WE’RE ALWAYS AT THE CORE OF YOUR INNOVATION
Whether you manufacture sailing boats, super yachts, fast motorboats, or large commercial vessels, it’s all about maximizing performance. Low weight, which is one of the main advantages with structural core materials, increases speed, reduces fuel cost and allows for a higher payload. The core solutions by Diab offer the highest strength-per-weight ratio for all marine applications. Our engineered materials make your boat light, fast and tough, and with the help of our technical expertise, structural engineering services and applications training, you can achieve maximum performance and cost-efficiency.

The volume and number of applications using composite materials is growing steadily, continuously penetrating and conquering new markets. Sandwich composites are probably the most weight-saving and sustainable design method available, enabling you to preserve both energy and important natural resources.

Composites can be formed and joined together in an almost limitless range of geometric configurations with integrated multiple functions. Further, their durability and weather resistance mean less maintenance over time.

Sandwich structures are lighter, stronger, and more easily shaped than traditional materials such as aluminum, steel, and wood. These high-strength, weight saving and insulating materials benefit almost any industry application, like automotive, transportation, building, construction, sports & leisure, energy, wind and beyond. Diab has long experience and deep technical knowledge within the field. We have the widest portfolio of core materials as well as the design and calculation capabilities that are needed to make the most out of your existing or completely novel application.

Diab was founded in Sweden in 1950. Ever since the beginning, and throughout our steady development into a global company, we have been dedicated to constant innovation and promoting a widespread adoption of structural core materials.

Our products and solutions have been used in applications for marine, wind, aerospace, and industry for decades and are qualified according to relevant industry standards. With a complete range of high-performance core materials, numerous finishing options and kit operations in combination with engineering services and expertise, we present presumably the widest and most valuable offering in the sandwich composite industry.
MORE SUSTAINABLE IN EVERY WAY

SUSTAINABILITY IS IN OUR CORE
Our products contribute to energy savings and a lower carbon footprint. They will help you boost energy efficiency, reduce emissions, conserve natural resources, and create a longer life cycle for your product. Simultaneously, our customers in the industry market are setting increased demands for suppliers in terms of quality, safety and environmental issues. At Diab we work hard to make a difference when it comes to sustainability. We are strongly committed to making your solution more sustainable in every way.

A PART OF THE RENEWABLE ENERGY SUPPLY CHAIN
Sustainability is one of our top business priorities. We are adopting to the responsible framework of UN Global Compact; our Sustainability report is publicly available, and we have gotten approval of our CO2-reduction targets from the Science Based Targets Initiative. We strive to be an important part of the renewable energy supply chain, and we also believe that such approach drives long-term profitability and competitiveness.

MAKE THE MOST OF YOUR APPLICATION

THE SANDWICH TECHNOLOGY
Composite materials are made from two or more materials with significantly different physical or chemical properties, that when combined, form an overall structure with characteristics different from the individual components.

The basic idea is simple; the execution is a bit more advanced. Two thin, strong and stiff skins, of fiber reinforced plastics or solid material, are attached to a lightweight core by press-bonding or lamination. By doing so each element forming the composite panel can be designed to minimize weight and maximize strength and stiffness, or other desired features. The result is a component with a very high stiffness-to-weight and high bending strength-to-weight ratio. A Diab sandwich has all the advantages of conventional materials, such as steel or wood, but none of the disadvantages, such as heavy weight, corrosion, or design limitations.

MASTERS OF SANDWICH CORE
In a sandwich typically the skins are taking tension and compression loads, and the core shear forces. Our PVC and PET cores are engineered foams fit for the sandwich purpose to absorb and distribute the loads exposed to the sandwich, static or repeating. They have a stable closed cell structure resistant to water ingress, corrosion and decay, an important characteristic in harsh environments.

A variety of grades is used to give the final product additional desired features, such as fatigue and impact resistance, fire resistance, insulation, radar transmittance and many more. Diab offers the widest range of high-quality sandwich cores, but our true strength goes beyond the material. You can draw from our knowledge when it comes to anything from sandwich design to efficient production methods. With our experience and expertise you can make the most of your application, existing or new.

