

## 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 <sup>1</sup>	ASTM C 365	MPa	Nominal	12.7
Compressive Modulus <sup>1</sup>	ASTM C 365	MPa	Nominal	4,100
Tensile Strength <sup>1</sup>	ASTM C 297	MPa	Nominal	13.5
Shear Strength <sup>1</sup>	ASTM C 273	MPa	Nominal	3.0
Shear Modulus <sup>1</sup>	ASTM C 273	MPa	Nominal	166
Sheet Density	ASTM C 271	kg/m <sup>3</sup>	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 <sup>1</sup>	Unit	PB Standard	Test method
Thermal conductivity <sup>2</sup>	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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