



commitment to excellence...



contents





Erol Ustunel President, Telateks A.S.



It has been an extremely dynamic year for our composites division, METYX. We experienced a highly significant growth in our market share, followed by capacity expansion through our new factory in Istanbul.

Along with capacity expansion, we enjoyed techological advancements at METYX. Several new products were introduced to the market which enabled our customers to better compete in the composites industry.

In 2005, the main industries we have been active at, were marine and automotive. However a significant amount of R&D effort was put into developing composites that would be used in Seismic Retrofitting of existing structures such as highways, schools, government buildings in our homeland, Turkey.

We have participated to a relatively high number of trade shows to promote our new and existing product lines; feedback from various regions and countries were very much encouraging. We plan to continue promoting METYX product groups in 2006 and establish more disributorships around the globe.

Since the establishment of our composites division in 2004, we have been producing and marketing high performance reinforcements; but in 2005, we have taken a further step and partnered with several European and American companies for consulting and materials distribution for the composites industry. We think that through these partnerships we have provided more competitive advantages to our customers.

I also have to admit that our success in 2005 was mostly achieved through the dedication and hardwork of our staff, even our new recruits have shown great ability to adopt and learn rapidly, followed by suprising contribution to our success.

We foresee more growth in automotive and marine in 2006 and we are excited to be part of these rapidly growing industries.

TELATEKS A.S.
Cesme Caddesi
Palamut Sokak No: 1
34956 Orhanli Beldesi
Tuzla / ISTANBUL / TURKIYE
Phone: +90 216 394 32 60
Fax: +90 216 394 32 58
metyx@metyx.com
www.metvx.com



Metyx on the move

In 2005, METYX expanded production through its new plant in Istanbul. Construction continued in heavy winter conditions and was completed in summer 2005.











The new facility is 4000m² and will have a composites laboratory to service our customer base, it also includes a seminar room for industry specific training.



The New Coating Line



Turkish Marine Community at the Opening

The new plant is equipped with a state-of-the-art coating line for technical textiles. This giant 45 meter long machine is capable of knife coating, lamination, powder dot and paste dot coating.

Opening of the new plant took place on August 22nd 2005.

Leading marine customers of METYX were invited to the opening.

METYX also hosted three seminars at the day of the opening for the invitees; the seminars were given by Merfyn Owen of Owen Clarke Design and Erdal Kilic of Numarine.



New Metyx Production Line



Merfyn Owen Seminar





METYCORE-RTM range reinforcements enabled customers to achieve ease of layup and superior resin flow in RTM.

"The product was delivered in custom widths which helped our customers reduce their waste in the production line. We have also had great success with the drapeability of the METYCORE product line; composites manufacturers are now able to work on very complex molds without creating resin rich points."

GEO-MET

Another highlight in new products was the introduction of GEOMET. Product is designed to reinforce highways against heavy loads and rough weather conditions.





Our Partne

In order to better position ourselves as a solution partner to our customers, we have put a lot effort this year into developing fruitful partnerships with several European and American companies who are the leaders in their fields,



METYX at Istanbul Boat Show exhibiting various materials for composite boat building

These partnerships have been in materials distribution as well as consulting services for the composites industry.









Infusion Demos at Several Sites...

Although the diversity of the product groups we have started working with increased and this diversity brought an additional workload to our technical staff, it wasn't too long before we started realizing the value of providing our customers more products and services that enabled them to gain competitive advantage in the industry.

The companies we have partnered with in 2005 for materials distribution were,



Aerovac for Vacuum Infusion Materials and technology consulting (UK)



AXEL Mold Releases and Process Aid Additives (USA)



Spheretex Core Materials and Specialty Reinforcements (Germany)



Scott Bader Gel Coats, Resins, and Structural Adhesives (UK and UAE)



Resoltech Epoxy Systems (France)



Tubus Waben PP Honeycomb Materials (Germany)



Armacell PET Foams (Belgium)





And the companies we partnered with for consulting services were:

Owen Clarke Design (UK)

The firm has long been one of the top performance sail boat design companies.

Owen Clarke Design believes in driving innovative thinking and pushing technological frontiers to achieve design excellence in cruising and racing.

OCD designed and managed projects such as, Ellen MacArthur's Open 60 Kingfisher.

One of the lead designers and partners of the firm, Merfyn Owen was at the METYX new plant opening and gave two seminars to leading boat builders in Turkey. The seminars aimed to discuss pitfalls in project management and the use of high performance materials in boat building.

High Modulus (UK)

Firm specialized in composite design engineering. Their main activity is to provide consultancy services to high performance boat manufacturers.



Merfyn Owen's Seminar in August 2005 in Metyx Plant



"Mirabella V" Engineered by High Modulus

Firm successfully completed prestigious projects such as Mirabella V.

