



METYX: The All-In-One Provider for Composite Materials

METYX CORPORATE PRESENTATION

FROM DESIGN TO SERIAL PRODUCTION



- A complete composite package solution company
- More than 800 employees worldwide
- Total manufacturing space of 430.000 sqm with covered space of 77.000 sqm.



MANISA 1 - TURKEY



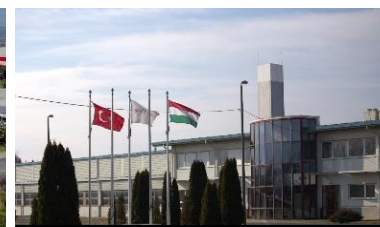
ISTANBUL - TÜRKİYE



MANISA 2 - TÜRKİYE



MANISA 3 - TÜRKİYE



KAPOSVAR - MACARİSTAN

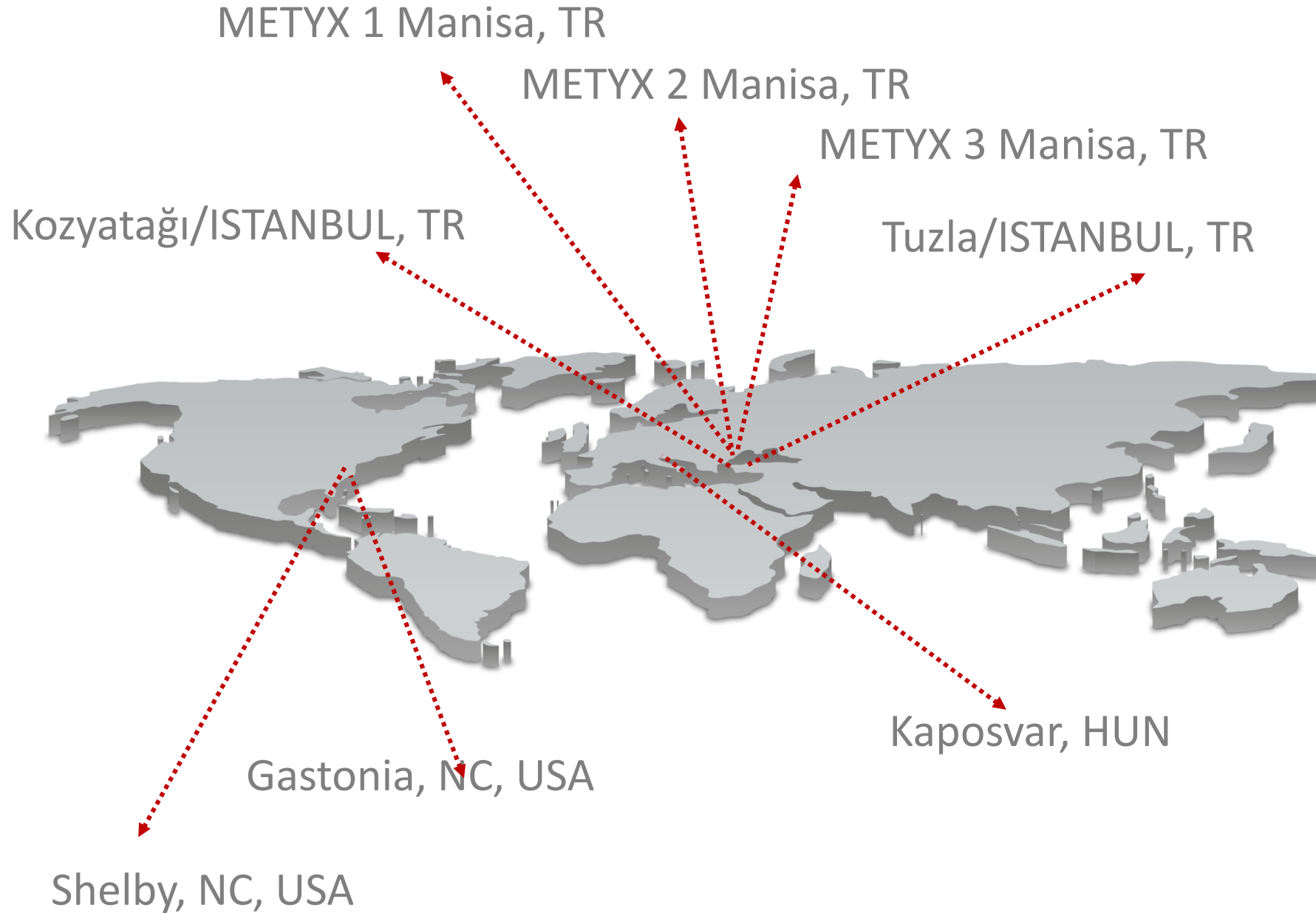


GASTONIA, NC - ABD



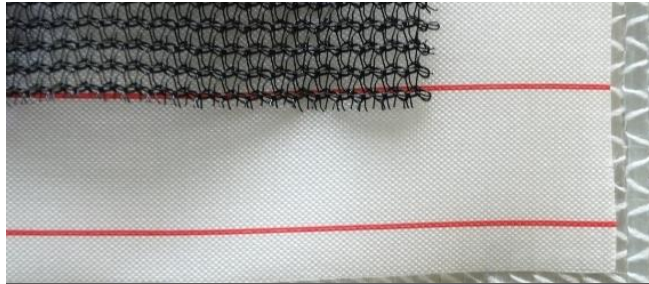
SHELBY, NC - ABD

LOCATIONS





Production of high performance reinforcements



Production of process consumables



Production of core material, fabric and consumable kits



Production of molds and plugs



