

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®- Imperial units

Property	Test Procedure	Unit		PB Standard
Compressive Strength ¹	ASTM C 365	psi	Nominal	1,842
Compressive Modulus ¹	ASTM C 365	psi	Nominal	594.655
Tensile Strength ¹	ASTM C 297	psi	Nominal	1,958
Shear Strength ¹	ASTM C 273	psi	Nominal	435
Shear Modulus ¹	ASTM C 273	psi	Nominal	24.076
Sheet Density	ASTM C 271	lb/ft ³	Nominal	9.7

All values measured at +71.6°F

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	Btu x in / (ft ² x h x °F)	0.44	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 +73.4°F

Coefficient of linear expansion: (ASTM D-696)
 Longitudinal: $2.0 \times 10^{-6} / ^\circ\text{F}$
 Radial: $8.0 \times 10^{-6} / ^\circ\text{F}$
 Tangential: $12.0 \times 10^{-6} / ^\circ\text{F}$

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

Physical characteristics

Format		Unit	PB Standard
Plain sheets	Length	inch	48.03
	Width	inch	24.02
GS sheet	Length	inch	48.03
	Width	inch	24.02

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.

All content in this publication is protected by international copyright laws. Copyright © Diab February 2016.

Issued: Feb 2016 Doc No: PB Feb 2016 rev8 IMP

Diab Group
 Box 201
 312 22 Laholm, Sweden
 Phone: +46 (0)430 163 00
 E-mail: info@se.diabgroup.com

