



SCANFIBER COMPOSITES A/S



Light Weight Ballistic
Protection Materials

www.scanfiber.dk



We are with you
on the frontline in
body and vehicle armor.

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HEALTH • NUTRITION • MATERIALS



We protect people through innovation and quality

Scanfiber Composites A/S is a company with many years of experience in ballistic protection. We have since 1996 developed and manufactured lightweight armour plating, mostly based on sophisticated fibre composites.

When vessels, vehicles or aeroplanes are hit by projectiles or explosives, our composites decrease the effects of the intruding object. Our products not only reduce the effect at the collision point but also reduce the risk of flying fragments.

Scanfiber's main objective is to protect the lives of people. In order to do so, our products must be adapted to the vessel, vehicle or aeroplane they are installed in or applied to. We are in close dialogue with our customers in order to tailor all products to their needs in any given situation or environment.

We are ready for your challenge

Our comprehensive competence and experience place us among the leaders in the global business.

We have designed and developed ballistic protection for more than 20 years, and we have invested heavily in modern, large-scale production facilities. The heart of our business is a 3,000 square meter production facility with creative and competent staff and state-of-the-art tools and machinery.

With these facilities and human resources, Scanfiber is ready to take on any challenge and meet both short and sudden delivery deadlines. Located in the northern region of Denmark, we are happy to do business worldwide.

