

marine

Fear No Wave



High-performing core materials
for sandwich composite solutions

DIAB

DIAB – Your core partner

Pleasure boats, racing yachts, super yachts, fast government vessels and large ships are now all designed to increased performances. And where performance is key to success, DIAB composite sandwich structures become a standard.

DIAB Core Technology offers the highest strength per weight ratio for all marine applications. DIAB engineered core materials make your boat light, fast and tough.

The free-fall lifeboat from Harding, designed for offshore applications, is a state-of-the-art composite construction.



Providing ultimate toughness, DIAB's high-performing core materials strengthen your competitiveness.



Thanks to its robust composite construction, even the most challenging environment is safe haven for this powerful Fairline luxury cruiser.





DIAB – Innovation through experience

Comprehensive offering and tailored solutions

Needs within the marine industry are diverse – no two are alike – which is why DIAB provides solutions rather than just products. From designers and purchasers to the people on the shop floor, our experience will guide you to the best option for your product and application.

Competence through passion, dedication and experience

Our decades of experience serving the marine industry enable us to develop core material solutions adapted to specific needs. You will find extensive added value in our structural engineering and practical competence.

Service and supply close to you

DIAB has local offices and distribution sites throughout the world. We provide on-time support, on-site technical knowledge and fast supply.

Innovation and quality

At DIAB, we are continuously expanding our portfolio of core materials and value-added services. Our dedicated R&D offices and strict adherence to ISO 14001 quality requirements ensure we keep you on the leading edge of the marine world.

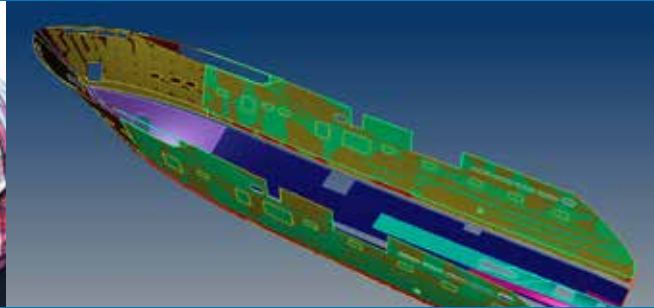
History you can trust

DIAB has offered the best solutions in the marine market for more than 50 years. We are proud to be a committed, organized, stable and innovative company.

We honor our commitment by focusing on what is needed to make our customers' products stronger, lighter and more competitive – now and in the future.

DIAB solutions for Marine

DIAB offers three high quality product lines (IPN, Balsa and PET) certified by the highest authorities, tailored surface finishes and kit options. In addition to products, DIAB supports your efforts with technical support, structural engineering services, and applications training.



DIAB Core Materials

Divinycell HM

New

Divinycell HM is our new ultra-performance core designed for fast marine hulls where high toughness is required. Divinycell HM combines all the qualities of Divinycell H, plus a very high shear elongation. As a result, Divinycell HM is a very tough product, capable of absorbing high dynamic impacts such as slamming loads.

Divinycell HM's very high elongation (above 40%) exceeds the minimum requirements of ISO12215, GL and ABS rules to allow for reduced safety factors in structural calculations, providing a lighter, yet strong structure.

Divinycell HM offers a high operating temperature, reducing the risk of prints on dark hulls.



Divinycell H

Divinycell H needs no introduction. This closed cell structural core has set the standards in the marine industry for decades. With its long-term, proven performance and exceptional mechanical properties it is the product of reference for Naval Architects and manufacturers.

Divinycell H advantages:

- Highest strength to weight properties in the market
- Excellent fatigue resistance
- Superior resistance to a wide range of chemical products
- Low resin absorption through a fine close cell structure
- Compatibility with all polyester, vinylester and epoxy resins used in the marine industry
- Safe to use material with no release of harmful products when cut or machined

Divinycell HP

Divinycell HP brings all the advantages of Divinycell H together with high temperature resistance for prepreg processes or temperature critical components such as dark topsides. It can handle processing temperatures as high as 143°C (290°F).

Divinycell Matrix^X

One of the latest additions to our offering, Divinycell Matrix, comes in two different densities with different mechanical properties allowing Naval Architects to tailor their design even more for additional weight and cost savings.

The technology behind Matrix 10.8 has allowed DIAB to develop a 60 kg/m³ core with higher mechanical properties than our well respected H60.

Matrix 7.7, with an average density of 55 kg/m³ and good compressive properties, is particularly suited for decks, superstructures or interiors, offering weight and cost savings compared to a 60 kg/m³ core.



