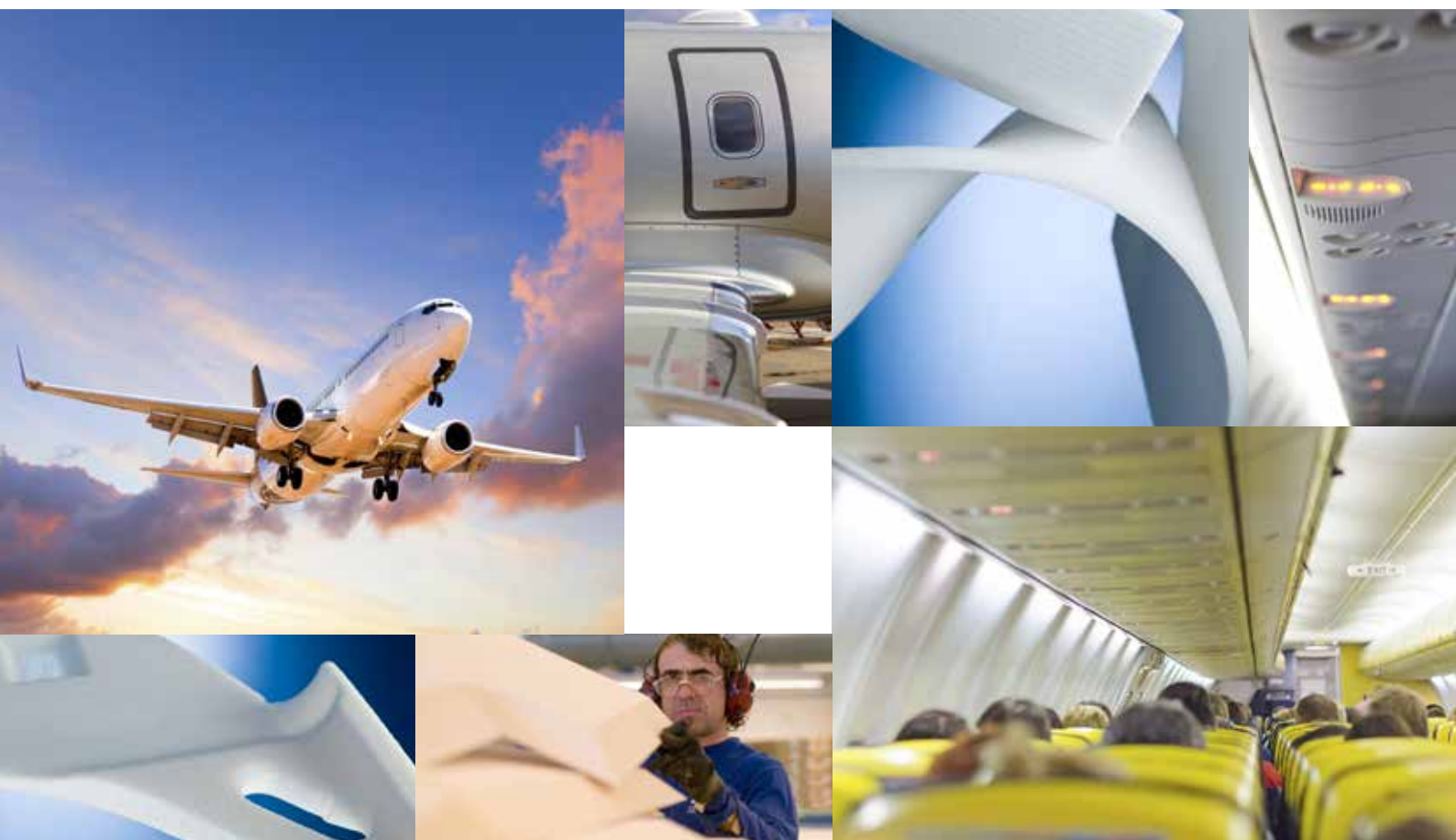


Decreasing lifetime cost
and environmental impact



Sandwich composite solutions
for aerospace

DIAB knows what matters

The aerospace industry today is largely driven by life cycle cost and weight reduction. These objectives are putting high demands on aerospace manufacturers. Aerospace quality requirements leave no room for error, further increasing the challenge.