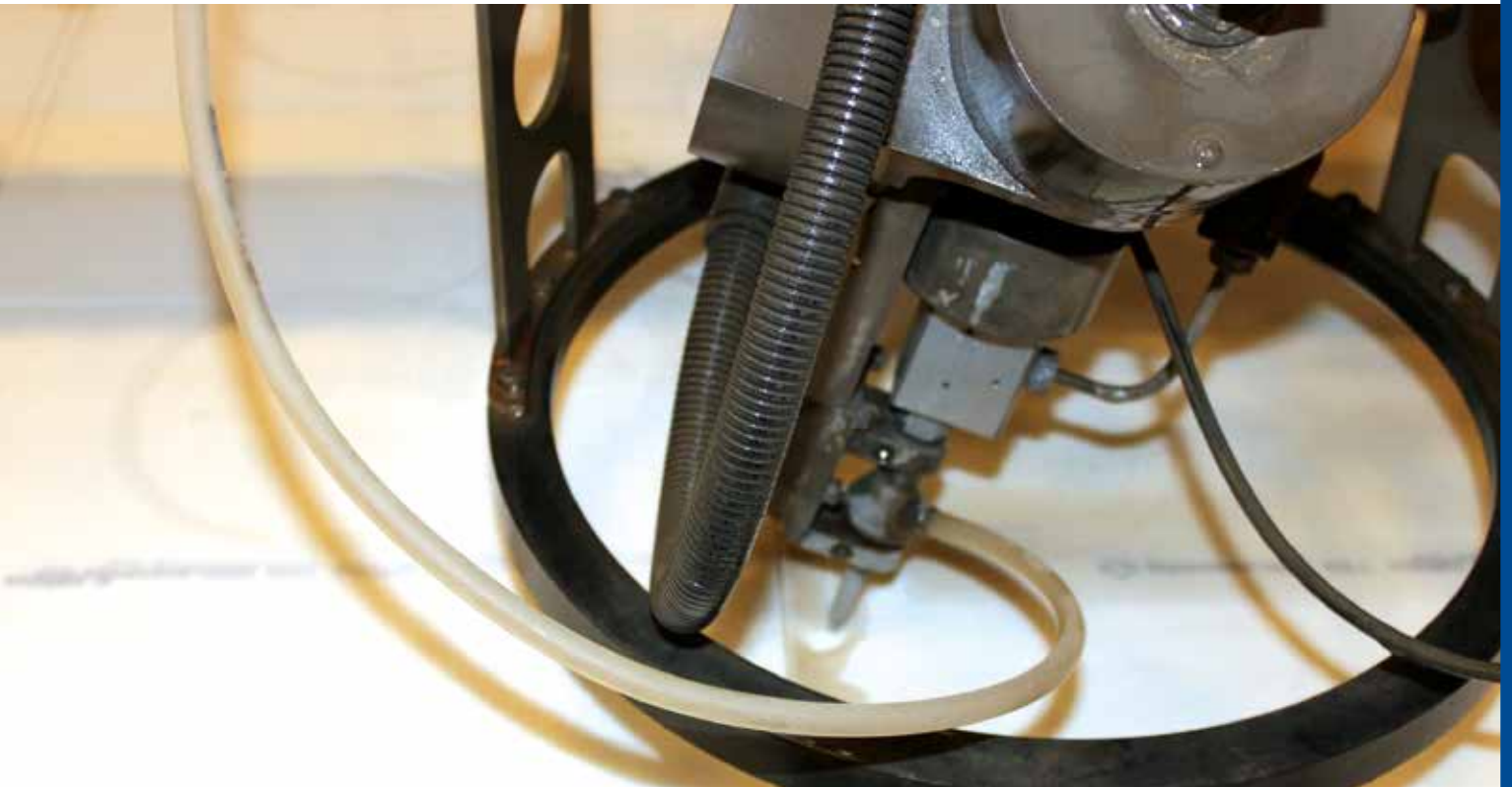
State-of-the-art technology

At Scanfiber, we have sophisticated technology at our disposal and have invested in, for instance, a customized 4,000 ton high-pressure heating press. Among other things, the pressing capacity enables us to produce advanced fibre composites of polyethylene and aramid, which among other issues require exact control of the production process.

The production equipment also includes water jet cutters. One of them is a special 5-axis water jet cutting machine with cutting angles up to 45°. This machine adds an extra dimension to production flexibility and secures the ballistic properties of the various materials through perfect cutting with cold water jet cutting process.

For solutions at a higher threat level, a combination of technical ceramics and/or ballistic steel and fibre composites are used. To ensure optimum performance between the materials, these are glued together in a special developed gluing process.





Development of new products is mainly divided into three directions:

- Customized development projects – where the projects are typically made in cooperation between Scanfiber and the customer.
- Development projects – where Scanfiber develops new products, drawing on our competences and experiences.
- Updating existing products – where Scanfiber improves already existing and known solutions, e.g. with regard to price, process, thickness, weight, use of new raw materials etc.

In addition, Scanfiber performs design projects. These are always carried out in close cooperation with the customer in order to secure correct mobility and functionality of the end product.

Ensuring maximum safety

We live in a world that poses a growing threat to drivers and passengers in military and police vehicles, cash transporters, and private cars. Twaron® and Endumax® allows vehicles to be armored while remaining light and maneuverable.

Twaron and Endumax laminates provide intelligent and effective protection against high energy bullets, hand grenades, explosive blasts, secondary fragments and even increased protection against

specific mines. The laminates can easily be installed during or after car construction, either alone or as a compound with other materials. Careful engineering combined with countless ballistic tests car-

ried out together with the vehicle armorer guarantee optimal safety of the protected carrier.

Visit us at www.teijinaramid.com or www.teijinendumax.com

EnduMax®

Twaron®







Vehicles

Scanfiber offers total solutions for reinforcing vehicles by developing and manufacturing armour plating according to customer requirements. Scanfiber offers spall liner kits to vehicles for achieving cone reduction and add-on armour for protecting against high threat levels. Add-on armor saves typically between 50-70 % of the weight compared to traditional ballistic steel solutions. Scanfiber's lightweight products guarantee optimum protection for personnel and equipment. Using our lightweight protection solutions instead of traditional steel solutions will reduce the weight of the vehicle, while matching operational radius, load-carrying capacity, and mobility to the vehicle's standard properties.

Naval applications

At Scanfiber, we are experienced in providing lightweight protection for all maritime vessels, without losing speed or maneuverability. This is especially important at sea, where any emergency can have a disastrous outcome. Visibility and vulnerability go hand in hand in a conflict zone. At Scanfiber we know this, and have spent many years developing new ways of securing vessels and people at sea. Our solutions are easily installed on new vessels as well as old. We design and deliver products for all kinds of vessels, from tankers and transportation vessels to high speed patrol boats and large naval fighting platforms.



Foto: Søværnet



We always tailor our products to the different parts of the ship, e.g.:

- The bridge
- Gun mounts
- Cooling systems and sensitive steering system components
- Fuel tanks
- Ammunition storages
- Deck areas
- Operation rooms
- Personnel areas

We always keep in mind that neither the quality of the facilities and installations nor accessibility should be adversely impacted by our solutions.

