

## ABOUT METYX

**METYX** is a leading global supplier of multiaxial, RTM, woven, vacuum bagging, surface veils reinforcements, plug and mold production, design, lab and engineering, core and fabric kitting services as well as well a local distributor of world-renowned resins, adhesives, chemicals, core materials, equipment, and consumables.

### Over 20 years' experience in the composites...

METYX is an ideal solution partner from small to large-scale composites applications for wind energy, marine, automotive, infrastructure, industrial, leisure, and many other industries demanding high standards, know-how and creativity.

### For all your needs in composites METYX is here for you!

An impressive portfolio of products and services enables METYX to offer the most complete composite solution on the market. Consult with METYX engineers for your specific needs to speed up your production, reduce the weight, increase the efficiency and/or the performance, and eventually decrease your production costs.

## METYX Plug & Mold Production

METYX is producing plug & mold production in its Manisa, Turkey and Hungary sites. These facilities are set up in response to customer and market needs. It aims to offer design engineering and manufacturing support to customers looking for affordable, high quality tooling solutions.

### The METYX tooling team has particular expertise in large scale tooling projects for:

- Wind blade mold components
- Multiple component architectural projects
- Hull and deck plugs and molds for boatbuilding
- Direct negative mold for limited volume parts
- Complex design tooling for automotive & transportation

## Tooling Engineering Services & Support

METYX offers engineering support, reverse engineering, rapid prototyping and tooling consultancy using 'state-of-the-art' design and production software, to customers in all industrial market sectors.

## Master Plug (Pattern) Production

Standard master plugs are typically manufactured using a tooling board or foam-based glass reinforced laminate base, onto which and epoxy or polyester paste is applied. Once set, the paste is then precision CNC milled to create the final surface before finishing. The last step is the application of a primer and top coat, which is finely sanded and polished to a high gloss surface finish.

### Master Plug Making Materials:

- Tooling board
- PU and Epoxy foam
- Polyester and Epoxy paste
- Primer and Top coat

### Master Plug Features:

- Shape stability, with 5-axis CNC milled accuracy and finish
- Large plug production capabilities - up to 10m x 6m x 4,5 m
- High gloss polished surface finish
- Modular production of single or multi sectioned plugs
- Double gel coating and post curing to order

"Our vision has always been to deliver a range of high quality products and services which give our customers a competitive advantage. We are totally committed to meeting the individual needs of our customers with tailor made solutions that add real value."

Uğur Üstünel,  
METYX CEO

## Water Heated Epoxy Mould for Wind Blade Component

In response to wind sector customer inquiries, METYX set up a technical project team to develop new capabilities to manufacture and supply heated tooling. The project was a great success, following prototypes and customer trials, and heated epoxy tools are now being manufactured by Tooling Business Unit at the Manisa factory in Turkey.

## Precision METYX Plugs for Damen Water Bus Modular Parts

METYX supplied more than 20 precision CNC machined plugs (total area about 200 sqm) to Damen Shipyards Antalya for the key modular tooling needed for the various modular FRP hull and superstructure composite parts needed to produce its range of catamaran design Water Bus vessels.

"The industry needed a reliable tooling provider, technically able to handle customers' challenges – rapidly and effectively. This approach triggered our investment decision. We now deliver cost efficient complete tooling solutions, enabling our customers to stay focused on growing their core business"

Bahattin Sendoğan,  
METYX EU Sales Director



## FRP Mold Tool Production

FRP molds with the required mechanical properties needed for molding finished composite components are produced from the high quality, surface defect

free master plugs. Large scale single and multi-split FRP molds are produced for: hand lay, spray up, RTM, and infusion processes.

## Direct Negative Molds

**Tooling Centre** also produces large-scale molds using a direct molding technique, which is a very cost effective solution for producing prototypes and for one

off or limited run components, especially for projects with a limited budget or tight timescale needed a fast tooling solution.

### FRP Mold Tool Making Materials:

- Polyester rapid tooling resins
- Epoxy tooling resins
- Vinyl ester and epoxy tooling gelcoats
- Custom reinforcement solutions manufactured by METYX Composites

### FRP Mold Tool Features:

- Only quality tooling materials used for high durability
- Mold shell supports as needed for tool life.
- Excellent part production repeatability
- Water based heating system
- Laser scanning
- QC documentation
- Mold commissioning

The METYX Tooling Centre provides customers with a cost effective complete composite tooling solution from **concept to delivery**.



**Engine Covers for Automotive Industry**  
METYX produced engine covers for its automotive customer Onur Fiber.



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# TOOLING SERVICES