

Always at the core of your solution

Diab



Kitting

ENGINEERED FOR PERFORMANCE & SUSTAINABILITY

diabgroup.com

SUPERIOR PERFORMANCE THROUGH PRECISION KITTING

Accuracy in every part

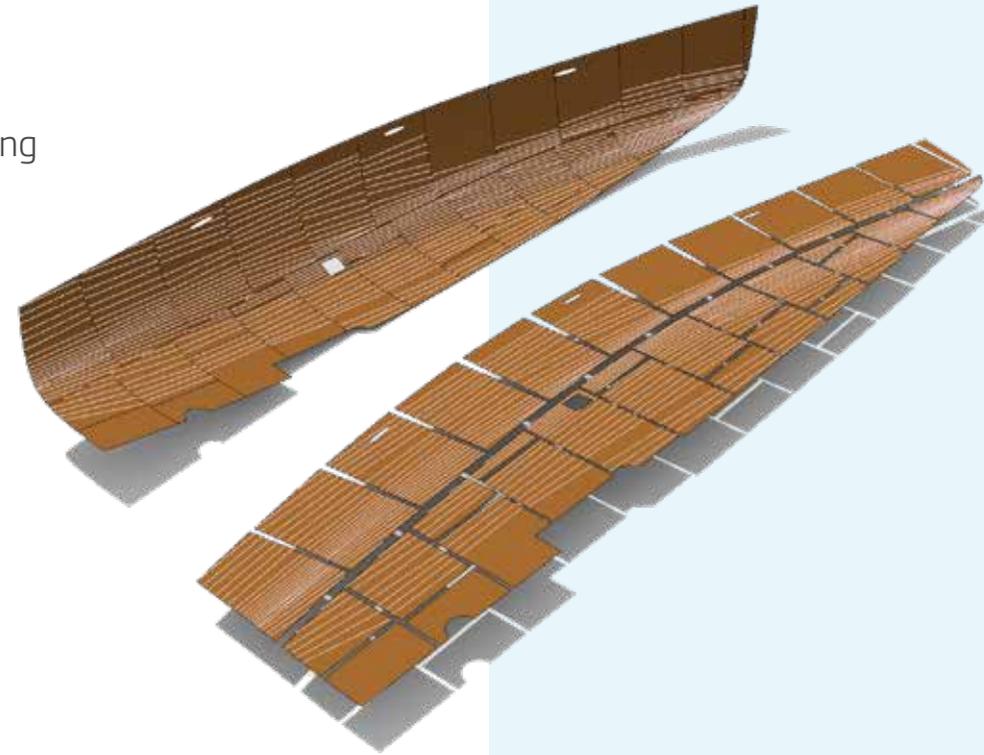
A Diab kit is a custom-shaped set of core elements, from simple panels to complex 3D shapes. Machined with high-precision CNC routing, each numbered piece fits perfectly into the mould. Our engineers tailor every kit to your specific weight, cost and quality requirements, including a detailed assembly guide for the optimal lay-up.



Transform your production

Integrating pre-cut parts streamlines manufacturing and elevates application quality. By eliminating manual on-site cutting, you reduce labour and material costs while achieving superior results in less time:

- **Performance boost:** Achieve the optimal balance of weight, cost and quality.
- **Faster lay-up:** Reduce the time spent positioning the core in the mould.
- **Reduced weight:** Improve surface quality and lower resin uptake.
- **Less finishing:** Minimise additional laminate finishing work.
- **Waste reduction:** Cut down on material scrap and waste handling.
- **Lean logistics:** Simplify inventory and internal material flow.
- **Space recovery:** Free up valuable factory floor space for other operations.



Unrivalled kitting expertise

With decades of experience, Diab is a world leader in kitting solutions. Our deep technical knowledge across all manufacturing methods ensures your kit is perfectly fit for purpose. Designed and produced in-house, we provide a direct link between our engineering experts and your team.

OPTIMISED FOR EVERY SHAPE AND MANUFACTURING PROCESS

Choosing the optimal finishing

The complexity of the component and the curvature of the mould influence which core finishing selection fits best with minimum spring back and resin consumption. Together with the geometry and expected performance, it is crucial to analyse the finishing used for each method. The manufacturing process defines the finishing for form and flow:

- **Wet lamination:** Focuses on ease of application, typically using formable finishing cuts with or without glass fibre backing.
- **Vacuum Infusion:** Requires precise finishing for proper resin distribution. Grooves and perforations work together to ensure optimal flow and surface quality.
- **Resin Transfer Moulding (RTM):** Demands a perfect fit in closed moulds. Perforations are primarily used here to evacuate air and distribute resin.
- **Prepreg:** Used for weight-critical components, often with thin carbon laminates. Perforations are utilised for air evacuation under vacuum consolidation to ensure adhesion and laminate quality.

