

BEYOND



Crafting the
next-generation of
advanced materials

COMPOSITE

INNOVATIVE SOLUTIONS

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About

BeyondComposite is an engineering company specialized in the development and manufacturing of advanced materials.

Operating in a highly demanding technical sector, we provide innovative and sustainable solutions that combine high performance, structural lightweight, and adaptability to the specific requirements of each application

Beyond Composite is also part of Prismore Capital, a family owned holding and largest business and industrial group in Portugal. This integration reinforces a strategic commitment to technological innovation and global growth, supported by the stability and long-term vision of one of the country's leading enterprises.

Us

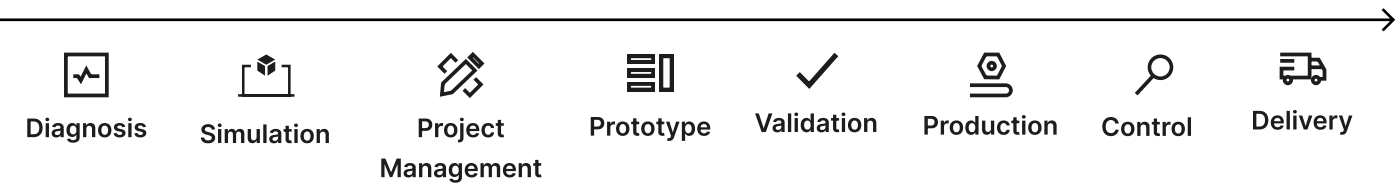


Our Mission

At **Beyond Composite**, we drive innovation through advanced materials that combine high performance, sustainability, and intelligent design. Our mission is to transform industries with tailored solutions that meet the highest quality standards and embrace circular economy principles, helping to build a more efficient and resilient world.

Guided by a vision of leading transformation through predictive performance technologies and precision engineering, we promote sustainable and collaborative innovation, working closely with our partners to deliver superior, long-lasting results across every project.

Our Approach



What to Expect From Us

TECHNICAL EXPERTISE

Our team brings deep knowledge in advanced materials, engineering, and innovation, ensuring your project is handled with precision and care.

FLEXIBILITY IN PRODUCTION

Whether you require low-volume prototyping or high-volume manufacturing, we are equipped to scale up your needs without compromising on quality.

COMMITMENT TO QUALITY

From design to delivery, we ensure the highest standards of quality, validated by rigorous testing and certification.

LONG-TERM PARTNERSHIP

We build to last! In every project we undertake, creating trust, fostering innovation and supporting your business growth with sustainable solutions is our main target.

TAILORED SOLUTIONS

We understand that every challenge is unique. We work closely with you to develop the customized solution to your needs

TRANSPARENCY AND COMMUNICATION

Clear and open communication is at the heart of every project.

We keep you informed at every stage, ensuring there are no surprises — only results.

AGILITY AND RESPONSIVENESS

In today's fast-paced world, responsiveness is critical. We guarantee swift support, flexible solutions, and efficient implementation.

defence industry.

Innovative

 BEYOND
COMPOSITE

solutions for

Innovative solutions for the defense industry

Committed to sustainability and innovation, we deliver materials that not only enhance operational efficiency but also support a more resilient, eco-conscious future. Our CompactShield brand represents the cutting-edge of our ballistic solutions, designed to provide superior protection while maintaining performance and adaptability.

From concept to production — **fully developed in house.**

Utilizing advanced technologies to achieve **superior ballistic performance.**

Designed for versatility across a wide range of applications.

Exceptional strength combined with a feather-light structure, merging resilience and efficiency.

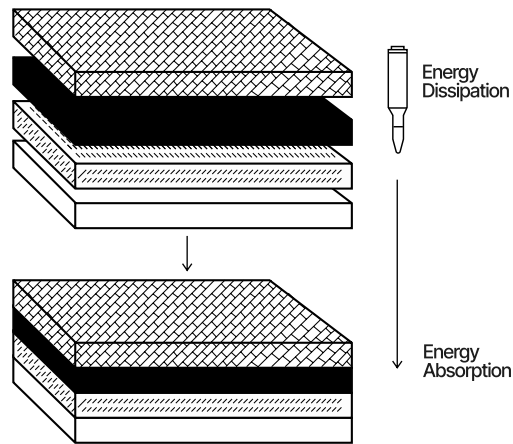
Incorporates **high-performance materials.**

Emphasizes the **use of materials and components**

CompactShield



Multi-layer solution



MOBILITY



PERSONAL
PROTECTION



CONSTRUCTION

CompactShield is a composite ballistic protection panel designed using a selection of different materials to meet the required characteristics.

The material combination is specifically designed to enhance the intrinsic performance and properties of each single raw material used.

Ballistic concept

The final solution represents a balanced synergy between ballistic performance, flexibility and weight, culminating in a multi-layer architecture that provides ballistic resistance at a very reduced weight cost.