Several METYX customers enhanced and improved their boat designs through High Modulus' technical expertise in the field of high performance composites.



R&D Highic



Seismic Retrofit

Turkiye is in a very active earthquake zone



Telateks and MAM R&D Team

High Performance METYX Reinforcements will be used for the strengthening of existing structures such as government and school buildings, hospitals, highways etc.

TELATEKS A.S. partnered with the nation's most prestigious research institute - TUBITAK- to develop the know-how for the use of polymer composites in seismic retrofitting.

The project with TUBITAK (The Scientific & Technological Research Council of Turkey) started in 2003 and was completed in 2005.

Mrs. Evren Bayramoglu (PhD.) was the R&D project manager in Materials Institute of MAM (Marmara Research Center), a unit of TUBITAK: "Our joint R&D efforts with METYX targeted the successful development of an FRP system which would provide us with the necessary retrofit for the poor concrete quality we have come across in most rural areas of Turkey." stated Dr. Bayramoglu.

"It is one of the most important projects of Telateks. Turkey is in an earthquake zone and in the past years, we had suffered heavily from earthquakes. We knew our responsibility to develop a system that was efficient but also affordable so that more people could benefit from the advantages of FRP systems used in retrofitting." added Mr. Erol Ustunel, President Telateks A.S.



Aramid Fabric in Application (Copyright - Twaron)





Retrofitted Concrete Samples



Automoti Update



Preparation for infusion training at Umarsa with Jonathan Oldroyd of Aerovac (UK)

UMARSA, established in 1970's, has been producing GRP parts for automotive and marine for almost three decades.









"In order to stay ahead of competition, we have always tried new products and production technologies over the years. We have been one of the first companies in the region to adopt RTM and Vacuum Infusion Technologies in large scale for automotive applications." stated the production engineer of Umarsa, Erkan Okay.

"When Metyx approached us with their innovative and wide selection of specialty reinforcements, we were able to gain flexibility in the design of GRP parts. We not only solved structual problems with METYX but also increased cosmetic apperances on several parts." added Mr. Okay of Umarsa.

Metyx worked with Aerovac of UK and gave a full day training to Umarsan engineers. On the training day, employees had the opportunity to have hands on experience with Vacuum Infusion.

LTG

Adding the ultimate impact strength to rally cars

LTG Composites design and manufacture composite components for a wide variety of end uses. LTG Composites has worked in various fields such as automotive, defense, marine, aerospace and leisure.





One of the rally team reinforced with LTG parts

The company welcomed the demanding needs of World Rally Championship Teams and delivered high performance composites to various racing teams such as Mitsubishi and Fiat.

"METYX aramid reinforcements helped us in offering improved mechanical properties to our customers; high shear strength, high dynamic and shock absorbing properties are some of the product features we obtained through innovative and customized reinforcements supplied by METYX." claimed Levent Gur, the director of LTG Composites.

www.ltg.com.tr



Marine U

NUMARINE

One Shot 102 ft hull infusion

Milestone in infusion by Numarine

102 ft one shot infusion at Numarine

The rising star of the yacht industry, Numarine (Istanbul, Turkey) is well known for the last 3 years for its attention to detail, extensive use of hi-tech materials and outstanding production quality, using vacuum infusion technique with multiaxial + PVC sandwich system in every project.



"After many 52' and 72' projects, the big step had come for Numarine: infusing the 102'. " says the general manager of Numarine, Erdal Kilic.

The 31 mt hull, with chine to bulwark top distance of more than 4 mt, was "one-shot infused" in less than 3 hours. The infusion was a great success and certainly a pioneering project for the marine community worldwide.

The boat will be a DNV class boat, where METYX had the privilege to supply DNV approved glass and aramid fabrics. "It is a big advantage for us to have a world class reinforcement producer at a 15 minute drive to our shipyard. We can co-operate with them on product and process developments, and they can easily respond to changes in production schedule, not to mention the savings we obtained with lowered freight and inventory carrying costs" adds Mr.Kilic of Numarine.



MAT 12

MAT 12 design represents an extension of the successful Mills Design IRC Cruiser/Racer theme blending the performance characteristics of a racing design with the comfort and accommodation of a performance cruiser, resulting in a true dual-purpose yacht.





The hull is designed around a narrow waterline beam for reduced drag, with the loss of stability being compensated for with a larger bulb on a fin. This combination offers good all-around speed in a range of conditions, while the weight of the bulb is acceptable under IRC and is made possible by quality cored vinylester/glass boatbuilding by MAT.

The outstanding weight to stiffness ratio of the hull is the key for a winning racing yacht and is achievable by the use of METYX noncrimp multiaxial fabrics.

V1 Composites

V1, a Dubai based high performance composites company, has been succesfully building ultra-modern yacths with METYX high performance reinforcements.

Company will build sail boats from 30 to 83 Feet and Power boats up to 90 feet.