Design engineering



Pultrusion



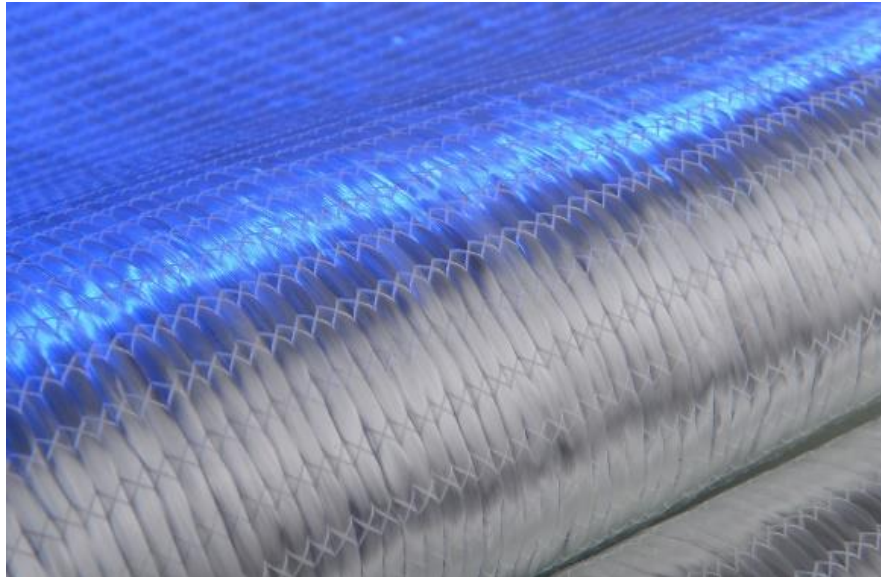
Production of composite components



Thermoplastic



Testing



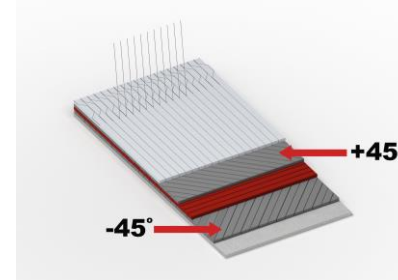
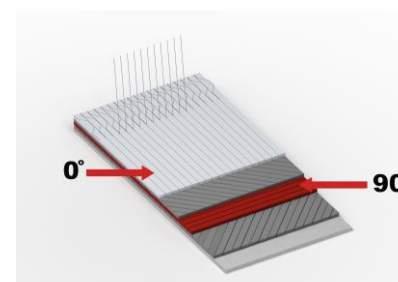
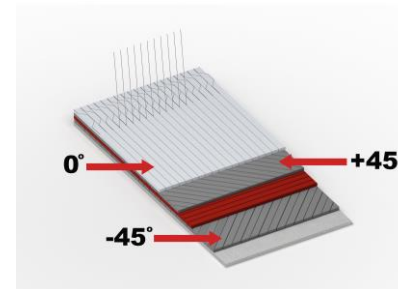
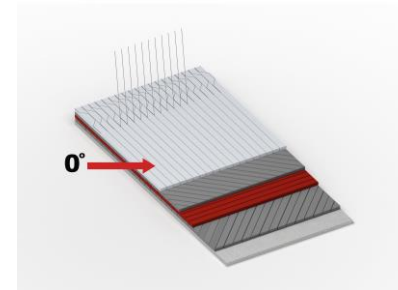
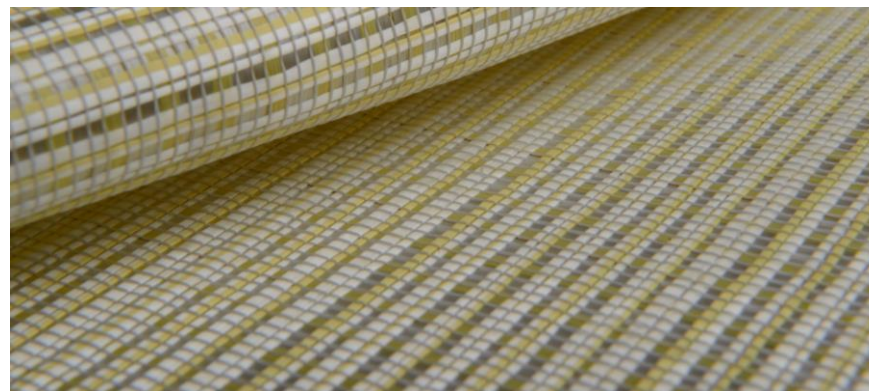
Multiaxial

Consist of one or more layers of unidirectional fibers.

Product Range:

- Unidirectional
- Biaxial
- Triaxial
- Quadraxial
- Combi Mat

METYX has an ability to produce in E-glass, Aramid, Carbon, and Hybrid forms.





RTM

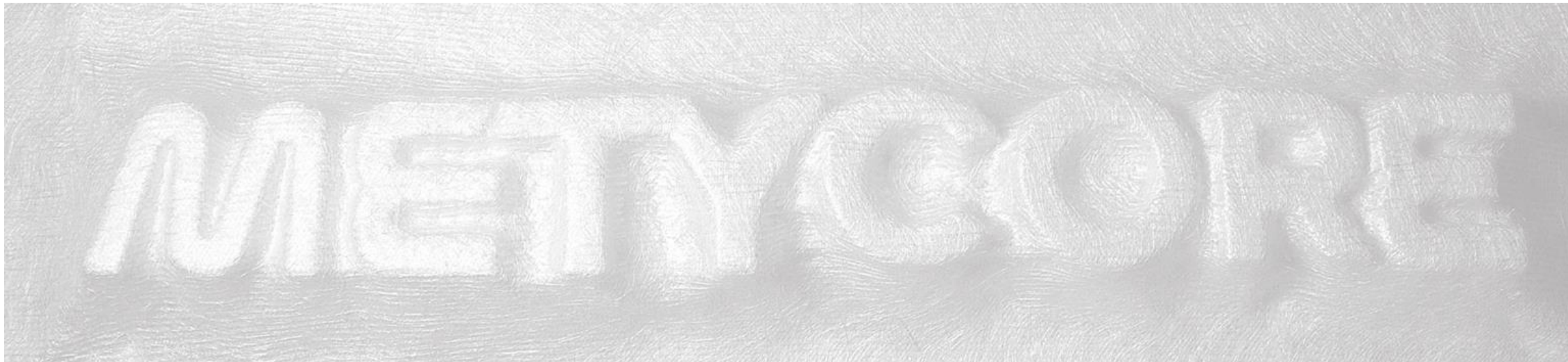
METYX produces the World's leading multi-layer RTM reinforcement –METYCORE and METYCOREMAX- with an integrated flow medium.