Standard, Buoyancy or Advanced kits

Early discussions help ensure your kit meets all requirements for performance, geometry and the manufacturing process. Based on this, our kit and production engineers decide what kit option is best for each case:

BUOYANCY KITS



Precision-engineered, CNC-machined buoyancy kits provide “built to print” ready-shaped modules for ROV and subsea applications.

STANDARD KIT



A good choice if your acceptable tolerances are higher and component weight is not super-critical.

ADVANCED KIT



The optimal solution where light weight, low resin usage and highest surface finishing are crucial.

ADVANCED KITTING FOR MAXIMUM SAVINGS AND PERFORMANCE

The perfect fit

Diab's innovative Advanced Kits offer the lowest weight, an optimised fit in the mould, reduced resin consumption, and improved cosmetics. Combining Diab's extensive knowledge with custom software, we optimise the curvature cuts required in the core to perfectly fit the local curvature of your mould.

Through a CNC proprietary cut profile for each kit detail, the core is cut partway through its thickness, eliminating the need for a scrim backing and leaving a smooth surface on the mould side.





Certified fossil-free PVC

By utilising ISCC PLUS mass-balanced fossil-free PVC raw material and producing the foam with 100% renewable energy, Advanced Kits contribute even further to a smaller carbon footprint. The ISCC PLUS certification guarantees full traceability, including a sustainability declaration upon delivery.

