



**METYX**®  
c o m p o s i t e s

STRENGTH. SUPPORT. SOLUTIONS.

[www.metyx.com](http://www.metyx.com)

**MARINE**

## ABOUT

METYX Composites

In 2003, METYX started producing technical textiles for the composites market, having initially produced interlining fabrics. The company has over 70 years of textile expertise, gained from its parent company, **Telateks**.

Today, METYX produces technical fabrics, along with in-house core and fabric kitting and composite tool making services from three 'state-of-the-art' production locations; two factories in Turkey and one in Hungary, which operate under ISO 9001, ISO 14001, and OHSAS accreditations.

Additionally, METYX distributes a wide range of products used in FRP part production such as resins, gelcoats, adhesives and vacuum consumables. Customers from all key industrial sectors including marine, wind energy, automotive, transportation, building and construction, sport and leisure are supplied.

METYX continues to invest in facilities and highly skilled staff to ensure it provides customers with high quality products, added value solutions, technical support and a highly responsive, reliable logistical supply service.

### Your 'Solutions Partner'

METYX offers exceptional service, quality and logistical support, with technical expertise which can help to reduce costs and add real value to your business.



Photo courtesy of **SANLORENZO**

## Established Marine Market Products & Services

METYX is a long established supplier of innovative, high quality technical textiles and other materials used by the leading boat and shipbuilders manufacturing with FRP composite. The extensive range of marine approved products and services offered include:

- E-glass UD, biaxial, triaxial, quadraxial, Combi Mat and hybrid multiaxial fabrics - standard and custom solutions.
- Carbon reinforcements - multiaxial and woven fabrics (UD, biaxial, triaxial, quadraxial and E-glass / Aramid / carbon hybrids) - standard and spread tow fabrics, UD tapes, and customized solutions.
- DNV GL and Llyods Register approvals for both glass and carbon fabrics.
- Kitting services for fabrics, core materials (PVC, PET, PU, SAN, balsa) and vacuum consumables (peel plies, breather fabric and flow mesh).
- Composite tooling design and fabrication (plugs and moulds).
- Engineering and production processing technical support.
- Distributed products: vacuum infusion equipment; vacuum bagging consumables; core materials; mould release agents; adhesives; resins and gel coats; continuous filament mats (CFM).

METYX helps boatbuilders to improve quality, increase production efficiency and reduce costs.

### Multiaxial Product Range

Multiaxial reinforcements consist of one or more layers of unidirectional fibres, with multilayer fabrics being held together by a non-structural stitching thread. METYX offers multiaxial products in: E-glass, Aramid, Carbon fibre and hybrid combinations.

**Product Range:**

Unidirectional / Biaxial / Triaxial / Quadraxial / Combi Mat

**Main Benefits**

- Design freedom for naval architects
- Wide product range
- Innovative technology
- Flexible production
- Consistent high quality
- Reliable long-term supplier