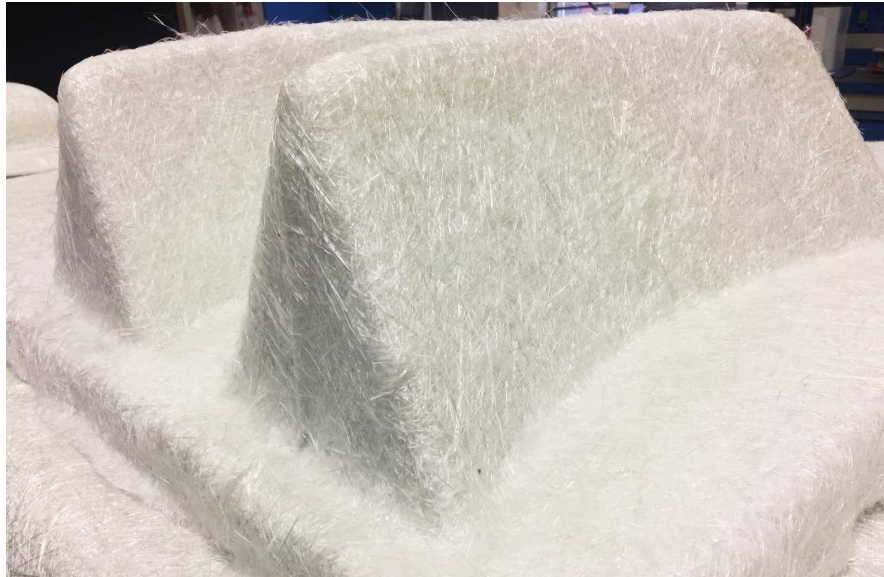
Product group is heavily used in RTM and L-RTM in addition to vacuum infusion processes. FS (Fire Shield) option is also available

Optimum choice for closed processes such as RTM, RTM light, infusion etc.

METYCORE™

METYCORE MAX™





METYCORE™ ADVANTAGES

It can be used for all the closed mold process needs and helps improve productivity and quality.

EXCELLENT RESIN FLOW - COST SAVING SOLUTION

High permeability of the core allows the resin to flow throughout the unit, ensures the rapid flow and consequently less resin less labor.

HIGH DRAPABILITY - EASY TO DRAP

METYCORE presents very good drapability, complex mould shapes can be easily draped while keeping perfect flow and surface finish properties.

WIDE PRODUCT RANGE

Custom product weights and biaxial skin options are available for METYCORE.

CUSTOM WIDTHS - REDUCT WASTE

Custom roll widths are available for reduction of waste.



TYPE APPROVAL CERTIFICATE

Certificate No:
TAK00000J
Revision No:
1

This is to certify:

That the Glass Fibre Products

with type designation(s)
Metycore RTM Fabrics,
MetycoreMax RTM Fabrics

Issued to

Telateks Tekstil Urunleri Sanayi Ve Ticaret A.S.
(METYX Composites)
Tuzla, Istanbul, Türkiye

is found to comply with
DNV rules for classification – High speed and light craft
DNV standard DNV-ST-0342 – Craft



Fabric Kitting

The peel ply, flow mesh and breather fabric products used as consumables in the infusion process are turned into kits.

METYX offers the industry a way to optimize their manufacturing processes, reduce costs and improve the overall quality and consistency of their products.



Core Kitting

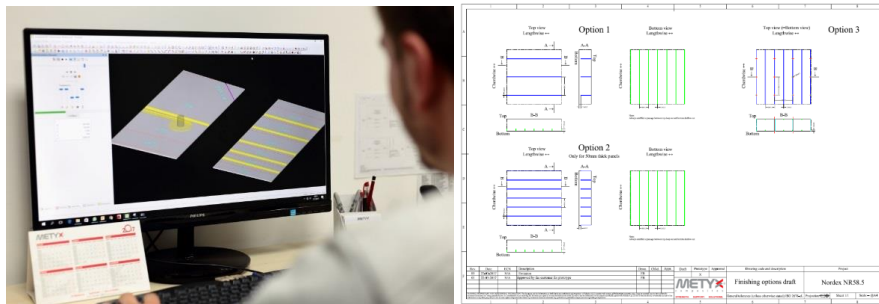
PET, PVC & Balsa kitting and various finishing options are available.

Reduce,

- Raw material waste
- Resin consumption
- Flow media usage
- Lay up labor hours
- Lay up cycle time

Increase,

- Core kit fitting on high curvature molds
- Repeatability and accuracy of panel geometry



Computer Guided Framework

FORMWORK

Add-ons for easy and repetitive unique shaping of panel sides



Magnetic Shuttering

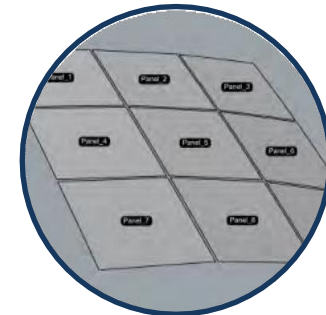


Magnetic Silicone Sides



GUIDANCE

Capabilities supporting easy planning and accurate positioning



Panel Molding Planning

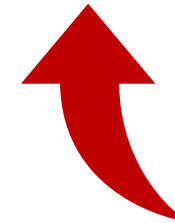
Laser Guided Positioning



Thermoformed vs Standard Core Results



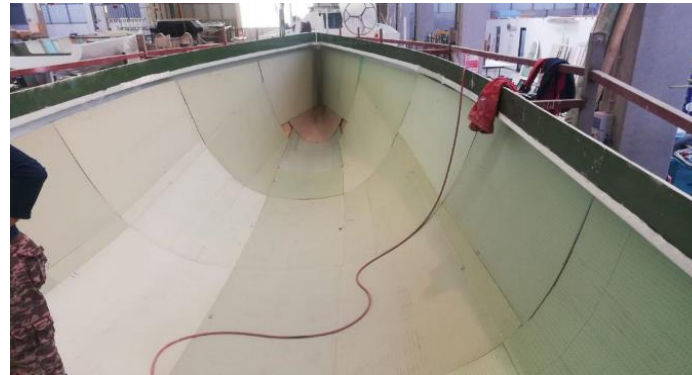
- Thermoformed core reduced resin consumption by **35%***
- Part weight savings with thermoformed core **15%***