Their latest victory was with the high performance V1 Lutra 30 who has won the Dubai Match Race in the month of January.



"Aramid sandwich structures used on 16 Meter Lobster Boat by FIBERTECH"

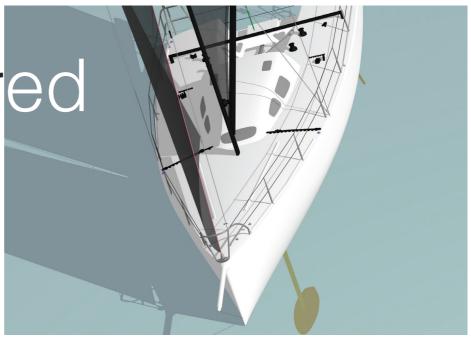


A high tech composite lobster boat, being first of its kind, was launched last February by FIBERTECH LTD; the moulder of the Turkish Coast Guard Boats. This is a 55 ft Classic Maine Model built on a high speed tunnel hull constructed of hybrid multi-axial (Aramid) fibres impregnated with vinylester resin which resulted on an "eggshell" product as the high degree of vacuum is applied with PVC linear sandwich foams.

"This is only the first results of the intensive research and development work that our company has undergone in the new millennium" has indicated Mr. Tuna Kocyigit; the company director.



Sponsored Projects



Jonathan Crinion - Class 40

"We have sponsored several projects and teams this year. We share their enthousiasm and excitement for the high performance composites.

There is no doubt in our mind that we will keep giving back to society by providing our continuous support to outstanding indiviuals and teams." stated Erol Ustunel, President, Telateks A.S.

METYX provided the high performance reinforcements for the new Class 40 Boat that Jaz Marine is building for Jonathan Crinion.

" Metyx has sponsored all the various weights and weaves of cloth required to build the boat. Metyx glass fabrics were chosen to maximize strength while providing the lightest weight possible. A good example of 'less is more'." says Jonathan Crinion.







The boat is designed by Owen Clarke Design LLC of UK and it will be used in several international races;

Round Britain and Ireland Race, Route du Rhum in 2006; Osaka Cup (Melbourne - Osaka), AZAB Azores and Back, Transat Jacques Vabres in 2007; Quebec-St Malo in 2008; RWYC Transat (30' to 50') and Transat Jacques Vabres in 2009.

Team Sports - The A.S.S.K. Water-Polo Team



A.S.S.K. (Adalar Sports Club) Waterpolo Team, the team is located in an island - Burgaz - in Marmara Sea, which is a 30 minute ride from downtown Istanbul.

We sponsored A.S.S.K for the 2004-2005 season and the team got the second place in the national league.

Pictures below are from the final game where A.S.S.K. lost the championship trophy to its long lasting rival Galatasaray in the playoffs and ended up getting the second place.









"BEST LAP" WITH METYX FIBRES, BY AVITAS KOMPOZIT PLASTIK

AVITAS was founded in 1969 by Esref AVDAGIC, who was a mechanical engineer. AVITAS has been producing composite plastic parts since its establishment. With SMC, GRP, RTM, RIM and vacuum infusion processes, AVITAS is specialized in automotive industry. AVITAS is realizing the processes in accordance with ISO 9001:2000 and ISO TS 16949:2002.

In August 2005, AVITAS has built a solar car for the Formula G, the first solar car race of Turkey. The 19 m² car was produced with

Vacuum Infusion Process by using METYX Carbon, Aramid and Glass fibres and vinyl ester resin, which have high strength in low thickness. The high quality METYX fibers and infusion technology provided us with significant weight savings: total weight of the car was below 65 Kgs. METYX did not only supply reinforcements but also systems, materials and know-how necessary for the infusion process. With this strong and light construction, this car has made the Best Time in the 2nd lap between 16 cars developed by outstanding universities of Turkey.



Infusion of Avitas car







Besides Avitas, Metyx supported two other teams for Formula G by providing materials and technical support. The Dokuz Eylul University-GOVSA car (middle and right) and the champion ODTU / NA-ME car (left).



METYX Racing



Metyx multiaxial reinforcements tested offshore

IOC (Istanbul Offshore Club), a member of UIM, has been organizing offshore catamaran powerboat racing for the last 3 years. Last year, several teams enjoyed the lighter and stronger catamaran designs reinforced by METYX.

Murat Alemdar, pilot of Alemdar Performance Racing Team, had a crash at almost 100 miles with several somersaults in his Metyx aramid reinforced boat but he had no injuries and only a minor crack at the tip of his boat.



Alpay Gunaydin (Nesim Marine) had achieved %15 weight savings on his boats with METYX aramid & carbon fabrics and teams racing with his boats started to take superior results.

Metyx had supplied materials to 6 boats out of overall 14 racing teams during the 2005 IOC season. At the end of the season, these 6 boats were the first 6 boats in the overall rankings. Doesn't look much like a coincidence, does it?