DIAB combines market needs with innovative materials technology to achieve new significant results. We offer invaluable solutions because ***we know what matters.***



Go further with DIAB

DIAB has over 30 years of experience as a supplier to the aerospace industry. Being a world leader in polymer foam cores and composite sandwich solutions DIAB has the products and experience to:

Optimize life cycle cost

Sandwich composite solutions are based on a holistic approach that takes into account design, manufacturing and quality requirements within aerospace.

Decrease environmental impact

High-performance foam core sandwich composite solutions that decrease weight and fuel consumption resulting in an increase in range and/or payload.



DIAB — a strategic partner

Competence gained through experience

Decades of experience serving the aerospace industry have given us invaluable insight into our customers' unique products and processes, enabling us to develop solutions adapted to their specific needs.

Most valuable offering in the industry

DIAB serves a wide range of markets with diverse needs and challenges. Combining our high performance products with our top-level engineering services, DIAB presents a very wide and valuable offering. DIAB also provides a complete set of engineering services through its Composites Consulting Group (CCG).

Security of supply

DIAB is positioned to serve our customers locally while offering all the benefits of a global company. With sales and manufacturing plants in strategic locations around the globe, DIAB ensures supply stability and consistent product quality – giving you security and flexibility.

Innovation and quality

At DIAB, we are continually expanding our portfolio of core materials and services. Our dedicated R&D function and strict adherence to quality standards ensure we keep our customers in the forefront of the industry. Working closely with DIAB gives you continuous access to innovation and product development in sandwich core and composite technology.

Commitment

DIAB is a long-established, stable company with extensive experience working with the aerospace industry. We take our customers' trust very seriously. 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.

Choosing the optimal solution

The aerospace industry has diverse needs. No two customers are alike. This is why DIAB provides solutions rather than just products. DIAB's solutions combine high performance cores with value-added services and engineering expertise.



Divinycell F

An integral component for interiors and structures for all segments of the aerospace industry

Divinycell F foam is a recyclable, prepreg compatible sandwich core with excellent Fire, Smoke and Toxicity (FST) properties, good mechanicals and processing characteristics. It meets the global regulatory requirements for commercial aircraft interiors. Other key features include exceptional fatigue performance, good aircraft fluid resistance, excellent heat ageing at 180°C and great dielectric performance. Divinycell F also exhibits exceptional hot-wet performance with nearly identical isothermal values in the wet and dry condition.

Divinycell F is one of the few core materials that offer exceptional OSU heat release performance and nearly zero smoke – well below the regulatory and industry requirements. Acoustical and thermal insulation performance is superior to rigid honeycombs.

Divinycell F is compatible with most common aerospace composite manufacturing processes and is particularly well suited in crush core press molding as it does not crack. It also performs well in traditional vacuum bag molding up to 205°C/400°F and resin infusion processing. Its smooth surface allows

for elimination of film adhesive and reduced use of faring materials. Use Divinycell F130 for lightweight edge fill and hard points. Divinycell F is cold-formable, thermo-formable or can be shaped with CNC machining. It is particularly suitable for free form parts.

Application areas:

Cabin interiors

Luggage bins, bin doors, ceiling panels, heads, lavatories, galleys, IFE components, crew rest modules, class partitions and seat shells.

Structural components

Radomes to aerodynamic fairings, antennas, rotor blades, cargo liners, freight containers and engine nacelles and cowlings.

Specific technical information can be found on the Divinycell F datasheet on the web, in various DIAB technical manuals, or by contacting your local DIAB sales representative.

Divinycell HT

Over 30 years of service within the aerospace industry

Divinycell HT has all the properties expected of a high-performance, lightweight construction material. It is a closed cell, thermo-formable foam core characterized by high ductility and resilience, giving excellent dynamic behavior under shock and dynamic load. Compatible with a wide range of matrix materials, it has low water absorption and is self-extinguishing. Divinycell HT suits various prepreg systems and is compatible with process temperatures up to 145°C/ 295°F.

With superior impact performance, low susceptibility to hydrocarbons and other aircraft fluids and excellent dielectric properties, Divinycell HT is suitable for a wide range of structural and non-structural applications. It is available in a range of densities, as standard sheets or fabricated to customer specifications. It can also be laminated “out of the box” unlike other aerospace grade core materials.

The impressive performance of Divinycell HT at cryogenic temperatures has also made it a natural choice for space launch applications.