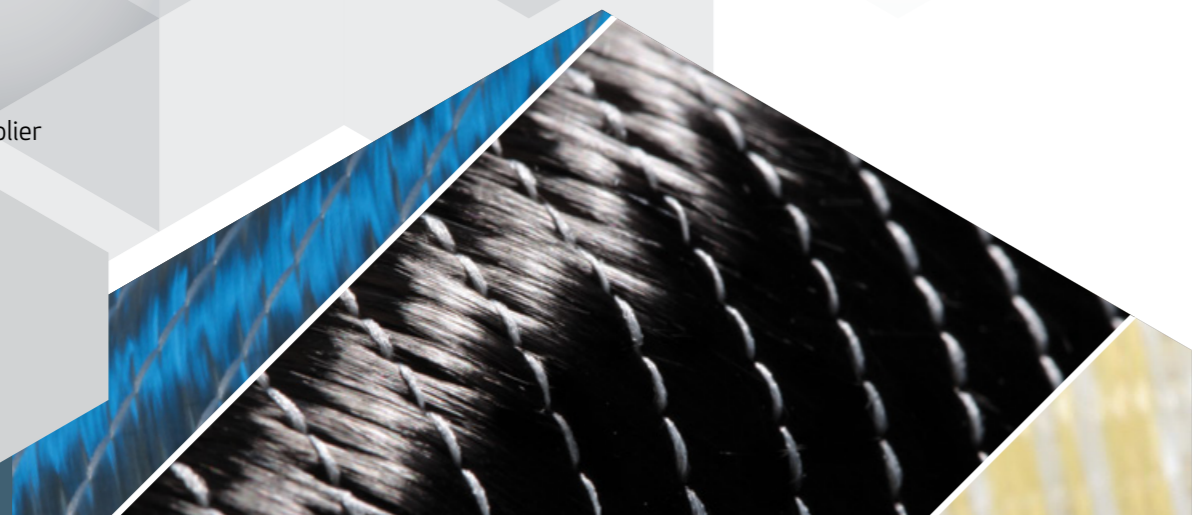


Photo courtesy of GREG LYNN

## Carbon Fibre Reinforcements Range

METYX has reliable long-term supply partners for the high quality carbon fibres used to produce the range of multiaxial and woven carbon fabrics offered. Standard fabrics and tapes, spread tow and customized solutions to meet specific needs are available to order.

**Product Range:**

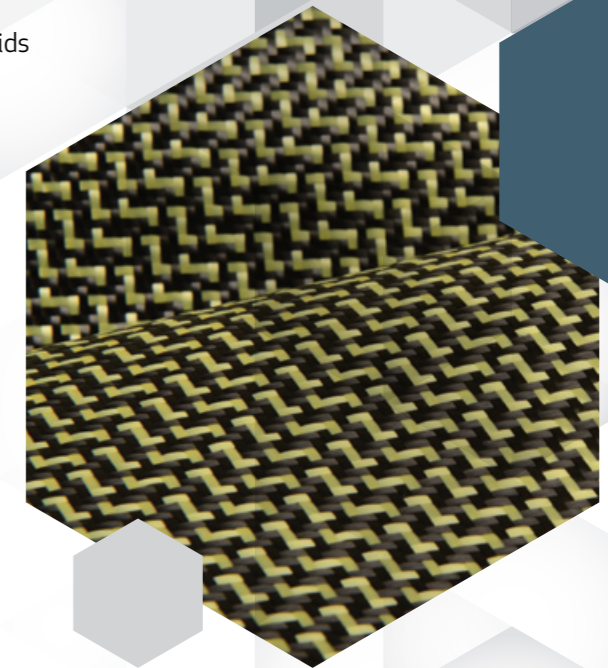
Unidirectional / Biaxial / Triaxial / Quadraxial / Wovens / Hybrids

### Woven Fabric Reinforcements

METYX woven fabrics are made by interweaving continuous fibre rovings to produce biaxial fabrics that can be used with most resin systems. Woven fabrics are typically used to increase the flexural and impact strength of a laminate.

**Product Range:**

Woven fabrics in sizes up to 350 cm wide (100 gr/m<sup>2</sup> - 1,200 gr/m<sup>2</sup>) are available in E-glass, aramid and carbon fibre options.



### Innovative Technical Fabrics

For lighter weight designs, high quality carbon fibre and carbon/ glass hybrid technical fabrics and UD tapes were added to the METYX technical fabrics range, along with other product innovations.

E-glass, H-glass, carbon fibre - standard and custom made reinforcements are produced by METYX on dedicated production lines in Turkey and Hungary.

'Ultra' heavy-weight multiaxial fabrics have also been developed to increase production efficiency during mould preparation by enabling much faster fabric laying times prior to infusion.

Metycore Max is a cored fabric used for closed moulding large FRP parts, designed for infusing hulls and decks, as well as to reinforce highly filled resin systems. Fire retardant resin formulations are easier to mould using Metycore Max and meet many fire standards.

### ADDED VALUE SERVICES

METYX PROVIDES CUSTOMERS WITH ADDED VALUE SERVICES AND TECHNICAL SUPPORT.

## METYX Kitting Services

A customized kit cutting service using 'state-of-the-art' 5-axis CNC processing centres is offered from both Turkey and Hungary.

### Core Material Kitting

The kitting centres cost effectively machine balsa wood and all foam core materials including: PU, PET, SAN and PVC foams. Core material finishing options or finish combinations include: grooved, perforated, scrim fabric applied, and single or double contoured. Installed equipment includes a high productivity slicing machine, which can very rapidly cut to size PVC and PET foam block material.