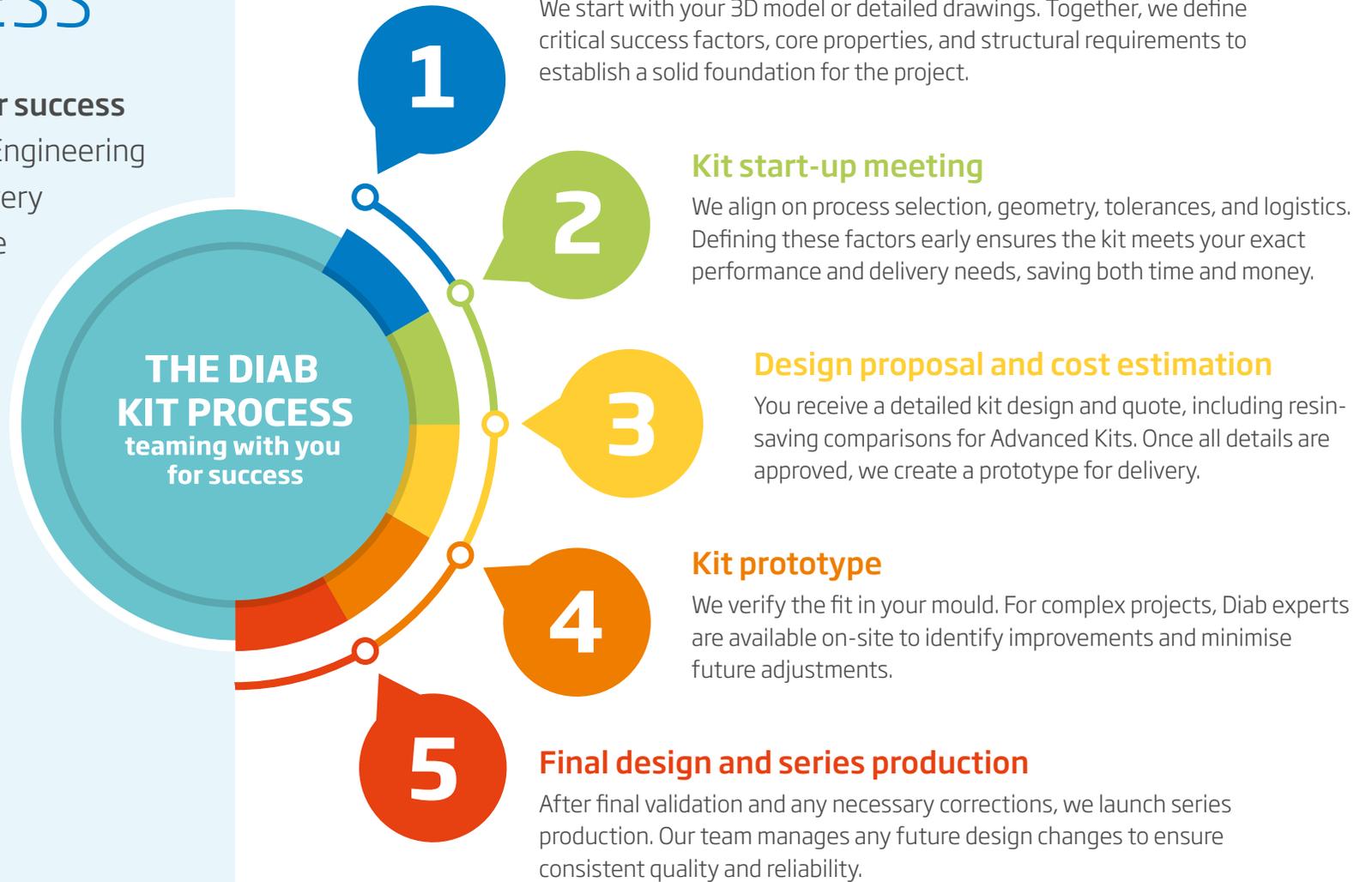


- **Lower resin consumption:** Save up to 60% compared to a traditional grid-scored (GS) kit.
- **Improved surface quality:** An intact foam layer without GS scrim closest to the mould side reduces risk of print-through.
- **Improved fit:** Each detail is CNC machined for high accuracy, designed to have minimum spring back.
- **Integrated features:** Options for built-in laser tracking lines or Kit-Locks for easier positioning.

THE DIAB KIT PROCESS

Teaming up with you for success

Our Sales team and Diab Engineering Services work with you every step of the way to find the optimal solution.

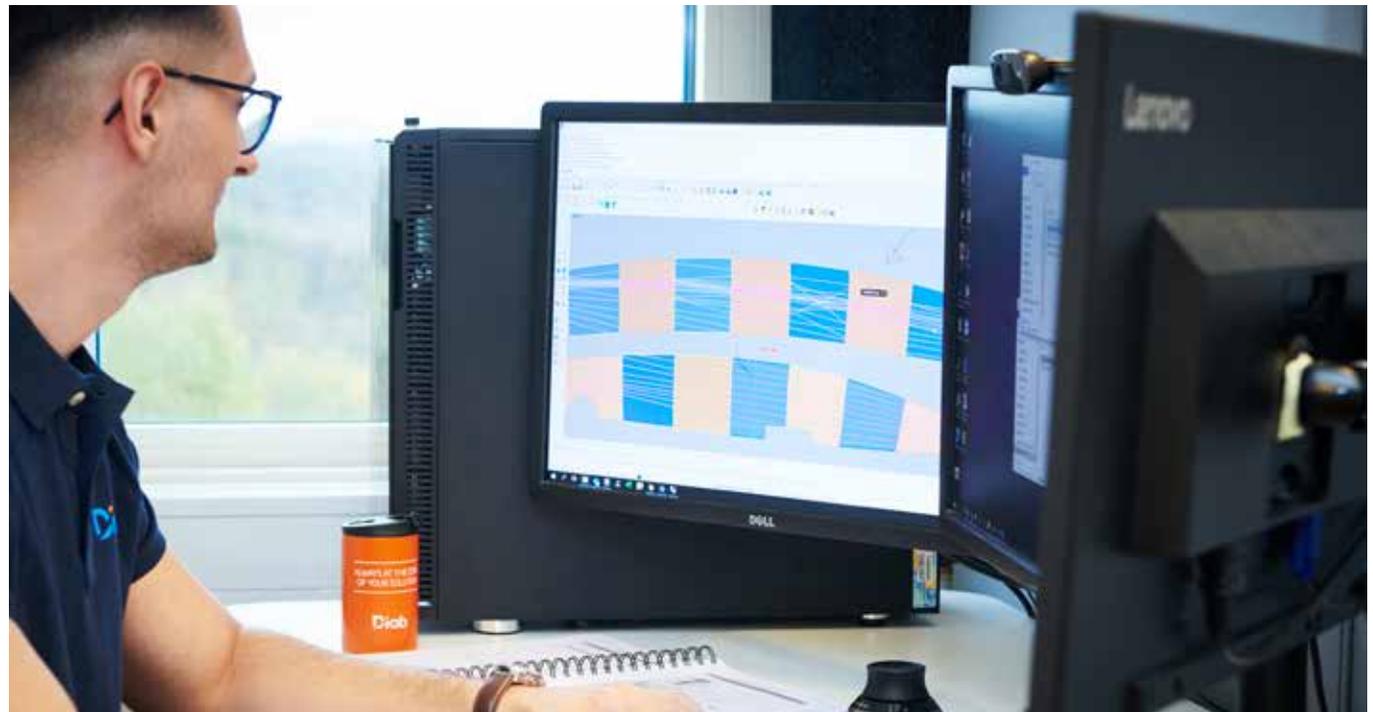


Weight comparison (kg)



Advanced kits offer substantial resin uptake reductions compared to standard kits. The reduction in resin tied up by the core material and finishing will, in turn, result in a reduced carbon footprint.