* Data taken from a wind energy OEM core kit trial METYX conducted

Case Study: M.A.T. Sailboats

- 12m (39.3') Sailboat
 - VE resin system
 - Infusion process
- 90+ % of all cored panels were thermoformed
- Layup time was reduced by over 50% for the 1st article despite 'fitting' activities
- Boat Builder infused seven (7) hulls using 'standard' contourable core materials
 - Hulls used a total of 270 kg (595 lbs) resin with less than 1% variance
- Using adaptive tooling to thermoform the hull core sheets, a weight savings of 18% was realized.





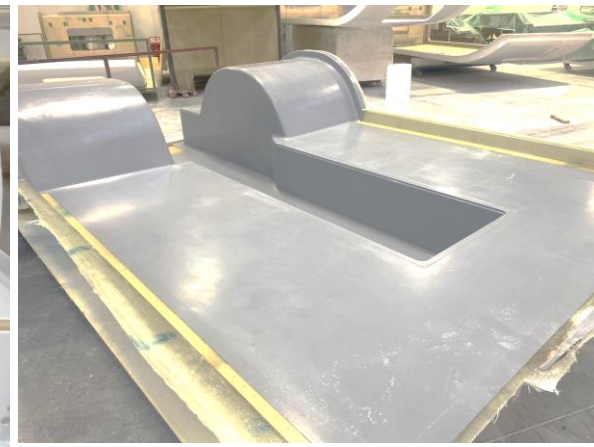
Plug & Mold Production

METYX has extensive knowledge and track record of large/medium/small scale composite tooling manufacture for marine & other industries. The service starts from design.



Automotive Projects

- Bus rear covers
- Bus wheel covers
- Bus rear benches
- Bus front floors
- Bus raised floors
- Bus bulk head
- Fender molds
- Engine covers



Camper Manufacture



★ ACE Innovation Awards 2023 Finalist

Next-Gen Electric Vehicle

METYX provided a complete, end-to-end solution, handling everything from material selection to component procurement, production, and painting. 2.5 X 1.4 m composite monocoque unibody, 50 kg of weight savings, e-glass sandwich construction



Next-Gen Electric Vehicle

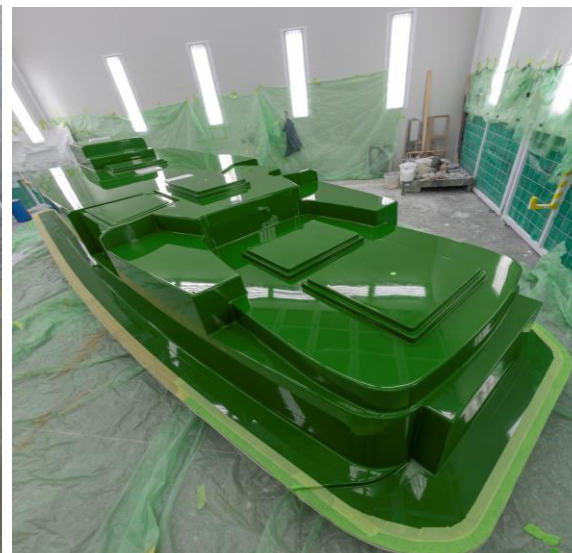
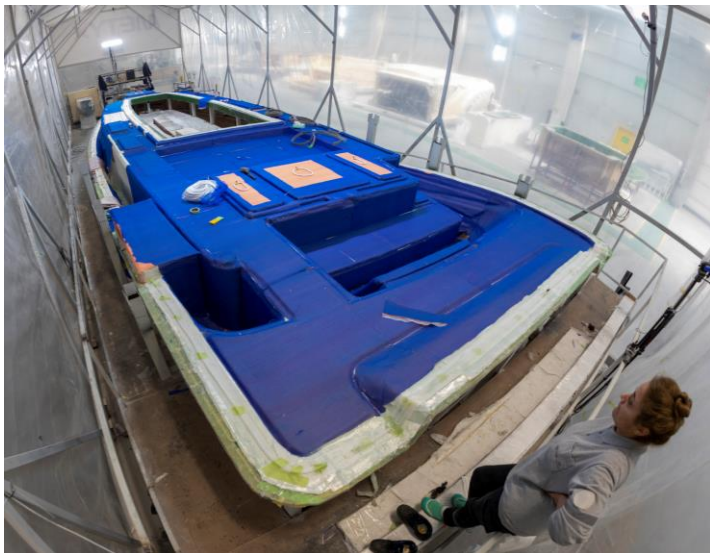


Please click [here](#) for the video



Please click [here](#) for the video

Marine Projects



CONCEPT BOATS

Marine Projects



Please click [here](#) for the video



Architectural/Construction Projects



ACIBADEM HOSPITAL IZMIR



Please click [here](#) to see the video

Architectural/Construction Projects



**EMAAR SQUARE
SHOPPING CENTER ISTANBUL**

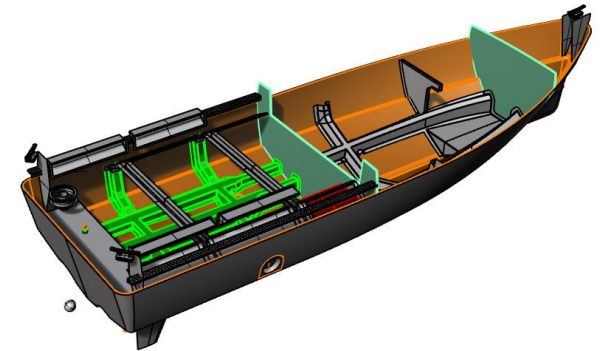
Composite Structural Design Services

Partnership: We prioritize strong client partnerships, enabling us to tailor engineering specifications that meet unique construction methods and budget constraints.