LIGHTWEIGHT
STRONG
FIRE RESISTANT
SUSTAINABLE
CREEP RESISTANT
IMPACT PERFORMANCE
FATIGUE RESISTANT
SMART DESIGN
RADAR TRANSPARENT
FLEXIBILITY
NONMAGNETIC
INSULATING
NO/LOW MAINTENANCE
PROCESSABILITY
NONCORROSIVE/NON ROTTING
CHEMICAL RESISTANT
THE RIGHT CORE MATERIAL FOR YOUR NEEDS

Every application and manufacturing method has its special demand on the material used. To be able to get the most out of your product, Diab offers the widest range of core materials and grades with unique properties that will suit the needs of your industry applications today and tomorrow.

DIVINYCELL - PVC
The PVC series is an all-purpose series used in multiple industries suitable for different manufacturing processes, such as closed molding, including RTM and infusion and elevated temperature processing with prepreg.

The series comes in grades H, HP, HM, HT, MX and HCP with different features suitable for many applications. Each grade has a variety of densities for tailored engineering. Divinycell PVC offers excellent mechanical properties to low weight. It is widely used and has a proven track record in virtually every application area employing sandwich composites, including wind, marine, industry, transport, subsea and offshore, sports equipment, building and construction, cryogenic and more.

DIVINYCELL - PET
Thermoplastic recyclable PET foam core materials suitable for many applications. Used in many industries, such as wind energy, transport and construction, the Divinycell PET series is available in different grades and densities. High density versions are often used as wood replacement. The multipurpose grade Divinycell PN is suitable for many different applications. The series also includes Divinycell PY, the latest addition to our PET offering. PY brings along with the benefits of the traditional PET foam, an improved mechanical performance and lower resin absorption.

Divinycell P has good mechanical and Fire, Smoke & Toxicity (FST) properties, making it ideal for public transportation and construction. This series is compatible with most resin systems and capable of elevated temperature processing.

PROBALSA
High-density organic core material featuring high compressive strength. Made from end-grain balsa wood, ProBalsa is used in a wide range of applications and is often combined with foam core materials as hard points. ProBalsa is compatible with most resin systems and manufacturing processes. It is also suitable for elevated temperature cure systems.

Find the right material with our Core Selection Guide at www.diabgroup.com
RESOURCES TO ENHANCE YOUR PRODUCT

WITH THE OPTIMAL FINISHING YOU CAN GET A COMPETITIVE EDGE

Our cores can be finished with a wide selection of perforations, cuts, and grooves. Each finishing option is tailored to specific lamination processes and to formability requirements. The right combination of core material, laminate and finishing allows you to save time, money, and resources, and affects the characteristics of your product. Diab has a long experience in finishing for structural core materials, and together, we can find the optimal solution to fit your needs.

OUR FINISHING OPTIONS:

Flow
Using a plain sheet is the most effective way to utilize a core. It can be perforated, grooved, or slitted through machining to make it as functional as possible for the application. To distribute resin, there are several options. Perforations avoid air from being trapped under the core, ensuring proper wet-out and bonding to the laminate. Grooved and perforated cores remove the need for additional distribution medium within the laminate or above it.

Form
To create curves, you have formable finishing options. Grid-scored finish makes the core conform easily to the mold for complex shapes. One-direction cut finish is similar to Grid-scored finish but with cuts in one direction only, creating strips of core. Double-cut finish allows curvature into panels without applying a scrim.

Flow & Form
A combination of above where you have a need for both adapting to the shape of your product as well as distribute resin in your production process.

KITS TO BOOST YOUR PERFORMANCE

You can significantly improve the manufacturing process and quality of composite components with pre-cut core parts (kitting). A Diab kit is a tailor-shaped set of core elements. By eliminating the on-site cutting of sheets, you can reduce manufacturing time, save labor and material cost. In addition, with the easy assembly and exact fit, you can consistently achieve high quality in less time.

OUR KITTING OPTIONS

Industrial kitting
A rational, high quality kitting that meets your needs of speed and efficiency. We use a well-defined kit process that enables us to provide the most competitive offering, top service, and quick turn-around times. Depending on the requirement, we can choose among multiple solutions to optimize weight or cost.

Advanced kitting
Diab’s innovative advanced kits offer optimized fit in the mould, reduced resin consumption, and improved cosmetics for infusion and high-end applications. Combining Diab knowledge of kits and infusion and creating a custom software specifically created for the task, we can optimize the cuts required in the core to allow it to perfectly fit the local curvature of your mould, while minimizing the resin uptake.
MAKE THE MOST OF YOUR APPLICATION WITH OUR EXPERTISE.
Diab Technical Services have thorough knowledge of sandwich design, finishing and kitting and our skills cover everything from hand lay-up to resin infusion. We help you choose the most appropriate design procedure for each case and when necessary, validate the findings with in-house testing. We can also provide both theoretical and practical training of personnel and then directly assist your team with prototyping and infusion trials.