Aircrafts

The materials used in construction of helicopters and aeroplanes are usually lighter than materials used in combat zone vehicles. The weight of added ballistic protection is crucial. Heavy materials will have a negative influence on the craft's speed and fuel consumption.

Scanfiber ultra-light ballistic protection effectively shields and protects the craft and the personnel inside by adding a minimum of extra weight. In this way, we combine a high load-carrying capacity and operational radius with a top level of safety.





Special focus areas can be:

- Seats
- Floor sections
- Fuel tanks
- Engine compartments



Fotograf: Emma Kirketerp





Personnel equipment

The most important objective in any conflict zone is to protect the people there. Scanfiber not only develops solutions for vehicles, ships, helicopters and aeroplanes, we also develop personnel applications. Constructed with materials such as aramid and polyethylene, all our products are easy to carry, simple to assemble, and designed for handling.

Among our personnel solutions you will find:

- Police Shields
- Detonator bags
- Seat protections
- Ballistic multi-bags
- Bomb blankets

Our innovative staff are constantly developing new and updated products. Contact us at any time regarding your specific needs.

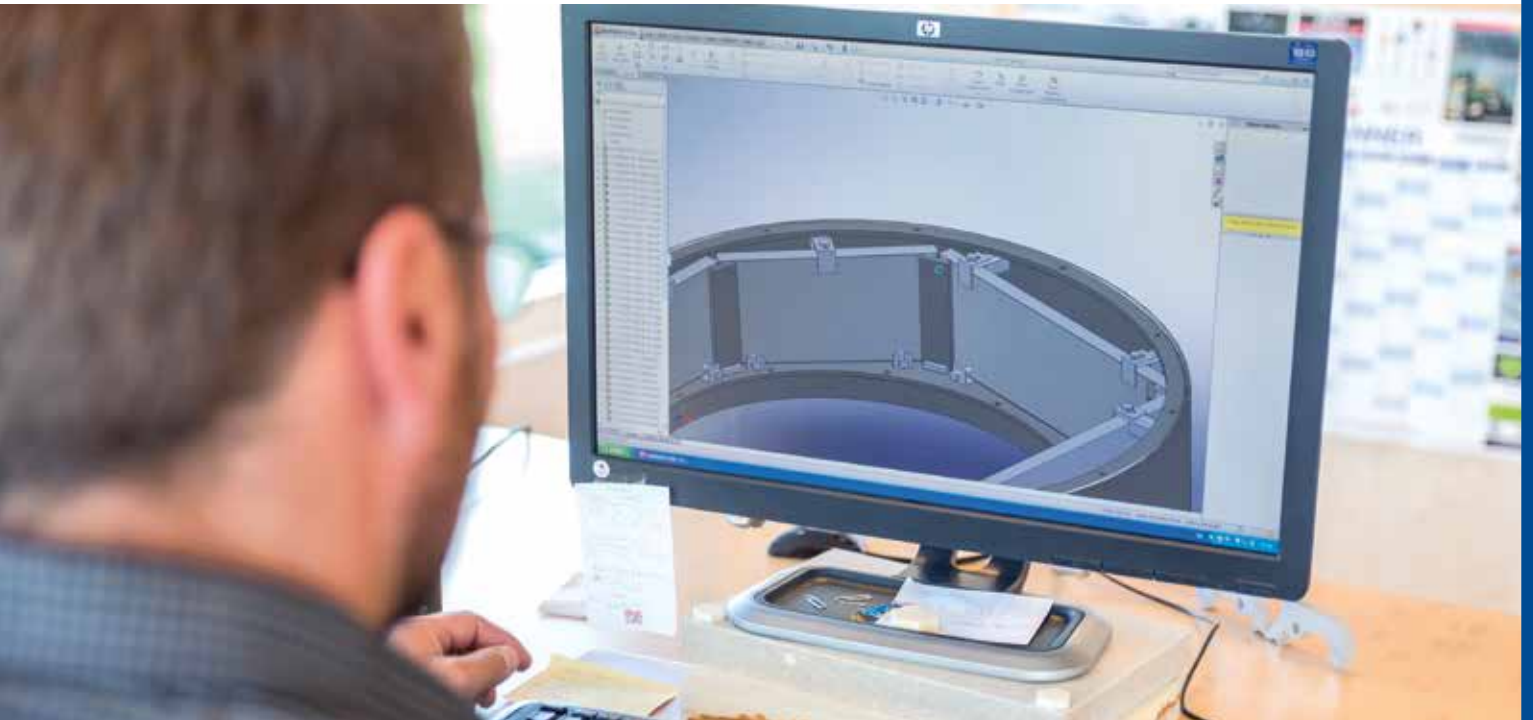


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Quality and certification

Total confidence

Confidentiality is a decisive parameter in our line of business. We do business with organizations that operate in conflict zones. Therefore, we are entirely discreet and respectful regarding any information that we receive. As such, Scanfiber personnel are certified at the level of NATO SECRET (NS).

Quality control and certification

Scanfiber performs very strict controls on all of its products. All parts of the processes are documented, and we offer our customer full traceability for the products we deliver. All of our ballistic solutions are tested and certified to international standards, and we hold ISO 9001 certification from Bureau Veritas.

Learn more

For more information on Scanfiber, please visit our website – www.scanfiber.dk. There you will find an overview of our range, a gallery of our products as applied to operating crafts, vessels and vehicles. For any questions, please feel free to contact us.

The advantages of different materials

The core of our production is high performance fibre based composites, e.g. fibre glass, aramid fibres or polyethylene fibres, which, combined with high quality ceramic and/or ballistic steel, offer the best technology available.

Polyethylene

Polyethylene is a material, which among others can be used in personal protection or as a heavy spall liner. Polyethylene can be used where a relative high protection level is required without adding a lot of weight.

Aramid fibres