Expertise in Composites: Our team's extensive experience in composites and boatbuilding ensures the development of practical, cost-effective structural solutions.

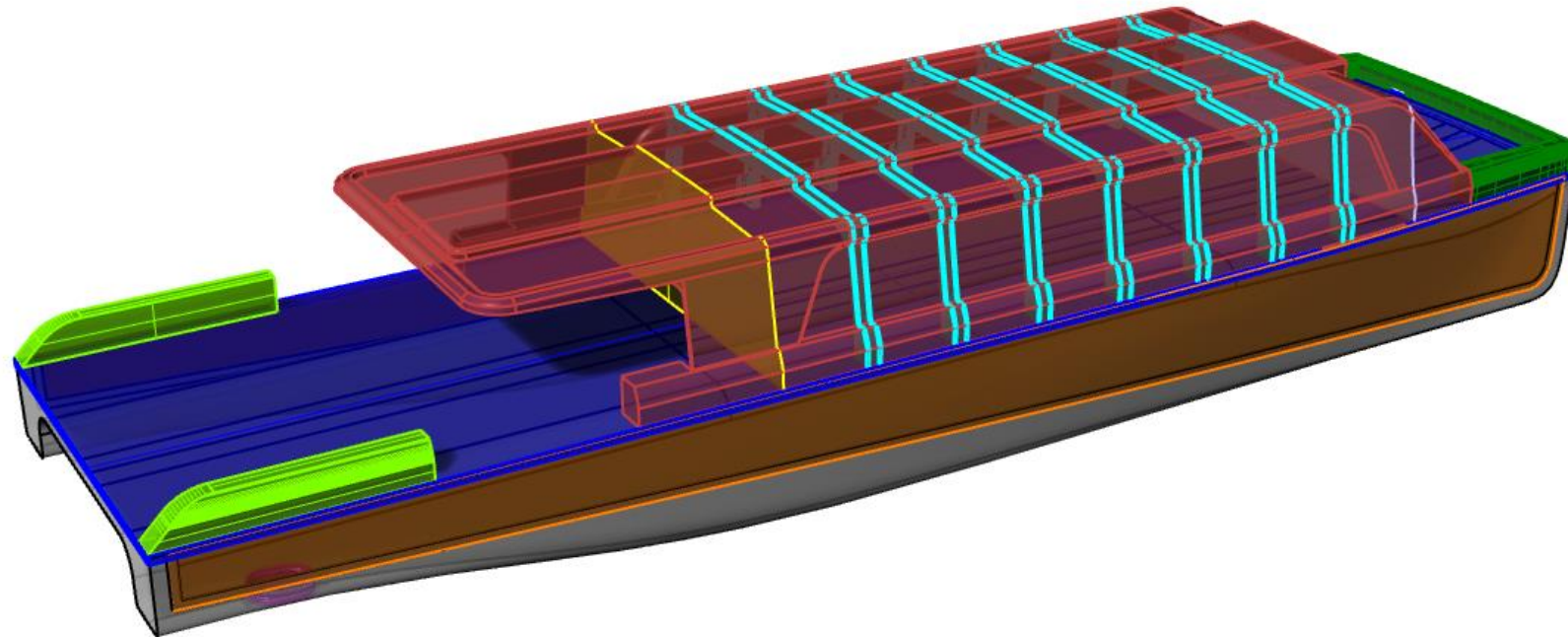
Compliance with Standards: We are well-versed in major classification standards (ISO, ABS, GL, BV, Lloyds) and manage communication throughout the approval process.

Versatile Engineering Solutions: Whether for new builds or modifications, METYX delivers the right engineering solutions tailored to specific project needs.



3D Modeling

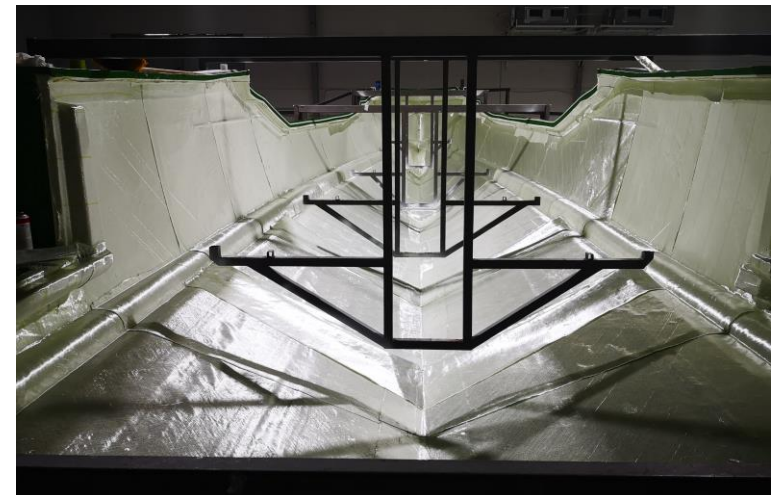
- We develop comprehensive 3D models of structures that serve as the foundational geometry for accurate Finite Element Analysis.
- We use Solidworks and Rhino for specific applications to ensure precise and effective modeling.



Comprehensive Composite Expertise

Our team's expertise in diverse materials and techniques ensures the highest standards in composite construction.

