

# ALWAYS AT THE CORE OF YOUR SOLUTION



## MAKING YOUR PRODUCTS MORE COMPETITIVE AND SUSTAINABLE

With the broadest range of structural core materials, decades of experience and a global presence, we are dedicated to making your products more competitive and sustainable.

#### TAKE ADVANTAGE OF OUR KNOWLEDGE

We help you make your products and your manufacturing process more competitive and sustainable by offering industry-leading competence together with the broadest range of stronger, lighter and smarter structural core materials.

You can safely put your trust in our vast knowledge and support as your reliable partner. With 70 years of knowledge, a global presence for local needs and an optimal supply chain, we are your trusted and committed partner from start to finish.

#### A SOLUTION FOR EVERY APPLICATION

Our products and solutions have been used in a wide range of industries for decades and are all certified according to relevant industry standards. Today our range of high-performance core materials can be found in applications all over the world, in segments such as marine, aerospace, wind energy and industry, including transportation.

And with our global manufacturing, sales, technical support and engineering presence, we can assure you of security of supply, cost-effectiveness and local support for many years to come.

Offering industry-leading competence together with stronger, lighter and smarter materials, we are always at the core of your solution.

### SUSTAINABILITY IS IN OUR CORE

Today, sustainability is not an option. It is mandatory. And at Diab we work hard to make a difference on the big issues that matter to us all.

We are strongly committed to making your solution more sustainable in every way. With our structural core materials, you can boost energy efficiency, reduce emissions, conserve natural resources and create a longer life cycle for your product.

We have also made sustainability one of our top business priorities. For instance, we are the first company in the world in the field of composite materials that has set science-based targets approved by the SBTi (Science-Based Targets initiative). This ensures that our strategy is in line with the latest scientific findings and that we are resilient and prepared to adapt to the changing regulatory and business environment.

## WHATEVER YOUR CHALLENGE, WE HAVE THE RIGHT CORE MATERIAL

Our excellent track record proves the quality and reliability of our materials and solutions, providing security and proof of performance that few others can offer. And as long-time experts in a wide array of structural core materials, we offer you a high service level and help make your manufacturing process more effective. With our in-depth knowledge of construction and a broad range of different core materials, we are ready to stand by you in every challenge you face.



#### WIND ENERGY

Using advanced composite materials, you can reduce the LCoE (levelised cost of energy), increase the reliability of wind turbines reliability and keep them working efficiently for 25 years or more. Our core materials will confer very high stiffness, strength and fatigue resistance on components while lowering their weight. We are experts in sandwich composite solutions and have extensive experience of working with the wind industry. We have a set of core materials, finishings and type kits specifically tailored to each application. We also know the importance of quickly and effectively zeroing in on the right solution.

The keys to success in the marine industry are maximising performance while reducing weight, cost and environmental impact. Our core materials offer the highest strength-to-weight ratios for all marine applications, which enable higher speed, longer range, greater payload capacity and reduced power demand. Their excellent fatigue and slamming properties also make them particularly suitable for special craft that often operate in high-sea conditions. We offer three high-guality product lines for

#### INDUSTRY

marine applications.

MARINE

Our wide range of core materials provides solutions for multiple applications across industry, such as transportation, subsea, sports equipment, cryogenic applications and construction. Our high-performance core materials provide light weight, high strength and excellent thermal properties, some even enduring cryogenic temperatures. Their excellent buoyancy makes them perfect for subsea applications, and being nonorganic means they have a very long lifetime not affected by water or moisture.

In transportation our core materials are used in trains, buses, trucks and automotive, where they enable lighter sandwich designs that result in decreased fuel consumption, higher payloads and longer range – all with a positive impact on the environment. Our lighter and stronger core materials are also playing an important part in the development of electric vehicles.



#### AEROSPACE

One of the crucial challenges in aircraft design is making a structure as light as possible without sacrificing strength. Aerospace quality requirements leave no room for error, making the task even more difficult. Our core materials offer high strength-to-weight ratios, good isolation capacities and low environmental impact for all aerospace applications, together with a more efficient manufacturing process with reduced costs for your parts production. That allows you to reduce weight and fuel consumption while increasing range and/or payload. We offer several high-quality product lines for aerospace applications.





