

The Diab logo is located in the top left corner. It features the word "Diab" in a white, sans-serif font. A small orange square is positioned above the letter 'i'.

Diab

The title "COMPOSITE CONSULTING GROUP" is positioned in the upper right quadrant. It is written in a large, white, all-caps, sans-serif font. The text is centered within a rectangular area defined by thin white lines. The background of the entire page is a composite image featuring a sunset sky, a road stretching to the horizon, and a technical drawing overlay with various geometric shapes and lines.

COMPOSITE CONSULTING GROUP

The best way to predict
the future is to design it

diabgroup.com

Improve performance with world-class expertise

Would you like to take your products to the next level? Do you have innovative ideas that you want to realize? Our consultants in CCG (Composite Consulting Group) provide world-class composite engineering expertise and helps you draw the full potential of composite designs. We have extensive engineering and manufacturing experience from a wide range of industries all over the world.

Why composite materials?

Products made of composite materials offer

- Improved life cycle cost
- Lower fuel consumption
- Higher payload capacity
- Reduced energy use
- Decreased environmental impact

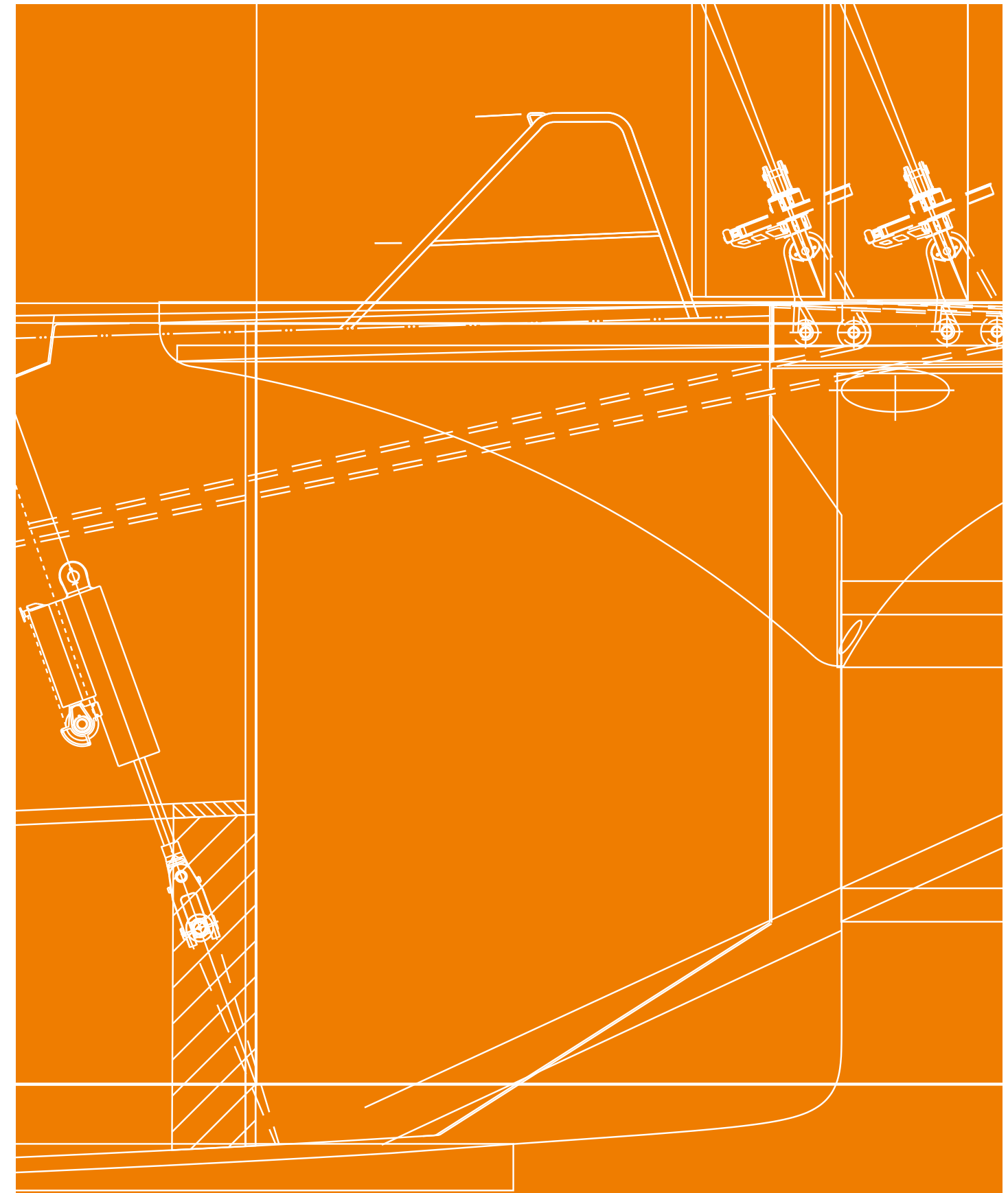
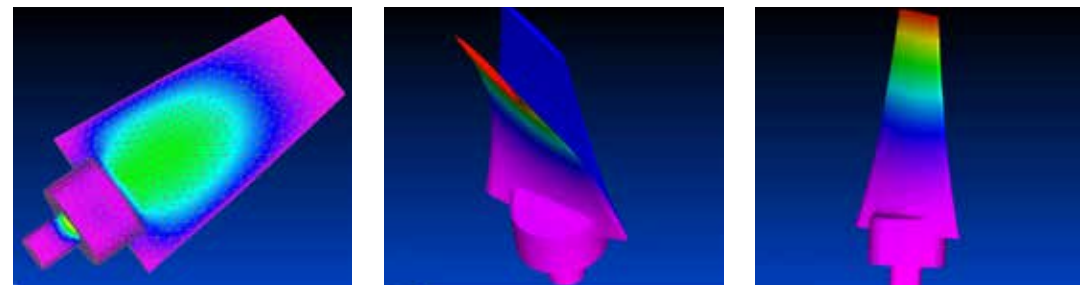
This is possible through the higher strength-to-weight performance, lower maintenance, corrosion resistance and freedom of design that are just a few of the characteristics of composite materials.

