa make it ideal as a core for sandwich construction. It has extremely high strength and stiffness to weight ratios, and achieves an excellent bond with all types of resins and adhesives. It is compatible with a variety of manufacturing processes and is resistant to temperature changes, or exposure to fire, or chemicals such as styrene. It is an ideal core material for an extensive range of applications. All while being a renewable resource.

**Applications**

- **Marine**
  hulls, decks, bulkheads, superstructures, interiors, tooling and molds
- **Road and Rail**
  floors, walls, roof panels, body panels, interiors, front-ends, side skirts
- **Wind Energy**
  rotor blades, spinners, nacelle covers, generator housings
- **Aircraft**
  floor panels, galley carts, interior partitions, cargo pallets, containers, general aviation (sport aircraft) parts
- **Defense**
  naval vessels, containers, cargo pallets, tactical shelters
- **Industrial**
  tooling, tanks, ductwork, impact limiter, concrete forms, fascia panels, skis, snowboards, wakeboards

**Characteristics**

- **extremely high strength and stiffness to weight ratios**
- **excellent fire performance**
- **ecological product**
- wide operating temperature range (-212°C to +163°C, -414°F to +325°F)
- excellent fatigue resistance
- good sound and thermal insulation
- high impact strength
- good moisture resistance

**Processing**

- contact molding (hand/spray)
- resin injection (RTM)
- adhesive bonding
- compression molding
- pre-preg processing (up to 180°C, 355°F)
- vacuum infusion

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| Typical properties for BALTEK® SB | | | | SB.50 | SB.100 | SB.150 |
|---|---|---|---|---|---|---|
| Apparent nominal density | | ASTM C 271 | kg/m³<br>lb/ft³ | 100<br>6.2 | 151<br>9.4 | 244<br>15.2 |
| Compressive strength<br>perpendicular to the plane | | ASTM C 365 | N/mm²<br>psi | 6.84<br>992 | 12.67<br>1837 | 25.8<br>3743 |
| Compressive modulus<br>perpendicular to the plane | | ASTM C 365 | N/mm²<br>psi | 2151<br>312056 | 3921<br>568661 | 7840<br>1137160 |
| Tensile strength<br>perpendicular the plane | | ASTM C 297 | N/mm²<br>psi | 7.9<br>1143 | 13.00<br>1886 | 23.18<br>3362 |
| Tensile modulus<br>perpendicular the plane | | ASTM C 297 | N/mm²<br>psi | 2320<br>336499 | 3518<br>510176 | 5688<br>824965 |
| Shear strength | | ASTM C 273 | N/mm²<br>psi | 1.91<br>277 | 2.94<br>427 | 4.85<br>703 |
| Shear modulus | | ASTM C 273 | N/mm²<br>psi | 110<br>15927 | 157<br>22829 | 302<br>43839 |
| Thermal conductivity<br>at room temperature | | ASTM C 177 | W/m.K<br>BTU.in/ft².hr.°F | 0.052<br>0.357 | 0.066<br>0.453 | 0.084<br>0.578 |
| Plain sheet | width | | mm<br>in** | 609.6<br>24 | 609.6<br>24 | 609.6<br>24 |
| | length | | mm<br>in** | 1219.2<br>48 | 1219.2<br>48 | 1219.2<br>48 |
| | thickness | | mm<br>in** | 4.7 to 100<br>3/16 to 4 | 3* to 100<br>0.118 to 4 | 6.4 to 100<br>1/4 to 4 |
| Contoured | width | | mm<br>in** | 609.6<br>24 | 609.6<br>24 | 609.6<br>24 |
| | length | | mm<br>in** | 1219.2<br>48 | 1219.2<br>48 | 1219.2<br>48 |
| | thickness | | mm<br>in** | 4.7 to 50<br>3/16 to 2 | 3 to 50<br>3/16 to 2 | 6.4 to 50<br>1/4 to 2 |

Other dimensions, configurations, and closer tolerances upon request

* <5mm (0.188") available only with scrim applied
** tolerances upon request

**Please specify LamPrep (micro-sanded) surface treatment or AL600/10 coating (decreases porosity and increases bond strength) when ordering**

The data provided gives approximate values for the nominal density. Due to density variations these values can be lower than indicated above. Minimum values to calculate sandwich constructions can be provided upon request.
The information contained herein is believed to be correct and to correspond to the latest state of scientific and technical knowledge. However, no warranty is made, either expressed or implied, regarding its accuracy or the results to be obtained from the use of such information. No statement is intended or should be construed as a recommendation to infringe any existing patent.

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