## THE BROADEST RANGE OF CORE MATERIALS

Diab provides a wide range of structural core materials for optimised sandwich design. Each grade provides specific characteristics suitable in various conditions. Always contact our Sales & Technical team to ensure the right selection for your application.

#### DIVINYCELL H

Our series of high-performance IPN core materials with excellent strength-to-weight properties. An all-purpose series used in multiple industries and available in a wide density range suitable for different manufacturing processes, e.g. infusion and prepreg.

Divinycell H offers excellent mechanical properties and 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 and private jets. The Divinycell H series comes in grades H, HP, HM, HT and HCP with different features suitable for many applications, and each grade has a variety of densities.

#### **DIVINYCELL P**

Our series of thermoplastic recyclable PET core materials suitable for many applications and industries, such as wind energy, transport and construction. The Divinycell P series is available in different grades and densities, including a version with good Fire, Smoke & Toxicity (FST) properties.

The Divinycell P series includes Divinycell P, with good mechanical and FST properties, making it ideal for public transportation and construction; Divinycell PN, a multipurpose

grade suitable for many applications including marine; and Divinycell PY, a grade developed to optimise wind blade designs. The Divinycell P series is compatible with most resin systems and capable of elevated temperature processing.

#### **DIVINYCELL F**

Our recyclable PES-based sandwich core material, with excellent FST properties and high-temperature processing capabilities, suitable for commercial aircrafts interiors. Divinycell F is a core material series specifically developed for aircraft interiors, seating and food trays. It improves lifetime cost while decreasing environmental impact. It has excellent FST properties and meets the US and European regulatory requirements for commercial aircraft interiors. Available in many different densities.

#### PROBALSA

Our high-quality organic core material made from end-grain balsa wood. Featuring high compressive strength, it is used in a wide range of applications and is often combined with foam core materials in, for instance, wind blades. ProBalsa is compatible with most resin systems and manufacturing processes. It is also suitable for elevated temperature cure systems.

### CCG ENGINEERING SERVICES

Our consultants in CCG (Composite Consulting Group) provide specialised composite technology services. With broad competence including everything from design and engineering to testing, tooling, process optimisation and training, we ensure that you can realise the full value of composite designs. CCG consists of mechanical and process engineers, material scientists, naval architects and composite technicians with many years of experience from a wide range of industries. Our process consultants routinely work on applications using contact moulding, vacuum infusion, RTM and RTM Light, prepregs, pultrusion and filament winding, among others.



## TAILORED TO FIT YOUR NEEDS

Alongside the broadest range of core materials, we also offer you a comprehensive array of products, such as kits with pre-cut parts and surface finishing.

#### PRE-CUT KITS SAVE TIME AND LABOUR

A kit consists of pre-cut parts that are shaped as necessary and then numbered to fit exactly into their designated places in the mould. By eliminating the on-site shaping and cutting of sheets, you can reduce build times and save labour and material costs. In addition, the easy assembly and exact fit mean you can achieve a consistently high quality in less time.

The kit can consist of everything from flat sheets only to precise 3D shapes made with CNC routing or other shaping methods. The design is based on your requirements for weight, cost and quality, as well as the geometry, manufacturing process and

#### SURFACE FINISHING BOOSTS EFFICIENCY

lay-up sequence.

Composite structures are typically not flat, so core materials need to be shaped or have sufficient conformability to match the final part. Finishing refers to the possibility of shaping and designing structural core materials to suit application needs, whether related to processing, design, weight or surface quality. The benefits of choosing a suitable finishing option include cost-effectiveness and efficiency in creating curvature as well as the elimination of the need for external flow media. And regardless of your manufacturing process, we know what type of finishing to use.



### WORLDWIDE SUPPLY AND SUPPORT

We have a global manufacturing, sales, technical support and engineering presence. Our manufacturing sites in strategic locations around the world offer you our full range of materials, plus local representation in many countries. This means we can assure security of supply, cost-effectiveness, flexibility and local support. In addition, we have a worldwide network of local distributors.



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Zhangjiagang, China

🔵 Bangna, Thailand

Coomera QL, Australia (

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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.