By adding other valuable features to the core material, such as thermal insulation, low water absorption and fire resistance, you will see how composite core solutions can contribute to almost any application.

Why CCG?

We provide a complete set of consulting services to bring you the most value-adding offer in the composite industry. Our mechanical and process engineers, material scientists, naval architects and composite technicians are key in the development and delivery of this offer that includes:

- Design help
- Engineering services
- Testing
- Process engineering services
- Tooling and prototyping
- Materials and equipment
- Training



Design

Composite materials offer nearly unlimited freedom of design, allowing exploration of innovative design concepts, such as free form shapes and monocoque structures. Our designers use a variety of industry standard design techniques, from hand sketches to complete photo-realistic 3D renderings, to convey composite design concepts.

We offer:

- Conceptual design
- Structural layout
- Drafting
- Rendering
- Digitizing
- Part consolidation

Engineering

Composite materials offer novel approaches to structural engineering, which can dramatically increase the value of product development.

Our engineers have in-depth knowledge of the performance requirements of composite products, whether it is structural, thermal, fire or cosmetic performance. The result is a design that balances structural efficiency with ease of manufacturing. We offer:

- Laminate design and optimization
- Weight, material and cost studies
- Finite Element Analysis (FEA)
- Static, non-linear, dynamic response and fatigue
- Ply-by-ply failure prediction
- Laminate drawings



Testing

Design and engineering is only as good as the input data and composite material properties are not readily available in a handbook. CCG maintains an extensive database of composite material properties, including analytical, mechanical, fire, process, thermal and acoustic. We use both internal test equipment and third party laboratories to deliver the most appropriate solutions to our customers.