Scanfiber often recommends aramid fibres as spall liners. Spall liners are applied to the inner surface of fighting vehicles or other vehicles, patrol boats, vessels etc. The spall liner decreases or even eliminates flying fragments from colliding projectiles or grenades.



Cold A/S is a Danish company with comprehensive knowledge and great experience in manufacturing of both military and civil items in PVC tarpaulin and other tarpaulin type materials. Our experienced staff and modern machinery makes us capable of handling many various tasks and as such, we take on many special assignments.

Cold A/S is located in Hirtshals in Northern Jutland, only a few minutes' drive from the powerful North Sea. The geographical location has made elements like quality, strength and power the philosophy and ideology from the very beginning.

Since Cold A/S was founded in 1992, it has grown considerably. In 2001, a new 1000 m² factory was build, and in 2008 the factory was extended with further 1000 m² stock facility, providing Cold A/S with the possibility of handling even very large projects.

Cold A/S is established in Bangladesh, and work in close collaboration with a Bangladeshi company.

Cold A/S manufactures a wide variety of military products such as tarpaulins for military trucks and vehicles, other special military designed tarpaulins, military tents etc.

In Bangladesh we have the possibility of manufacturing military clothing and equipment such as military clothing for soft protection.





Fibre glass

Building protection is often constructed using fibre glass, where extreme low weight not is necessary. Fibre glass can in conjunction with e.g. ceramics achieve a high protection level.

Ceramics

Scanfiber offers several ceramic solutions that significantly increase a vehicle's level of protection. Our ceramic panels offer effective protection for civilian and military vehicles, and can be designed as stand alone protection or as an integrated part of basic armour.

Ballistic Steel

Ballistic Steel is the ideal material for slower operating vehicles or fixed positions such as gun stations etc., where the operator is at risk from sniper or heavy ammunition attacks. In these situations, ballistic protection using steel is more effective, and Scanfiber ballistic steel products are often over 50% lighter than standard ballistic steel solutions – and just as effective.



Malerfirmaet
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Topcoat A/S offers complete solutions for professionals both indoors and outdoors.

Our specialties include the following:

Surface treatment within the wind industry • Coating of ships • Spray painting of kitchens, doors, furniture etc.
All painting work in connection with new building, rebuilding and extension • Repair and maintenance work



SCANFIBER COMPOSITES A/S



Located in the northern region of Denmark, Scanfiber Composites are happy to do business with the entire world.

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