SPECIALIZED ENGINEERING SERVICES TO FURTHER IMPROVE YOUR PRODUCT.
Our Composite Consulting Group provide specialized composite technology services. With broad competence including everything from design and engineering to testing, tooling, process optimization and training, we ensure that you can realize the full value of composite designs. Contact our consultants in CCG for more information.
PROOF OF OUR EXPERIENCES

We are privileged to have participated in product innovation and development for some of the world’s leading companies in the industry. The advances they’ve been able to make using sandwich composites and other solutions are truly exciting.

STRUCTURAL CORES USED FOR THE SAFE DISTRIBUTION OF COVID-19 VACCINES
The Envirotainer RAP e2 container is used for the safe distribution of Covid-19 vaccines across the world. Structural and insulating performance is of utmost importance securing a stable temperature during door to door delivery.

LIGHT SAFETY SANDWICH FLOOR AWARDED FOR KRONE
Krone is one of the leading trailer producers in Europe. For the new Light Safety Sandwich Floor Krone has received the Trailer Innovation 2021 award (category safety). Congratulations!

UNIQUE EXPERIENCES STAYING IN A BIRDBOX WITH DIVINYCELL INSIDE
Birdbox designed by Livit, a Norwegian company, is an adventure cabin that brings you close to nature with comfort. It should give you comfort and shelter, at the same time be small and light enough to be placed in unique places with minimal footprint.

HOCKEY STICKS FROM SHERWOOD
Ice hockey might not be the first thing that comes to mind when thinking of structural foam core. But in a modern hockey stick that must be extremely light, strong, and flexible, Divinycell foam core plays an important role. Like in the sticks from the renowned company Sherwood Hockey, one of the leading hockey brands using Diab core materials.

LIGHT WEIGHT SANDWICH FLOORS FOR TALGO TRAINS
The new Intercity trains for Egypt and Germany (ECx) based on the Talgo 230 platform specified sustainable sandwich floors to lower weight. Any kg saved in the structure reduces fuel/energy consumption, cost and environmental impact.

SAAB DOUBLE EAGLE ROV
The Double Eagle ROV family is well-proven and used by navies around the world. The Double Eagle family consists of three configurations and mission unique payloads for a wide range of Mine Countermeasure (MCM) operations.

LIGHTWEIGHT PANEL CREATED BY PORCELANOSA GROUP AND DIAB
Offering easier and faster installation with reduced weight, the Butech System X Light XXL has a core of Divinycell P, sandwiched between skins made from ceramics and aluminum.

RADOMES FOR SATELLITE COMMUNICATION - MADE BY BRÖDERNA BOURGHARDT A PERFORMANCE MOULDER
Satellite antennas keep us connected and updated, given in the most remote corners of the world. Radomes are covers, protecting the antenna from the mercy of the nature. The radomes are precision instrument, balancing between being strong enough to last the most harsh environments being tuned for specific radio frequencies to have as low loss of signal as possible. Here the Divinycell foam core plays an important role contributing to both structural strength and transmittance of signals.
DIAB AT A GLANCE

WORLDWIDE SUPPLY AND SUPPORT
Ensuring security of supply, cost efficiency, flexibility, and local support, Diab combines a global manufacturing, sales, and engineering presence with local know-how. We follow our customers and anticipate their needs, positioning ourselves in locations to best support them. Our seven manufacturing sites and fourteen sales companies in strategic locations around the world offer our full range of materials and services.

Take advantage of our knowledge!
At www.diabgroup.com you can get exclusive access to our expertise via MyDiab. And with our interactive Core Selection Guide it’s easy to find the best core for your application.

FOUNDED 1950 IN SWEDEN

1 300 EMPLOYEES

OUR FOCUS AREAS:
- MARINE
- WIND
- INDUSTRY
- AEROSPACE

14 SALES COMPANIES
40 DISTRIBUTORS
7 MANUFACTURING SITES

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Diab is a world leader in sandwich composite solutions that make customers' products stronger, lighter and smarter. Diab provides a range of core materials, cost-effective kits and finishings, along with in-depth knowledge on composites. Diab also provides engineering services for composite technology through Composites Consulting Group (CCG). Diab is a participant in the UN Global Compact.

Subject to possible printing errors and changes.
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