Besides supplying materials to several builders, METYX also sponsored a racing team -Muhlbauer couple-, well known figures in the Turkish racing environment. Joseph Muhlbauer, an adrenaline-lover Austrian who grew up in Turkey, and

his lovely wife Berna who keeps company and leads the husband to victories in such demanding and tough sporting events.

Joseph and Berna Muhlbauer have had a very succesful year both at IOC (Istanbul Offshore Club) and UIM's World Championship in Jesolo Italy.

We have to mention that the team's mascout was their one year old daughter -Ms. Fatos- who has been the center of attention at all times even when parents were lifting trophys at several races (right).

Yupi and Berna had several international successes in the past years as well. They took the 2nd place in 2003 & 2004 in World Championships held in Italy. Although the couple had two 360 flips with their boats in 2005, they still took the 4th place in the World Championship in Jesolo and 2nd place in IOC but more importantly they got out of both of these accidents with no injury thanks to METYX aramid multiaxials

used heavily in the cockpit area.





2005 World Championship - Jesolo, Italy 4th Place







Certification





"Type Approval"



Metyx sample under tensile test

METYX has become one of the few companies in the world who has both Lloyd's Register and DNV Type Approvals for its multiaxial reinforcement range.

After the receipt of Lloyd's Register Type approval for over 25 reinforcements in early 2005, METYX division of Telateks A.S. has applied for the next prestigious step: Det Norske Veritas (DNV) Type Approval.

As one of the most prestigious and respected certification body, DNV has conducted a series of audits for the quality management system of Telateks A.S. and had Metyx glass and aramid fabrics undergo several mechanical testing per ISO standards.

After the succesful completion of the approval process, Metyx not only had all its glass fabrics type approved but also became one of the few companies in the world with aramid and aramid/glass hybrid reinforcement range approved by DNV.

The range approved by DNV includes:

Glass Fibre Multi-Axials:

1) Uni-axial : 0° (200-2000 gr/m²) Uni-axial: 90° (250-1900 gr/m²)

2) Bi-axial: (±45°) - (200-2400 g/m²) Bi-axial: (0°-90°) - (300-3780 g/m²)

3) Tri-axial (0°/±45°) - (360-2815 g/m²) Tri-axial (90°/±45°) - (300-2225 g/m²)

4) Quadri-axial (0°/±45°/90°) - (625-3090 g/m²)

5) Stitched Chopped Strand Mat (150-1500 g/m²)

Aramid Fibre Multi-Axial:

6) +45/-45 bi-axials: (270-1140 g/m²)

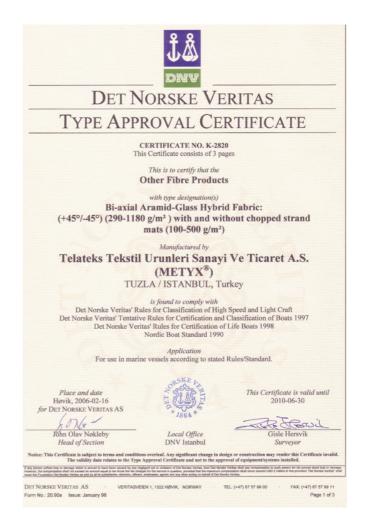
Aramid-Glass Hybrids Multi-Axial:

7) +45/-45 bi-axials : (290 - 1180 g/m²)

Aramid Uni-directionals:

8) 0-UD: (170-400 g/m²) 90- UD: (160-600 g/m²)

 * All fabrics could be with or without 100-500 gr/m 2 CSM





Trade sho

Tows Itelateks

METYX took place in several trade shows and expositions in 2005.

Metyx - Telateks A.S. team at Istanbul Boat Show

As a result of this activity, we believe that we were able to better promote our new product lines to several countries in Europe and Middle East and also strengthen our brand in these regions.



Some of the shows we participated are;

- ¥ 2005 London Boat Show
- ¥ 2005 Istanbul Boat Show (1)
- ¥ 2005 Dubai Boat Show
- ★ 2005 JEC Composites Expo (Paris)
- ★ 2005 Turkey Build Expo (Istanbul)
- ¥ 2005 Istanbul Boat Show (2)

The last show of the year was certainly one that was most interesting to our customers.

We had engineers from companies we have partnered with who provided technical assistance to boat builders.

We also had several vacuum infusion demos at the booth such as infusion of optimists, car chasis for Shell Ecodrive and sandwich panels with PVC or PET Foams....

In fact, we were the first company in the world to simultaneously complete three infusions at a trade show; the chassis for a Shell Eco-Marathon Race Team (right), an optimist and a 12 layer quadraxial e-glass, carbon and aramid reinforced panel were infused simultaneously during the Istanbul Boat Show.