- *RTM (Resin Transfer Molding)*
- *Vacuum bagging techniques*
- *Wet epoxy lay-up*
- *Vacuum infusion/injection*
- *Hand or spray wet lay-up of PE (Polyester) and VE (Vinyl Ester) laminates*
- *Hand or spray application of PE or VE gelcoats*
- *Hand sanding and polishing of plugs and molds*



Component & Nacelle Manufacture



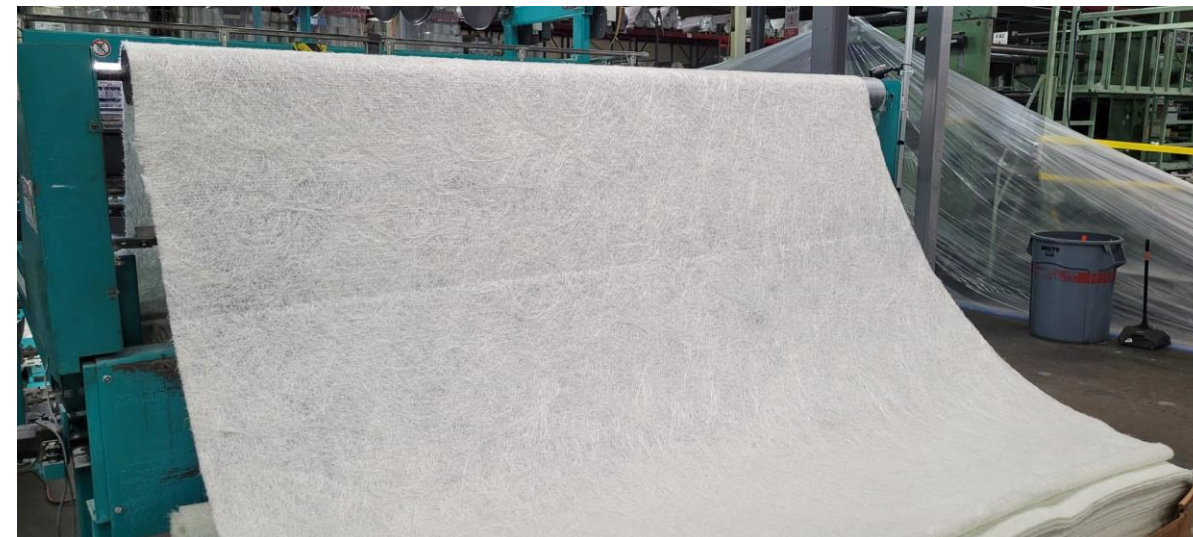
- METYX is producing components for Wind Energy OEM's using both epoxy and polyester systems.
- Also a nacelle production in Hungary started by 2023 with a leading wind energy OEM



MATVANTAGE **PLUS** MATVANTAGE **PV**

MATVANTAGE PLUS & PV, METYX continuous strand mat is particularly well suited for pultrusion applications and is compatible with general purpose and corrosion-resistant polyester resins, as well as vinyl ester and epoxy resin systems.

Continuous strand mat contains no soluble, cured binders that make other mats stiff, inconsistent or off-white in color.



Technical Textile Coating Capabilities

METYBOND is our self-adhesive fabric product range, specifically designed for vertical molding applications. This innovative solution eliminates the need for adhesive sprays, making fabric handling more efficient, cleaner, and safer.

With METYBOND, glass and carbon NCF can be positioned easily and precisely, improving process efficiency while reducing labor time and material waste.

Now available to streamline composite manufacturing processes, METYBOND helps fabricators achieve better quality and consistency in their applications.



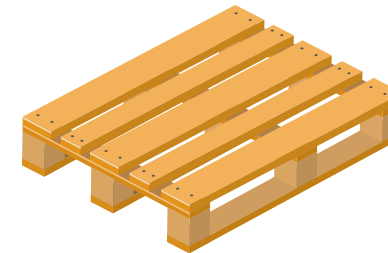
Sustainable and Economical Solution: Composite Pallet **METYPAL**

ENHANCING LOGISTIC WITH SUSTAINABLE APPROACHES



Sustainable and Economical Solution: METYPAL

Supporting the sustainability goals of our stakeholders while providing cost savings in the supply chain. We offer solutions tailored to your needs.



METYPAL		WOODEN PALLET
17 kg	WEIGHT	26 – 32 kg
LOW	WASTE GENERATION	HIGH
>200 cycles	LIFESPAN	max 20 cycles
unlimited	REPAIRABLE	max 5 times
NO	MOLD REQUIREMENT	NO
LESS	MINIMUM ORDER	LESS
YES	DESIGN FLEXIBILITY	YES

NOTICE:
For comparison, a certified wooden pallet sample complying with Euro pallet standards was selected.

Advantages of METYPAL



The longer lifespan of METYPAL means it needs to be replaced less frequently and reducing waste making it more environmentally friendly option as low carbon footprint.

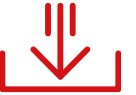


SUSTAINABILITY



TECHNOLOGY INTEGRATION

METYPAL comes equipped with IoT (Internet of Things) technology, allowing for real-time monitoring of goods as tracking temperature, humidity, location of the pallet, etc.



LOAD CAPACITY

METYPAL's resilience against heavy loads makes it suitable for every operation.



LIGHTWEIGHT

METYPAL is designed from advanced materials to lower transportation costs, easier manual handling and safer workplace.



HYGIENE

METYPAL is immune to pests, rust, and moisture, and can easily be cleaned, which is crucial for industries like food and pharmaceuticals.

DURABILITY AND LONGEVITY

METYPAL is highly durable to environmental factors such as impact, temperature changes, and chemical exposure that ensuring high resistance on even long usage.



Sustainable Composites for a Stronger Future

100% recyclable, lower CO₂ footprint than metals & thermosets

METYX proudly introduces its thermoplastic product family:

- **METY**TAP**E** UD tape
- **METY**PL**Y** Sheet Production
- **METY**PAN Sandwich Panel

Developed for sustainability, efficiency, and versatility, these materials combine recyclability, superior mechanical performance, and process-ready formats.



STRENGTH.

Design
Engineering
Raw Materials
Reinforcements
Component
Kitting
Tooling
Lab Services
Consulting



With our qualified and
experienced team



SUPPORT.