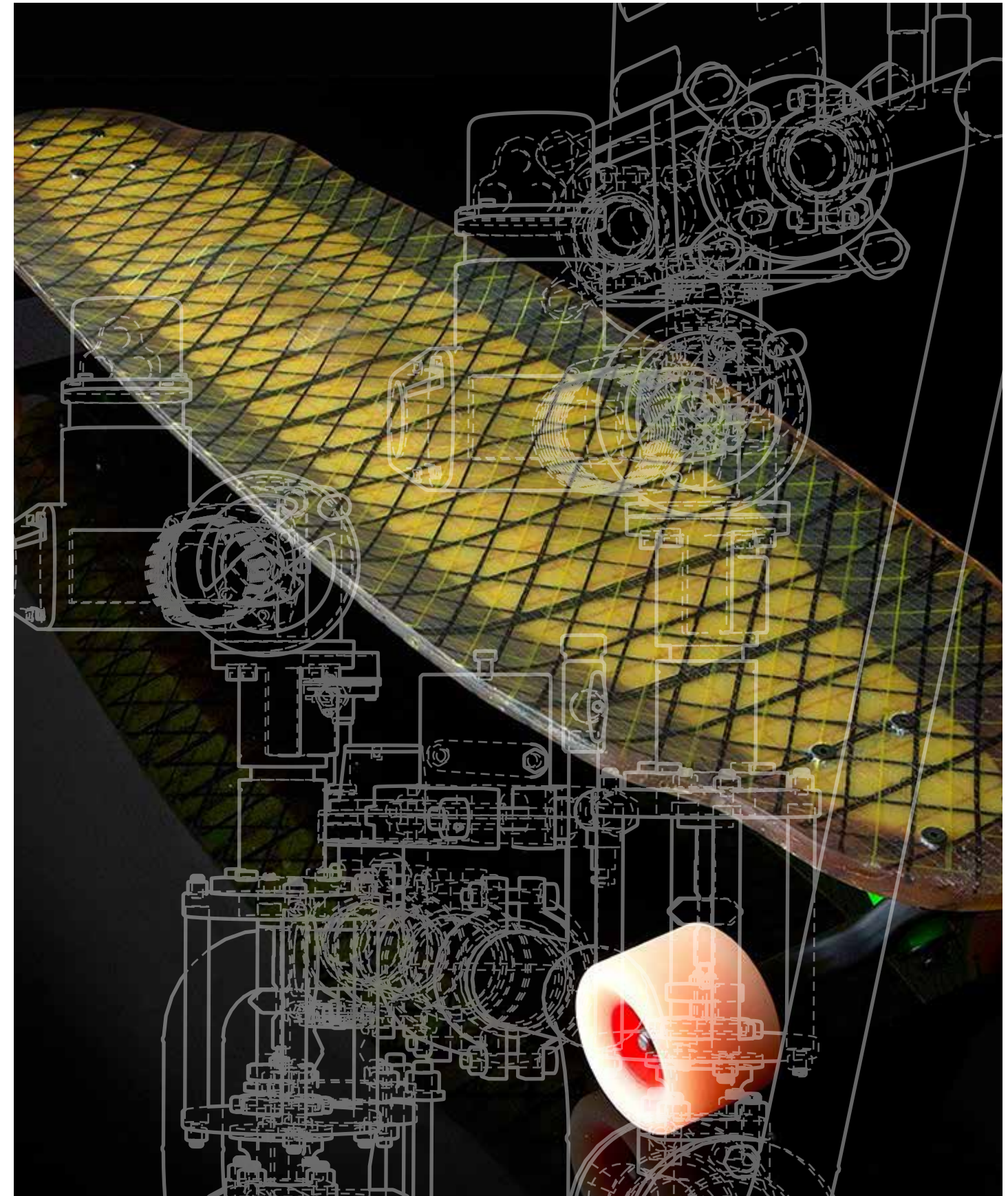
We offer tests for:

- Compression
- Tension
- Shear
- Flex
- Peel
- Resin Content
- Impact
- Etc.

Process engineering

Completing the design on paper or in the computer is only one step in the process of getting your products to the market. Efficient manufacturing is necessary to maintain a competitive edge. CCG uses process specialists throughout the world to manage projects and resources, developing manufacturing strategy, material requirements, work instructions and factory setup for your specific needs. Process Engineering includes development, training and implementation of composite manufacturing processes for specific composite parts or an entire factory based on standard composite manufacturing methods. We have expert closed molding knowledge in areas such as contact molding, vacuum infusion and RTM-light. We offer:

- Permeability Testing
- Resin Flow Simulation
- Bills of Materials
- Prototype Construction
- Process Design
- Work Instructions
- On Site Training
- Quality Control Systems



Tooling and prototyping

Molds for fabricating composite structures are critical to their ultimate quality. The molds and tools must be designed properly to withstand the sometimes harsh environment of the molding process in order to ensure part quality and production longevity. In most cases, the molds for fabricating composite structures are composite structures in their own right. CCG offers a comprehensive tooling design service and has a broad network of well trusted manufacturers that assist our customers in implementing production of composite parts. We can assist with everything from creating master patterns to mold construction and break-in. CCG can also make the first prototypes at on-site facilities prior to production.