Applied material technologies in multi-functional and multi-layered solutions:

STANAG 4569 Level 1

Composites

STANAG 4569 Level 2 & 3

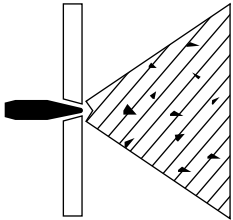
Composites & ceramics | steel

STANAG 4569 Level 4 & 5

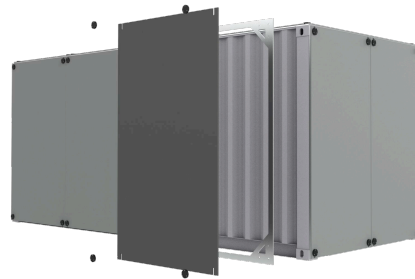
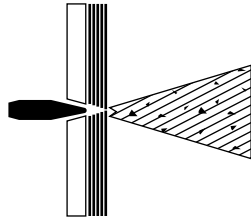
Composites & ceramics & steel

Compact shield can be applied

Without Spall Liner
Wide spall cone angle



With Spall Liner
Narrow spall cone angle



Spall Liner

Interior ballistic protection that absorbs energy from explosions, reducing the impact force on vehicle occupants. This helps minimize damage from explosions and fragments.

Add-on

Add-on Armour is a lightweight solution made from a combination of different materials that reinforces the vehicle hull for enhanced protection. It offers scalable ballistic protection (Level 1 to Level 5) against IED fragmentation, ballistic threats, and blast impacts, all while preserving the vehicle's mobility.

Flexible and Adaptable Installation:

COMPACTSHIELD Protection is available in modular panels that can be attached to both the interior and exterior, fully covering internal walls, ceilings, and doors. It can be customized to fit specific sizes and shapes, ensuring complete coverage and protection.

Custom-made solutions

Compactshield can be customized in terms of thickness, weight, and cost based on the client's specific requirements.

This is achieved through the combination of different materials that are carefully selected and studied to meet the desired specifications.

Protection Level	Weight (Kg/m²)
NIJ IIIA SOFT	26
NIJ IIIA PLUS	6.5
STANAG 1 PLUS	19

Lightweight and efficient

While providing a high level of protection, the spall liner remains lightweight. This is essential for reduced fuel consumption and overall efficiency.

Protection Level	Weight (Kg/m²)
STANAG 1	18-48
STANAG 2	49-60
STANAG 3	70-80
STANAG 4	80-100

COMPACTSHIELD vs. REGULAR STEEL ARMOUR

STANAG PROTECTION

Level

IV

62%

Level

III

57%

Level

II

42%

Level

I

72%

WEIGHT REDUCTION %

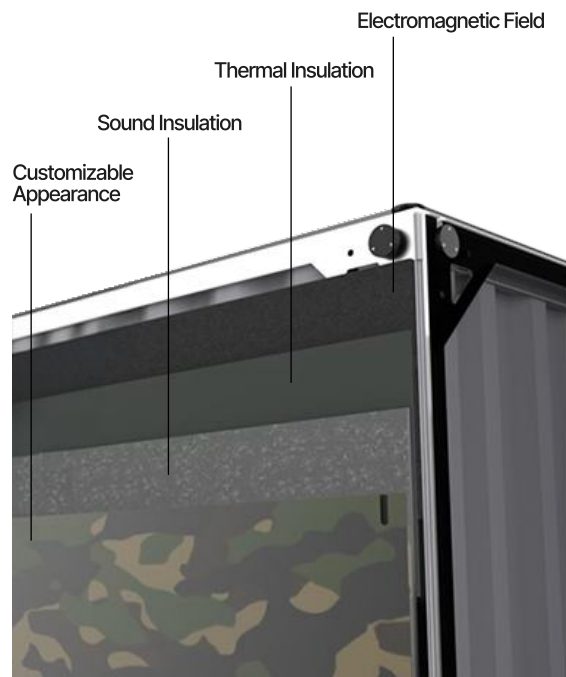


Decorative:

Compactshield allows for product finishing to be tailored to the customer's preferences and needs, ensuring exclusivity and sophistication. The customization process offers a wide range of finishing options, from unique colors and textures to special coatings that can be applied.

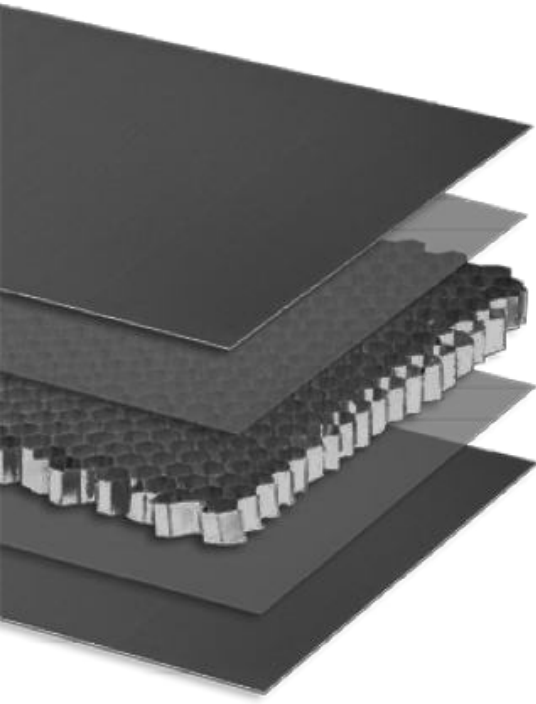
Integration with Other Features:

In addition to ballistic protection, the system can be designed to integrate additional functions such as thermal insulation and soundproofing.