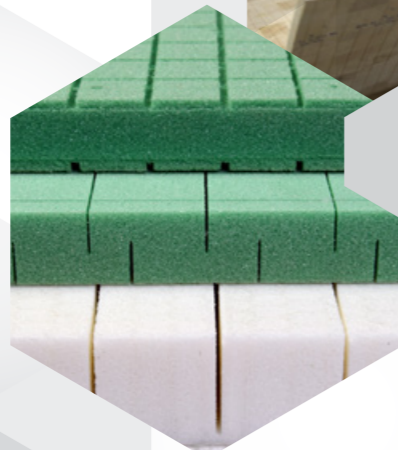
All kit designs are fully evaluated by experienced METYX engineers, supported with CAD data, with a key objective being to provide added value kitting solutions which enable faster and easier dry lay-up in moulds.

Kits are cut, shaped, and preformed as needed to the highest levels of accuracy, supplied with full traceability.



### Fabrics & Vacuum Consumable Kitting

A kitting service is also offered for the complete range of METYX technical fabrics and vacuum consumables such as peelply, flow mesh, and breather fabrics. To minimize waste and reduce cost, the largest CNC kit cutting machines, able to handle fabrics up to 3.5M wide, are used for large orders.



## METYX Tooling Centre

METYX has a dedicated Tooling Business Unit, located in the 27,500 sq m 'state-of-the-art' production facility at Manisa, Turkey. It offers design and manufacturing support to customers looking for affordable, high quality tooling solutions. Single and multi-split, FRP moulds are produced for: hand lay, spray up, RTM, and infusion processes.

The METYX Tooling team has particular expertise in producing large scale composite plugs and moulds. Very large moulds are increasingly needed as demand for superyachts over 24 metres long continues to grow globally.

**Master Plug (Pattern) Production** - Standard master plugs are designed and manufactured in-house using an epoxy tooling paste.

### Key METYX Master Plug Features include:

- Expertise in machining tooling board, PU and Epoxy paste plug making materials,
- Shape stability, with 5-axis CNC milled accuracy and finish,
- Large plug production capabilities - up to 10m x 6.2m x 4m
- High gloss polished surface finish – no imperfections,
- Tested to ensure no vacuum leaks,
- Modular production of single or multi sectioned plugs,
- Integrated plug heaters can be specified.

**FRP Mould Tool Production** - FRP moulds are produced from high quality, surface defect free master plugs.

Direct negative moulds are cost effectively produced for prototypes, one off or short run components – the direct moulding technique is ideal for projects with a limited budget or tight timescale needing a rapid tooling solution.

### Key METYX FRP Mould Tool Features:

- Only quality UPR / VE / Epoxy tooling materials are used for high durability
- Mould shell supports as needed for tool life
- Excellent part production repeatability
- Water based heating system options
- Laser scanning
- QC documentation
- Mould commissioning

METYX COST EFFECTIVELY PROVIDES CUSTOMERS WITH A COMPLETE COMPOSITE TOOLING SOLUTION FROM CONCEPT TO DELIVERY.

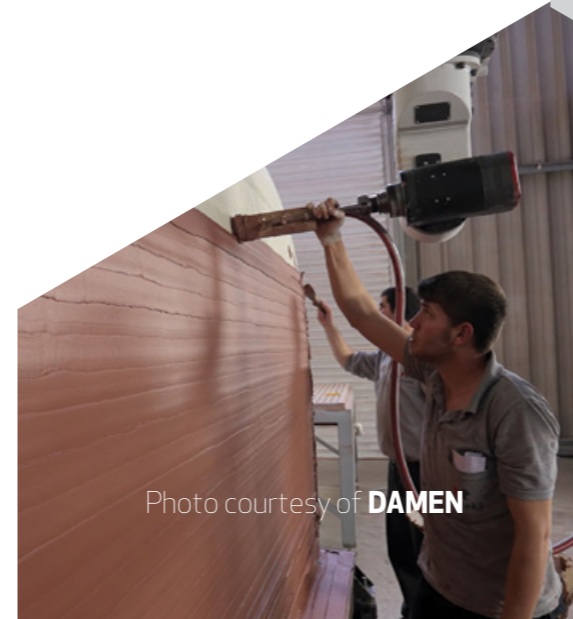


Photo courtesy of DAMEN





## Laboratory & Testing Services

METYX offers extensive laboratory and rapid response ISO and ASTM testing services to its customers for fabrics, laminates and base materials, including RINA and DNV-GL tests to measure product performance. METYX lab technicians also have expertise in hand layup, infusion, RTM and hot pressing, with the skills and equipment for lab scale laminate production.