We offer:

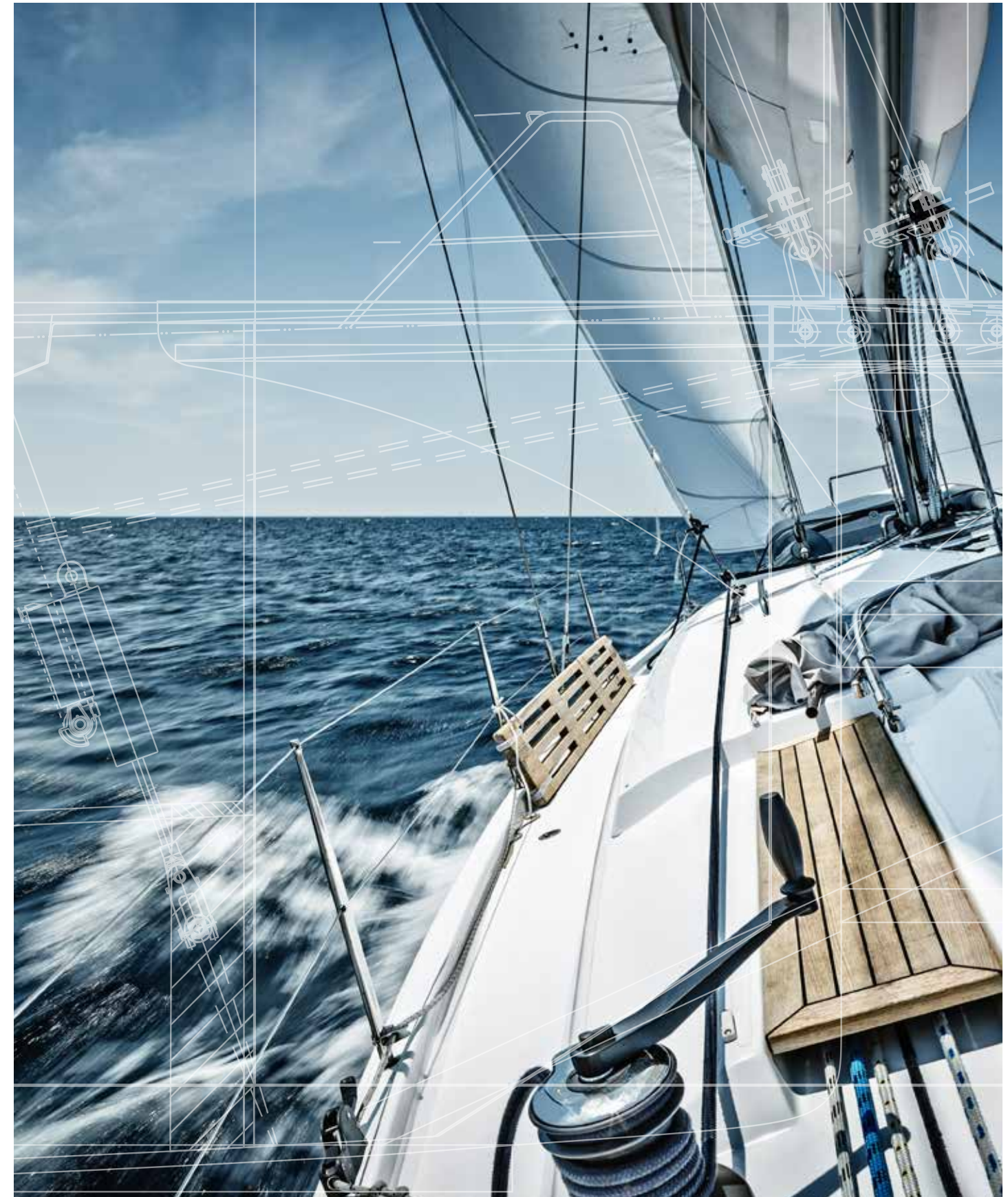
- Proof of Concept
- Reusable Vacuum Bag
- First Article Production
- Master Patterns
- Direct Tooling
- High/Low Yield Tooling

Materials and equipment

The many options for composite materials and process equipment are both an advantage and a challenge for businesses that are new to composites. A product development project can quickly become overwhelmingly complex without the right guidance. CCG provides specifications, sourcing and supply of raw materials, consumables and equipment required to properly manufacture cost-effective composite parts. This service rounds out our turnkey solutions for helping you develop innovative products by leveraging the advantages of composite materials.

