

The high performance sandwich core

ProBalsa is a high quality organic core material made from end grain balsa wood. The end grain, micro honeycomb structure offers exceptional shear and compressive strength. In addition ProBalsa offers good fatigue properties, high thermal and sound insulation and low FST (fire, smoke & toxicity) properties. ProBalsa is best suited for dynamic structures where performance and efficiency are important.

All ProBalsa core materials are particularly easy to work using conventional woodworking tools. It can be drilled, milled, turned and sawn to close tolerances. ProBalsa is compatible with most resin and manufacturing processes. It is also suitable for elevated temperature cure prepreg systems.

Mechanical properties ProBalsa®

| Property | Test Procedure | Unit | | PB Standard |
|-----------------------------------|----------------|-------------------|---------|-------------|
| Compressive Strength ¹ | ASTM C 365 | MPa | Nominal | 12.7 |
| Compressive Modulus ¹ | ASTM C 365 | MPa | Nominal | 4,100 |
| Tensile Strength ¹ | ASTM C 297 | MPa | Nominal | 13.5 |
| Shear Strength ¹ | ASTM C 273 | MPa | Nominal | 3.0 |
| Shear Modulus ¹ | ASTM C 273 | MPa | Nominal | 166 |
| Sheet Density | ASTM C 271 | kg/m ³ | Nominal | 155 |

All values measured at +23 ± 3°C

1. Properties measured perpendicular to the plane

Nominal value is an average value of a mechanical property at a nominal density

Product Characteristics

- High temperature resistance
- Fast and easy to process
- Good chemical resistance
- Exceptional shear and compressive strength

ProBalsa is type approved by:



Technical Characteristics

Technical Characteristics ProBalsa®

| Characteristics ¹ | Unit | PB Standard | Test method |
|-----------------------------------|----------------|-------------|------------------------|
| Thermal conductivity ² | W/(m x °C) | 0.064 | ASTM C 177 |
| Moisture content | % | 8-12 | ASTM D 4442 |
| Water absorption, 24 hours | % | 225 | ASTM C 272 |
| Water absorption, 48 hours | % | 310 | ASTM C 272 |
| Water absorption, saturation | % | 625 | ASTM C 272 |
| R-value | 12 mm / 0.5 in | 1.1 | Based on +10° K factor |
| | 25 mm / 1.0 in | 2.3 | |
| | 51 mm / 2.0 in | 4.5 | |

1. Typical values
2. Thermal conductivity at +23°C

Coefficient of linear expansion: (ASTM D-696)
Longitudinal: $3.6 \times 10^{-6} / ^\circ\text{C}$
Radial: $14.4 \times 10^{-6} / ^\circ\text{C}$
Tangential: $21.6 \times 10^{-6} / ^\circ\text{C}$

Shrinkage and swelling of wood due to moisture changes will overshadow thermal expansion.

Physical characteristics

| Format | | Unit | PB Standard |
|--------------|--------|------|-------------|
| Plain sheets | Length | mm | 1220 |
| | Width | mm | 610 |
| GS sheet | Length | mm | 1220 |
| | Width | mm | 610 |

Disclaimer:

This data sheet may be subject to revision and changes due to development and changes of the material. The data is derived from tests and experience. If not stated as minimum values, the data is average data and should be treated as such. Calculations should be verified by actual tests. The data is furnished without liability for the company and does not constitute a warranty or representation in respect of the material or its use. The company reserves the right to release new data sheets in replacement.

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