Application areas:

Executive and VIP interiors, commercial radomes, leading edges, fairings and flaps, rotorcraft components, cargo liners, propeller and fan blades, tankage for fuel, water and waste, general aviation primary structures.

Specific technical information can be found on the Divinycell HT datasheet on the web, in various DIAB technical manuals, or by contacting your local DIAB sales representative.



Choose the right core?

We have developed a web-based Core Selection Guide.
Please visit **diabgroup.com** to find the optimal core material
for your requirements and conditions.





Divinycell-cored private jet

As the world's largest civilian aircraft manufacturer for private airplanes, Cirrus Aircraft is the only production airplane manufacturer that utilizes sandwich composites in the primary structure of its planes. Its newest jet, the Cirrus SF50 features an all-composites airframe and a sandwich construction based on Divinycell HT.

With room for one pilot and six passengers, the Cirrus SF50 was built using Divinycell HT, primarily due to its durability, formability and low finished part weight. Previous experiments with different materials had shown that Divinycell HT provided the best compromise of high-temperature process ability, damage tolerance from bird strike and best performance after impact.



On our website, **diabgroup.com**, you will find even more inspiration on how to make your products stronger, lighter and more competitive.



Value-added services

With our integrated range of solutions and services, DIAB serves in every facet of the composite design and manufacturing process, enabling you to develop high-performance, high-quality and cost-efficient applications.

Core kit manufacturing

To substantially increase efficiency, save cost and improve quality, all of DIAB's materials can be delivered in ready-made engineered kits or any 3D shape. Each piece is pre-cut, shaped and formed as necessary and numbered to fit exactly into its designated place in the mold – eliminating the need for on-site shaping and cutting of flat sheets.

By minimizing raw material usage and delivering semi-finished kits according to our customers' requirements, DIAB minimizes manufacturing waste and maximizes finish product quantity.

Complete range of finishing options

Selecting the correct finishing option in combination with the right kit can significantly improve cost, quality and efficiency. DIAB provides a wide number of finishing options including grid-scored, double-cut and grooved/perforated forms specially designed for the revolutionary DIAB Core infusion™ process.

DIAB Technical Services

DIAB Technical Services makes sure you get the most out of your chosen composite solution. Technical Services is an excellent speaking partner in terms of core, kits and finishing selection, assisting you in optimizing the full solution.

Composites Consulting Group (CCG)

Composites Consulting Group (CCG), an independent DIAB Group company, provides specialty composite technology services, including design, engineering, testing, tooling, process optimization and training, to companies that wish to make innovative products in composites.

COMPOSITES
CONSULTING GROUP 

Extensive application knowledge

DIAB develops and manufactures core materials for many other industry segments, such as Wind, Marine, Transportation, Subsea, Offshore and Industrial applications. Our offer includes the original Divinycell H, Divinycell HP, Matrix, Divinycell P (PET extruded foam) and ProBalsa balsa wood core material.



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



DIAB – the knowledge leader

Finishing Guide

Select the optimal finishing. Get a competitive edge

Core Guide

Sandwich composites and core materials.

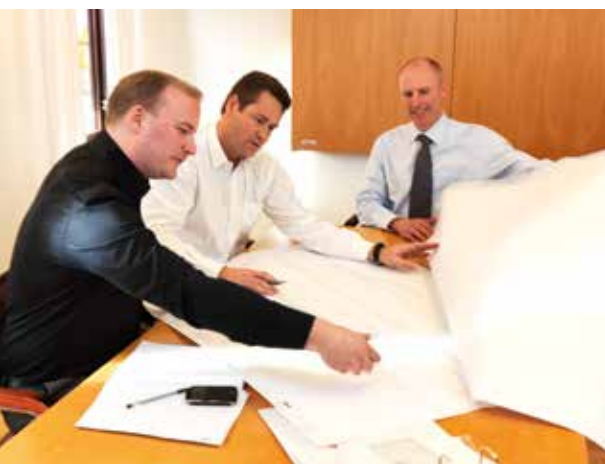
How they work and why you should use them

Kits Guide

Optimize your kit. Boost your performance



More than 50 years of experience in high-performance core materials give us perhaps the highest competence level in the industry. Take advantage of our accumulated expertise to improve your own products. Download our knowledge guides at **diabgroup.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



Visit our website for more information on the benefits of using composite materials within the aerospace industry.

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

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