We offer:

- Laminate Materials
- Process Equipment
- Consumable Materials
- Tools and Accessories

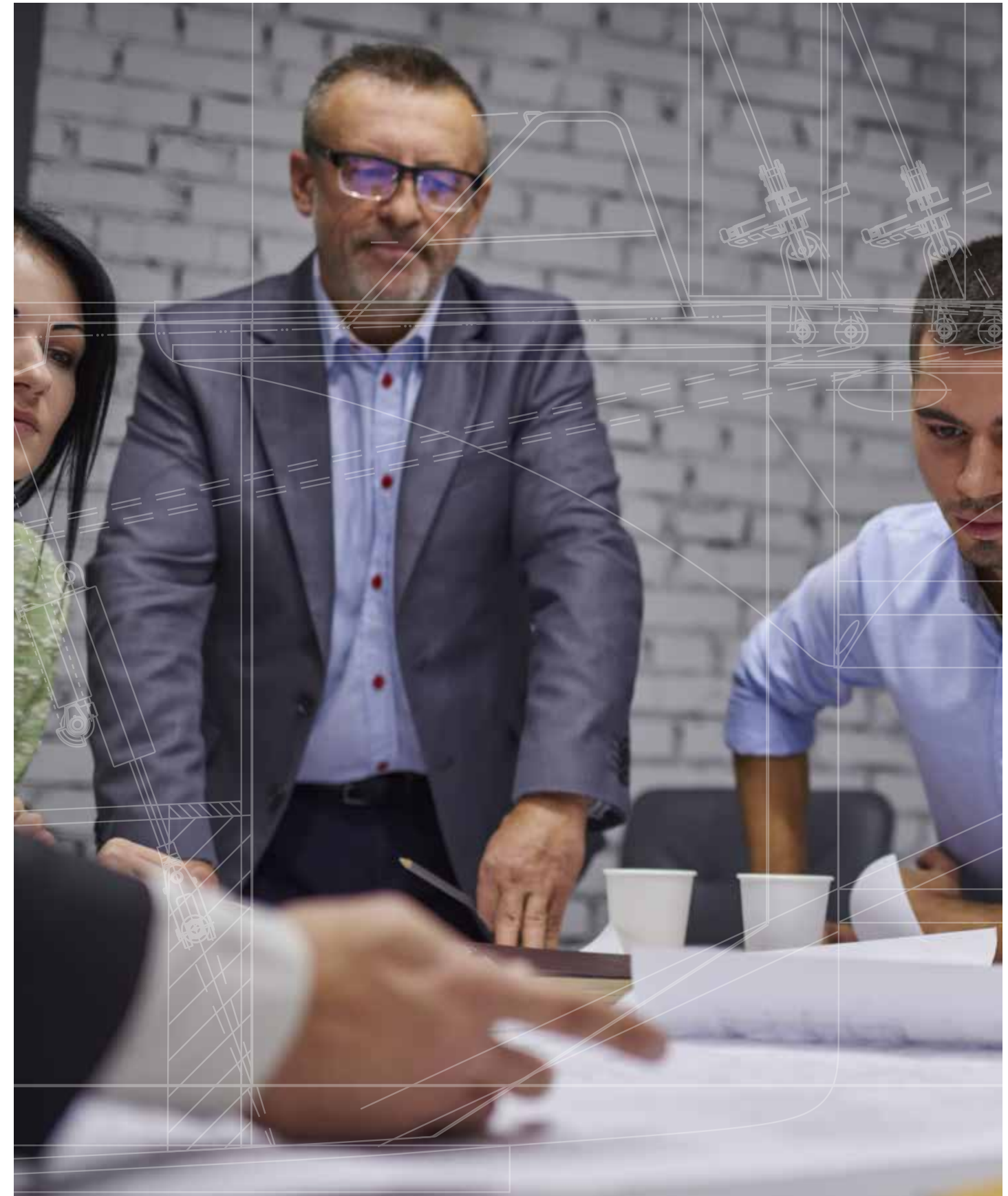


Training

Knowledge and competence are key assets in any industry. Within composites, these talents can be hard to come by. CCG offers a complete training package ensuring that you can continuously improve your products and grow your business. Training seminars and on-site training courses are available from Basic to Advanced and are suitable for shop floor workers, as well as development engineers and designers. In addition to custom training courses, seminars are run regularly throughout the year on five continents, so there is likely a course available close to you.

The training might include:

- Vacuum Infusion Processing
- Light RTM
- Thermoforming
- Reusable Vacuum Bag
- Wind Blade Manufacturing
- Pre-preg Fabrication
- Composite Repair
- Composite Design





CCG brochure

Diab Group (**HEAD OFFICE**)
Drottninggatan 7, 5th floor
SE-252 21 Helsingborg, Sweden

Tel +46 (0) 430 163 00
E-mail: info@diabgroup.com

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 CCG (Composites Consulting Group). Diab is a participant in the UN Global Compact.