YOUR IDEA



Our Engineering
Use of Right Materials
Surveilled Production
Process and Quality
Control
Prototype
Series Production
Warehousing & Logistics

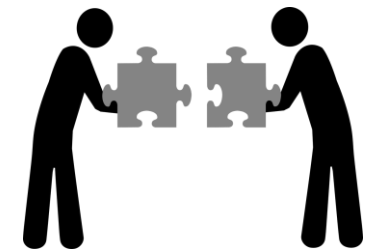


YOUR COMPONENT



SOLUTIONS.

- TAILOR MADE PRODUCTS
- SERVICES ON DEMAND
- ON-TIME DELIVERY



A Quick Look Inside Web Format

METYCALC is a program for the design of laminated composite constructions...

...providing a service to our customers which enables estimation of the physical, mechanical, cost and weight of fiber/matrix composite constructions

PROJECTS

Current Laminate: asa Unit: SI Resin Product: Vinyl Ester Price (\$/lb): 3.10 \$

LAYERS

#	PRODUCT NAME/ID	DESCRIPTION	TOP UP DOWN MIRROR	ANGLE DEG	FIBER FRACTION (REINFORCEMENT) %	BASIS	THICKNESS MM	REINFORCEMENT WT G/M ²	RESIN WT KG/M ²	TOTAL WT KG/M ²	REINFORCEMENT PRICE PRICE UNITS	REINFORCEMENT COST \$/M ²	RESIN COST \$/M ²	TOTAL COST \$/M ²	
1	Gel Coat LMH-2900	Gel coat	up	0	100.0%	Volume	0.399	550.3	0.000	0.550	\$2.00	\$/kg	\$1.10	\$0.00	\$1.10
2	BA-E 800	+45/+45 E-glass	up	0	52.4%	Volume	0.592	800.0	0.321	1.121	\$1.65	\$/kg	\$1.32	\$2.19	\$3.51
3	BA-E 800	+45/+45 E-glass	up	0	52.4%	Volume	0.592	800.0	0.321	1.121	\$1.65	\$/kg	\$1.32	\$2.19	\$3.51
4	BA-E 1808	+45/-45/CSM E-glass	up	0	48.5%	Volume	0.711	889.0	0.418	1.307	\$1.65	\$/kg	\$1.47	\$2.85	\$4.32
5	BA-E 800	+45/+45 E-glass	up	0	52.4%	Volume	0.592	800.0	0.321	1.121	\$1.65	\$/kg	\$1.32	\$2.19	\$3.51
TOTALS								2.89	3.829	1.361	5.220		\$4.93	\$4.44	\$15.97

Definition of Terms

Parameter	Units	1	2	3
Laminate Number		00001	000	001
Laminate Name		Vinyl Ester	Vinyl Ester	Vinyl Ester
Molding resin		3.1	3.1	3.1
Resin price	\$/lb	3.10	3.10	3.10
Resin price units				
Thickness	mm	14.210	2.885	0.000
Reinforcement wt.	g/m ²	2498.0	3639.0	0.0
Resin wt.	kg/m ²	1.28	1.38	0.00

Weight Database for Laminate ID: asa

PROJECTS

Current Laminate: asa Unit: SI Resin Product: Vinyl Ester Price (\$/lb): 3.10 \$

LAYERS

#	PRODUCT NAME/ID	DESCRIPTION	TOP UP DOWN MIRROR	ANGLE DEG	FIBER FRACTION (REINFORCEMENT) %	BASIS	THICKNESS MM	REINFORCEMENT WT G/M ²	RESIN WT KG/M ²	TOTAL WT KG/M ²	REINFORCEMENT PRICE PRICE UNITS	REINFORCEMENT COST \$/M ²	RESIN COST \$/M ²	TOTAL COST \$/M ²	
1	Gel Coat LMH-2900	Gel coat	up	0	100.0%	Volume	0.399	550.3	0.000	0.550	\$2.00	\$/kg	\$1.10	\$0.00	\$1.10
2	Alex C70.250	PVC foam, 250 kg/m ³	up	0	90.3%	Weight	12.700	3,175.0	0.342	3.517	\$3.00	\$/m ³	\$0.04	\$2.34	\$2.38
3	Alex C70.250	PVC foam, 250 kg/m ³	up	0	90.3%	Weight	12.700	3,175.0	0.342	3.517	\$3.00	\$/m ³	\$0.04	\$2.34	\$2.38
4	BA-E 800	+45/+45 E-glass	up	0	52.4%	Volume	0.592	800.0	0.321	1.121	\$1.65	\$/kg	\$1.32	\$2.19	\$3.51
5	BA-E 800	+45/+45 E-glass	up	0	52.4%	Volume	0.592	800.0	0.321	1.121	\$1.65	\$/kg	\$1.32	\$2.19	\$3.51
6	BA-E 1808	+45/-45/CSM E-glass	up	0	48.5%	Volume	0.711	889.0	0.418	1.307	\$1.65	\$/kg	\$1.47	\$2.85	\$4.32

SHEAR CHECK

Current Laminate: Glass Baxial 0/90 Unit: SI

LAYERS

BA-E 1700 +45/-45 E-glass	BA-E 1808 +45/-45/CSM E-glass	BA-E 2408 +45/-45/CSM E-glass
BA-E 800 +45/+45 E-glass	BD-C-E 1208 0/90/CSM E-glass	BD-C-E 1208 Mod 0/90/CSM E-glass
BD-C-E 1810 0/90/CSM E-glass	BD-C-E 1815 0/90/CSM E-glass	BD-C-E 2408 0/90/CSM E-glass
BD-C-E 2410 0/90/CSM E-glass	BD-C-E 2546 0/90/CSM E-glass	BD-C-E 2974 0/90/CSM E-glass
BD-C-E 3056 0/90/CSM E-glass	BD-C-E 3610 0/90/CSM E-glass	BD-C-E 4018 0/90/CSM E-glass
BD-C-E 4577 0/90/CSM E-glass	BD-C-E 5731 0/90/CSM E-glass	BD-C-E 2408 0/90/CSM E-glass
BD-C-E 2415 0/90/CSM E-glass	BD-C-E 3615 0/90/CSM E-glass	BD-E 830 0/90 E-glass
BD-E 1800 0/90 E-glass	BD-E 2400 0/90 E-glass	BD-E 3600 0/90 E-glass
BD-E 5450 0/90 E-glass	BD-E 800 0/90 E-glass	BE1708 CSM/+45/45 E-glass