### Materials testing measurement and analysis capabilities:

- Physical properties - hardness / fibre fraction / resins content
- Mechanical strength properties – tensile / shear / flexural / compression
- Fibre & Fabric Analysis - filament diameter / gap / fibre angle / fibre pocket / weave and knit
- Processing & Resin Rheology - RTM and infusion trials / flow / hot press tests / steady shear and dynamic viscosities

Photo courtesy of CURVELLE



## Vacuum Consumables / Distributed Products

METYX distributes a wide range of raw materials and consumables for manufacturing FRP parts which are sourced from leading global suppliers. These include: continuous filament mats (CFM); release agents; vacuum bagging consumables; cores; surface veils; peel ply, flow mesh and breather fabrics; bonding pastes and adhesives; resins and gel coats.

## Specialist Injection Equipment

Where needed, assistance is also given to specify and source specialist closed mould injection equipment such as: vacuum pumps, resin transfer moulding and resin infusion injection machines. METYX works in close partnership with UK based Composite Integration Ltd., an innovative, world leading RTM and infusion technology design and injection equipment manufacturing company.



Photo courtesy of CSC

Photo courtesy of RMK MARINE



## Quality Systems

METYX has ISO 9001 Quality, ISO 14001 Environmental and OHSAS 18001 Occupational Health & Safety Management Systems certification.

Ongoing investments are made in latest technologies available to ensure that the very highest quality standards are maintained.

This has included the installation of surveillance camera systems on production lines which constantly monitor product quality in real time.

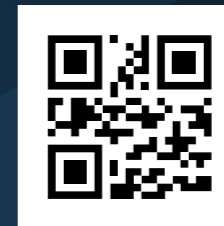
METYX has gained a variety of independent accreditations and certification needed to serve global OEMs and industry suppliers in demanding markets such as: marine, automotive and wind energy.



## Responsive Logistics Service

METYX has invested in extensive warehousing and logistics facilities both at the Manisa factory in Turkey, which handles local and export orders, and at the factory at Kaposvár in Hungary which mainly supplies EU customers. METYX has strategic supply chain partnership agreements with key marine customers to ensure that a highly responsive, reliable delivery and logistics service is provided.

The Manisa factory, with its expanded warehousing and distribution facilities, supplies customers nationally across Turkey. Export customers are also well served from the port close to the factory at Izmir and from nearby Istanbul airport for shipments needing a fast airfreight delivery service.



"Everybody in METYX shares a strong passion for the business. We constantly look for innovative, added value solutions. Our commitment and total dedication is what METYX customers' feel in the quality of the products and services we consistently provide."

- Bahattin Şendoğan, METYX Sales Group Manager

[www.metyx.com](http://www.metyx.com)

#### Headquarters

Sehit Ilknur Keles Sk.,  
H. Bagdatlioglu Is Mrkz.,  
No: 7/5 Kozyatagi, Kadikoy,  
Istanbul / TURKEY

**Phone:** +90 216 394 32 60

**Fax:** +90 216 394 32 58

#### Istanbul Factory

Orhanlı Mah.  
Gulsum Sok.  
No:14 34956 Tuzla  
Istanbul / TURKEY

**Phone:** +90 216 394 32 60

**Fax:** +90 216 394 32 58

#### Manisa Factory

MOSB1. Kisiv m  
Malazgirt Cad.  
No:2 45030  
Manisa / TURKEY

**Phone:** +90 236 302 04 04

**Fax:** +90 236 302 04 05

#### Hungary Factory

7400 Kaposvár,  
Dombóvári  
út 3657/93. hrsz.  
HUNGARY

**Phone:** +36 82 510 126

**Fax:** +36 25 510 127

**METYX**<sup>®</sup>  
c o m p o s i t e s

info@metyx.com - www.metyx.com

