

ProBalsa[®]

The Natural Choice for Sandwich Structures



- A renewable resource
- High quality
- Exceptional shear strength
- Excellent in compression
- Good fatigue properties
- Ideal for dynamic structures
- Available in ready to use kits & various finishes
- Worldwide support

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DIAB ProBalsa is a high performance, high quality composite core material. Its end grain, micro-honeycomb structure offers exceptional shear and compressive strength. In addition ProBalsa has good fatigue properties, high thermal and sound insulation and low FST properties.

A Renewable Resource

ProBalsa is a naturally recurring Ecuadorian resource. The balsa plant grows from a seedling to a mature tree in 4-6 years before coming to the end of its natural life. Harvested trees are milled, kiln dried, sorted by density and quality and then assembled into blocks for conversion into ProBalsa. ProBalsa is environmentally friendly and biodegradable.



Total Quality Control

Processing raw balsa wood is carried out in DIAB's own modern facility in Ecuador. DIAB Ecuador also qualifies raw material suppliers and carries out the ecological administration of the balsa program. This includes working closely with suppliers regarding correct harvesting and subsequent re-planting programs to ensure the future availability of balsa.

Ideal for Demanding Applications

ProBalsa is best suited for dynamic structures where performance and efficiency are paramount. ProBalsa has a history of proven success in a wide variety of applications, including commercial, military and pleasure marine, wind energy and surface transportation.

Easy to Use

All ProBalsa core materials are particularly easy to work using conventional woodworking tools. They can be drilled, milled, turned and sawn to close tolerances. ProBalsa can be used in

hand lay-up, vacuum bag and infusion applications. It is also suitable for elevated temperature cure, prepreg systems.

ProBalsa Grades

ProBalsa is available in four different forms in order to enable designers to achieve the most appropriate strength-to-weight performance.

ProBalsa Lightweight is a low density - 90 kg/m³ (5.6 lb/ft³) - balsa core for weight critical applications. ProBalsa Standard provides an excellent combination of high strength/ low weight. It has a nominal density of 155 kg/m³ (9.7 lb/ft³).

ProBalsa Heavyweight is a high density, high strength version of ProBalsa Standard for highly loaded applications. Its nominal density is 220 kg/m³ (13.8 lb/ft³).



ProBalsa Plus is a premium version of ProBalsa where the surface is micro sanded and treated with a special surface primer to reduce resin absorption during lamination.

Standard & Special Finishing

ProBalsa can be supplied with probably the widest range of finishes available in the industry. The aim of the various finishes is to facilitate and speed core installation, enhance component quality / performance and to meet specific process requirements. These include grid-scored, double cut and 'infusion' grooved/perforated forms.

Ready-Made Kits

For those involved in series production, ProBalsa can be supplied in ready-made construction kits where each piece is pre-cut, shaped, as necessary, and numbered to fit exactly into its designated place in the mold. This substantially reduces build times, saves labor costs, improves quality and cuts waste.

Worldwide Supply

ProBalsa is a global material for today's global market. DIAB has its own finishing / kitting facilities in Australia, China, India, Italy, Lithuania, Sweden, Thailand and the USA plus a global network of 16 sales/technical support operations.

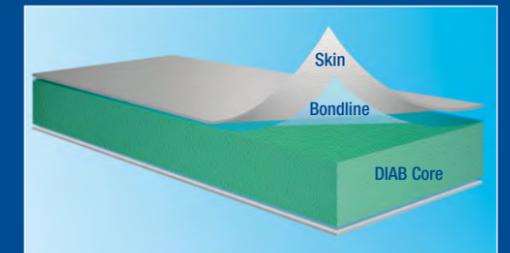
Global Product & Technology Support

DIAB customers worldwide can take advantage of the company's unrivalled level of product support and the specialist skills offered by DIAB Technologies.

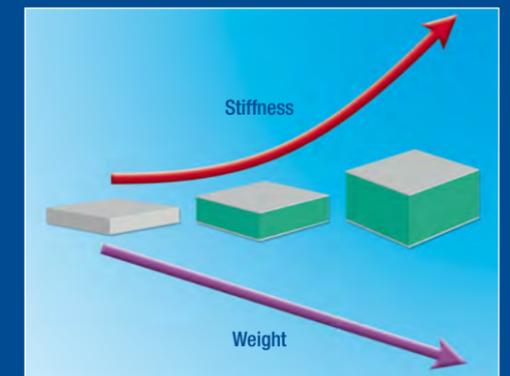


DIAB Technologies' role is to help our customers take full advantage of the benefits offered by the DIAB sandwich concept. Their aim is to maximize time, labor and materials savings and improve quality. With their long term experience and knowledge of sandwich composites, they can help with specific challenges or be involved in the complete product development cycle - laminate design, structural engineering, prototyping, process auditing, development and optimization, training, manufacture and materials testing.

The Sandwich Concept



The DIAB sandwich concept increases structural performance while optimizing weight. A sandwich consists of two high strength skins or facings separated by a core material. The skins take up the bending stresses and give the structure a hard wearing surface. The light DIAB core absorbs the shear stresses and distributes them over a larger area.



Compared to monolithic composite laminates or metals, the sandwich concept significantly reduces weight and increases stiffness while maintaining strength. Even higher strength and stiffness properties can be achieved by increasing the thickness of the core without a weight penalty.

The excellent strength-to-weight ratio of the sandwich concept can be used in a variety of ways - higher speeds, longer range, greater payload capacity or reduced power demand – all of which result in better operating economy. Divinycell sandwich composites require minimum maintenance and should any repairs be necessary, they can be carried out easily without any loss of structural integrity.

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