Definition of Terms

Parameter	Units	C 0009	C 0012	C 0015
Laminate Number		CSM 0.9 oz/ft ²	CSM 1.2 oz/ft ²	CSM 1.5 oz/ft ²
Laminate Name				
Molding resin				
Resin price				



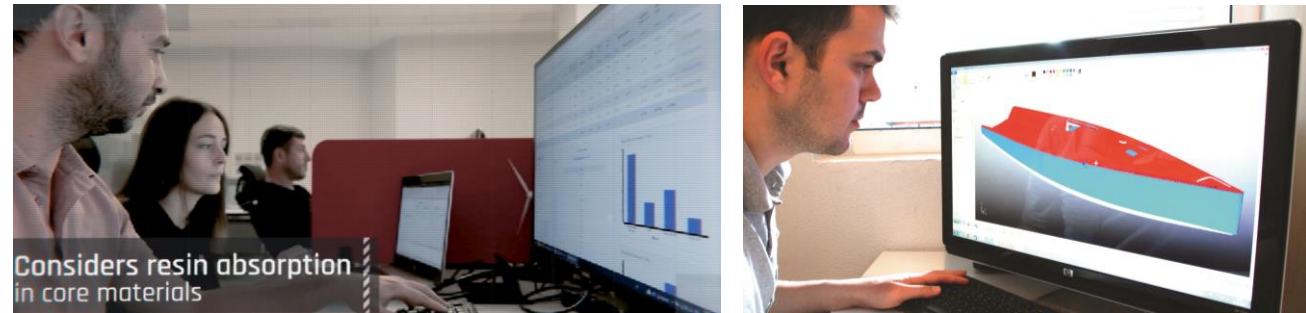
Testing

It is about producing laminates with any resin (polyester, vinylester and epoxy) by several production processes, including hand layup, infusion, RTM, and hot press.

Mechanical tests are operated to laminates in accordance with international standards.

Engineering

It is offered a structural engineering support to boat builders, construction companies, and component manufacturers.



Consultancy

Solutions for composites industry challenges and deliverables to ensure customers' goals are met. It includes of services of switching to vacuum infusion technology assistance and design services for infusion consumables, onsite technical support, specialty reinforcements and resins.

TURKEY FACTORIES



HUNGARY FACTORY



USA FACTORY



TYPE OF APPROVALS FOR MARINE



Some of METYX Marine Projects



AZUREE



OYSTER



FERRETTI



DAMEN



SIRENA



AZIMUT



SAN LORENZO

Some of USA Marine Projects



EVERGLADES BOATS

Everglades Boats manufactures luxury family fishing boats. It was founded in 1999. METYX USA provides fiberglass fabrics.



DOUGLAS MARINE – 42 ft

METYX USA provided products for manufacturing high performance boats to Douglas Marine Corporation in USA. Douglas Marine was the first to perfect the use of vacuum bagging along with honeycomb materials.



FREEMAN BOATWORKS

Freeman Boatworks is an innovator in the performance fishing catamaran arena. METYX USA provides fiberglass fabrics.



FLATBOATS – 17 ft

METYX USA provided composite materials for the manufacturing of Flat Boats by Offshore Production, which is located in Hollywood, CA.

Some of METYX Wind Energy Projects



ENERCON



VESTAS



GE



NORDEX



LM WIND POWER



SIEMENS GAMESA



TPI COMPOSITES

Some of METYX Automotive Projects



ACS COMPOSITES

ALEXANDER DENNIS

CF MAIER



EBUSCO



AMBU BOX KFT



ALPIN KIMYA



NABI



CAIO

Some of METYX Transportation Projects



BOMBARDIER



ALSTOM



CAF



QUEENSLAND RAIL



SIEMENS



MARMARAY



HYUNDAI ROTEM



STADLER

Some of METYX Leisure & Outdoor Projects



POLIN WATERPARKS

DORTEK



OPTITUR

STUDIOLNGR

BP

Some of METYX Architectural Projects



C4C - DRAGOS



ADVANCED FIBERGLASS

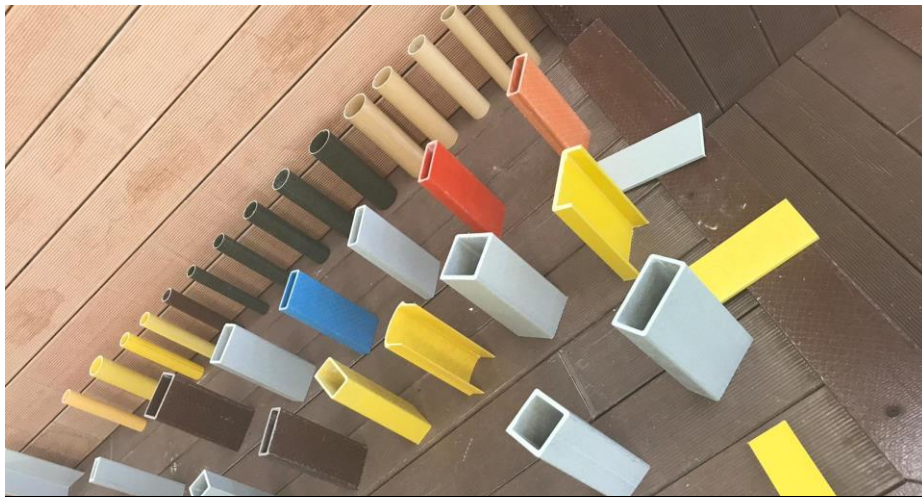


FIBREX



KREYSLER & ASSOCIATES

Some of METYX Industrial Projects



RENCO FIBER



PULTECH



ONUR FIBER



PEARSON PILING



EJ



INFRA COMPOSITES

The Total Solution Partner Delivering Complete
Composite Material Solutions



www.metyx.com - info@metyx.com