For example, replacing a standard kit in an infused 80-ft sailboat hull with an advanced kit would save 419 kg of resin and reduce the carbon footprint by 1677 kg CO₂ equivalent, assuming the resin's GWP value is 4.0 kg CO₂/kg.



Advanced kitting is the optimal solution where weight, resin usage, and surface finishing are critical.

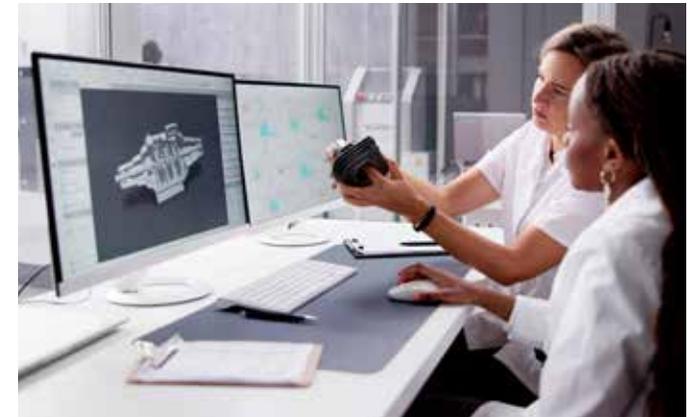
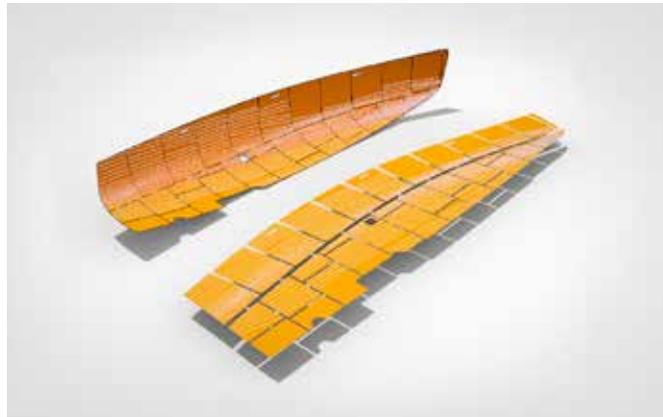


Kit-Lock.

DIAB ENGINEERING SERVICES

Unlocking the full potential of composite design

Diab Engineering Services provides expert support in your kit design, from material selection to testing, helping you move seamlessly from idea to production. With guidance from our Composite Consulting Group (CCG), we enable lighter, stronger, and more sustainable composite solutions.



Proactive product and process support

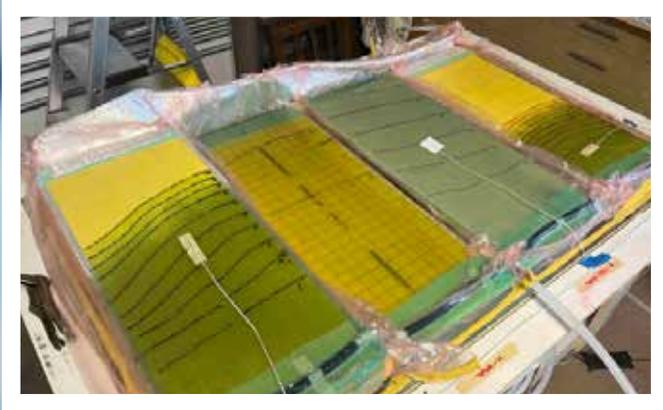
We support you in selecting the most suitable core material for your application, offering a wide range of finishes tailored for form or flow. Our expertise includes analysing and identifying the optimal finishing for each manufacturing method, along with providing guidance on various manufacturing processes.

Innovative kit design and engineering

We offer in-house developed tools for optimised design and ensure a direct connection between our engineering department and yours. Our standard kits are designed to meet your needs for speed and efficiency, while our advanced kits deliver maximum weight savings, high performance, and even more reduced CO₂ emissions.

Industry-leading composite consulting services (CCG)

Our world-class engineering expertise covers every step of the composite development process – from laminate design and structural engineering to detailed composite design including drawings. We offer advanced flow modelling for closed moulding, efficient tooling design, smooth prototype production, and flexible short production runs.



Hands-on training (CCG)

We offer both theoretical and practical composite training focused on materials and processing, including specialised infusion training for start-ups or process improvements. Our long-term experienced team supports you every step of the way.

Process support & optimisation (CCG)

We provide detailed analysis of various manufacturing processes, along with optimisation of process and factory flow to enhance efficiency and productivity.

Comprehensive testing

We support your development with comprehensive material and component testing, proof of concept evaluations, and detailed material characterisation. Field tests are also conducted to ensure real-world performance and reliability.



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.