Divinycell® P

The Low FST Thermoplastic Sandwich Core

- Excellent FST properties
- High temperature performance
- 100% recyclable
- Very good fatigue properties
- Compatible with all main resin types
- Suitable for a wide range of manufacturing processes
- Easy to thermoform
- Low water absorption
- Good insulation values
- Wide density range

DIAB

Divinycell® P

The Low FST Thermoplastic Sandwich Core

Divinycell P is a recyclable, thermoplastic sandwich core material that is typified by excellent FST (fire,smoke & toxicity) properties, a wide processing envelope and very good fatigue properties. It is available in densities from 60 to 150 kg/m^3 (3.8-9.4 lb/ft^3) and offers good acoustic/thermal insulation properties, low water absorption, good mechanical characteristics and chemical resistance.

Ideal for a Wide Range of Applications

Although suitable for a wide range of uses, Divinycell P is a cost effective solution for sandwich composite applications in the public transportation, wind energy and industrial/construction markets.

The energy efficiency of a Divinycell P sandwich makes it ideal for transport applications such as interior panelling, floors and exterior panels for trains, trams, buses and coaches.

In the wind energy market the excellent properties and good processing characteristics of Divinycell P has meant that it can be used in both blades and nacelles.

For industrial/construction applications, sandwich composites based on Divinycell P provide not only lightweight solutions but also give designers and architects new creative freedom.

Typical applications include domes, architectural claddings, industrial housings, portable buildings and heating and ventilation insulation.

Mechanical Properties

In addition to its good compression and shear properties, Divinycell P has low water absorption and excellent acoustic/thermal insulation properties. It exhibits at both ambient and elevated temperatures impressive compression strength and shear properties.

Material & Process Compatibility

P is compatible with most commonly used resin systems (polyester, vinyl ester, epoxy and phenolics) including those with high styrene contents. It can also be processed using hand laminating, vacuum bagging and closed molding processes such as infusion and RTM (resin transfer molding).

With its high residual strength and good dimensional stability at elevated processing temperatures, Divinycell P can be readily used with a wide variety of 'industrial' medium temperature prepreg systems. Furthermore, it can be thermoformed and used in pultrusion molding.

Details of the core's properties are contained in the Divinycell P data sheet that can be downloaded from the DIAB web site.

Worldwide Supply

Divinycell cores are global materials for today's global market place. DIAB has core manufacturing operations in Sweden, Italy the USA and India. DIAB also has finishing / kitting facilities in Australia, China, India, Italy, Lithuania, Sweden, Thailand and the USA plus a global network of 16 direct support operations.

Standard & Special Finishing

Divinycell P sandwich core can be supplied with a wide range of finishes to facilitate installation, enhance component quality 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, Divinycell P can be supplied in ready-made construction kits where each piece is pre-cut, shaped, as necessary, and numbered to fit exactly into its

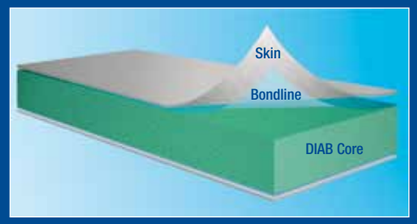
designated place in the mold. This substantially reduces build times, saves labor costs, improves quality and virtually eliminates waste.

Global Product & Technology Support

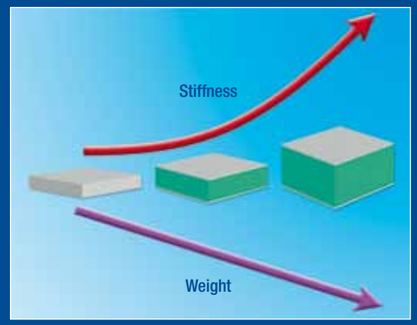
DIAB customers worldwide can take advantage of the company's unrivalled level of product support and the specialist skills offered by DIAB Technologies.

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 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.

We are a world leader in the provision of innovative sandwich composite solutions that make our customers products light, strong and competitive.

DIAB's offerings include high performance core materials, cost effective kits and a comprehensive range of engineering and process support services.

We provide composite solutions to a wide range of markets including: wind energy; commercial, military and pleasure marine; transportation; aerospace; industry and construction.

With personnel located throughout the world via 16 sales and technical support operations, we are able to offer worldwide support to our global customer base. We have manufacturing units in Australia, China, Ecuador, India, Italy, Lithuania, Sweden, Thailand and the USA.

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