Let's
Engineer
the Future
Together

Honeycomb Core



-  Lightweight
-  Impact Absorption
-  Stiffness
-  Resistance
-  Versatility

Honeycomb composite materials consist of two outer layers of rigid material and a central layer of empty hexagonal cells, creating a light and performing structure.

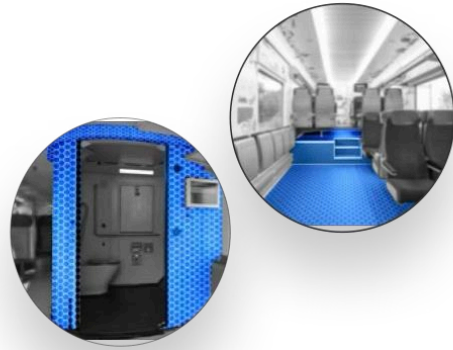
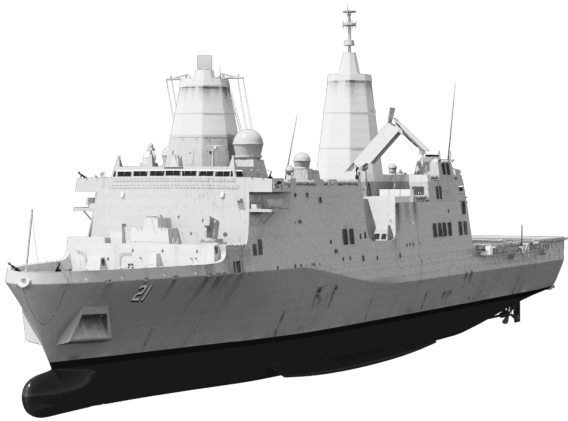
Structure:

Core:

Efficient hexagonal geometry for distributing forces and loads, allowing the structure to withstand significant stresses.

Outer Plates:

Layers that cover the honeycomb core, responsible for providing the finish, additional resistance, and rigidity to the structure.



Aluminum

Material

Alu-Alloy 3003 (AlMnCu)Corrosion
Protection: Zirconium oxide coated

Sheet Thickness:

60 μm and 80 μm Cell

Size

3.2 mm - 19.2 mm

Density:

29 kg/m^3 - 130 kg/m^3

Service Temperature:

-55 $^{\circ}\text{C}$ up to 177 $^{\circ}\text{C}$

Applications

Furniture

Tables

Hulls

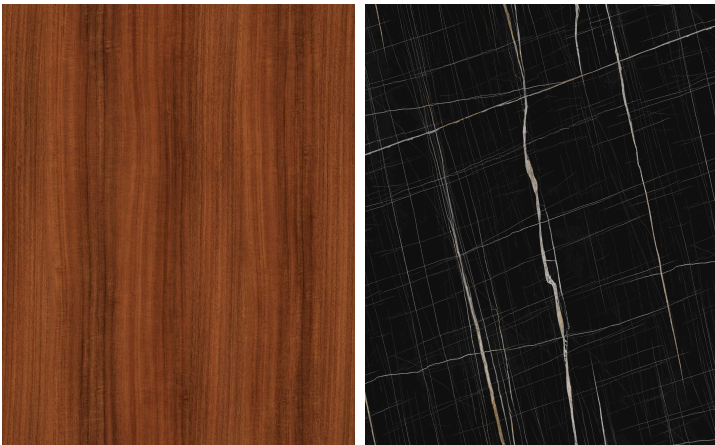
Gunwales

Flooring

Doors

Partitions, Walls and Bulkheads

Ceilings and Decks



Decorative:

This lightweight structure enhances performance and fuel efficiency. Additionally, the honeycomb can be customized with the desired decorative aspect, ranging from high-pressure laminate (HPL) to textured finishes. The options are infinite, and the applications are various, making it a versatile choice for modern boat construction.

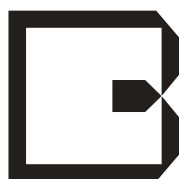


Militar Add-On Applications:

Honeycomb materials are ideal for radar systems thanks to their lightweight and strong characteristics. This structure enhances rigidity while minimizing weight, improving performance and efficiency.

Our advanced materials expertise is
ready to meet your toughest challenges.

Let's start a conversation.



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