ProBalsa

ProBalsa is end grain balsa core material suitable in areas above the water line. It is produced from high quality balsa wood and offers a cost competitive product with very high compressive strength.

Through our accurate process and quality control during the selection of the raw materials the storage and the assembly of blocks, ProBalsa sheets offer high quality and consistent properties.

ProBalsa is available coated or uncoated and is compatible with all resins used in the marine industry.



Divinycell PN and PX

Divinycell PN and PX are all formulated from PET material offering good mechanical properties and high processing temperature. Divinycell PN and PX are suitable for non high-spec applications above the waterline such as internal panels or superstructure panels.

Divinycell PN and PX have a fully closed cell structure and are not subject to rot or decay.

Our website www.diabgroup.com contains all technical information about our products, datasheets with minimum and average values for each available density, maximum available dimensions, standard finishing options and guidelines for applications.



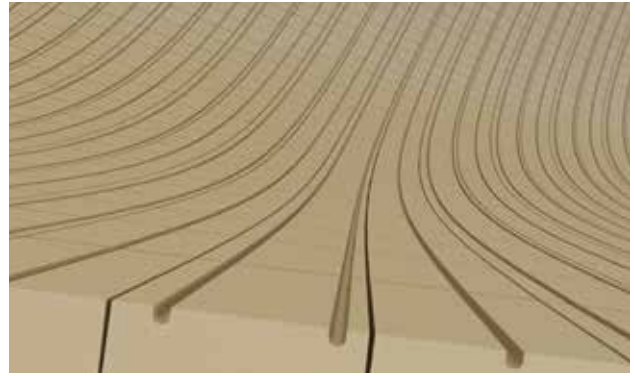
**Sandwich composites and core materials.
How they work and why you should use them.**

For more information, download the DIAB Core Guide at diabgroup.com



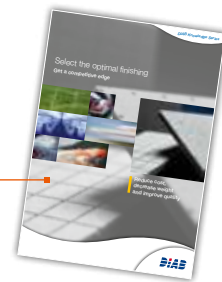
Finishing

Selecting the optimal finishing has a profound impact on the success of your product – directly influencing weight, cost and quality. DIAB helps you choose from a wide range of cuts, grooves, perforations, kerfs, etc., each serving a specific purpose to optimize your application.



Select the optimal finishing
Get a competitive edge

For more information, download the DIAB Finishing Guide at diabgroup.com



Kits

All of DIAB's materials can be delivered in ready-made construction kits to optimize weight, cost and efficiency throughout the manufacturing cycle. By eliminating the on-site cutting and shaping of sheets, customers can substantially reduce build times, save labor cost, decrease inventory and improve the quality and repeatability of their products.

Our technology spans from wire cutting to 5 axis CNC machines for complex shapes.

Our local presence is the key to success. We frequently involve our technical teams to measure, fit and gather modifications directly at the yard.



Optimize your kit
Boost your performance

For more information, download the DIAB Kits Guide at diabgroup.com



DIAB Technical Support

When manufacturing a marine component, the end result is highly dependent on the process used. The marine segment uses a wide range of processes and our Technical Teams are familiar with all of them. From wet lamination to RTM we help our customers to choose the optimal process and we guide them on its application.

We are proud to have pioneered resin infusion and successfully introduced it in the marine industry.



Engineering

Many of our customers take advantage of our engineering expertise for optimal performance and piece of mind.

Our independent engineering office, Composites Consulting Group (CCG), has a unique combination of practical and theoretical experience ensuring that solutions are valuable from both a design and a manufacturing perspective. Our competence in marine includes:

- Structural calculations
- Weight estimates
- Scantling to the most widely used rules
- Design and optimization of details
- Finite Element Analysis
- 2D and 3D drafting
- Technical expertise and survey
- Materials and process selection
- Set up and training of design and production teams



COMPOSITES
CONSULTING GROUP 



To learn more about the possibilities of our high-performance core materials, please visit **ccg-composites.com**

Making you more competitive



DIAB is a world-leading supplier of sandwich composite solutions that make our customers' products stronger, lighter and more competitive. Our extensive experience in providing sandwich composite solutions to customers has made DIAB a leading partner in the sandwich composite industry. DIAB's solutions combine high-performance core materials, value-added kits, engineering and process services.

Core materials | Knowledge | Kits | Processing | Engineering | Training |
Global presence – local service

DIAB, Divinycell, Matrix och ProBalsa are registered trademarks in countries all over the world.

DIAB Group

Box 201
SE-312 22 Laholm, Sweden

Phone: +46 (0)430 163 00

Fax: +46 (0)430 163 96

E-mail: info@se.diabgroup.com

diabgroup.com

