

**HOW TO BUILD: A NEW STYLE FOR THE HUMBLE EGG CARTON** P32

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Middle East

# Manufacturing

Executive

NEWS, DATA, ANALYSIS AND STRATEGIES

FOR MANUFACTURING PROFESSIONALS IN THE GCC

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# PIPE WORK

*Manufacturing Executive Middle East* visits the **Future Pipe Industries** facility in Abu Dhabi, to see how this manufacturer has built a business one layer of glass fibre at a time

BY STUART MATTHEWS



## FACTORY VISIT

**F**or some manufacturers accreditation is a must. It's not enough to say a product is a quality performer, it has to be proven beyond any doubt. That's why Future Pipe Industries' (FPI) Abu Dhabi facility has 29 accreditations to its name.

Coming from internationally recognised and respected bodies, such as DNV and TUV and a host of others, these accreditations are essential to the success of the company's pipe manufacturing business. Without them FPI would find it difficult, if not impossible, to secure contracts on the large-scale projects that drive this production facility and the four others the company operates around the Gulf.

Each individual facility must have its own accreditations and getting them represents a major investment in time, money and manpower. All the facilities are run the same way, to the same standards. It's the effort and diligence involved that makes Sameer Abu Hannun, the company's vice president of GCC manu-

facturing, so proud of what the company has achieved.

"They are very important to us," says Hannun. "They really cost us, but if you want to run a professional operation, you must have them and you must keep them."

"We are happy and proud to have made this kind of investment because it impacts on the services we provide. The accreditation secures the product performance and the customer can feel much safer."

The Abu Dhabi factory features its own testing facilities, where both finished products and raw materials are put through their paces. Long-term pressure testing under extreme temperatures is just one of the hurdles the finished products have to clear, to keep their accreditations valid.

As general manager Fady Assad explains, the products are tested well beyond their normal operational boundaries.

"If a product is rated at 10 bar, we may test it to 30," he says.

The manufacturing process is one the company is always striving to refine, whether it's for its smallest 25mm pipes, or those with a 4m diameter. In fact, just recently, one production process underwent some additional automation, reducing the manpower needed on the job from three people down to one.

"You can always improve," says Hannun. "We are concentrating on being more advanced in everything we do. We're concentrating on automation and looking at improving processes to boost our efficiencies."

### PRODUCTION LINE

With an annual capacity of around 150,000 tonnes, regularly updated automation equipment and software across its 12 production lines is key to the Abu Dhabi facility's efficiency. Overall FPI has 45 production lines of fibreglass pipe across all its global manufacturing facilities.

The plant operates two distinct types of production. One is helical winding, where pipes are formed over a mandrel, by winding fibres around the mould, while resin is applied. Built up layer-by-layer, the pipe moves from the winder to an oven to be set, before being separated from the mandrel.

The other method is continuous winding, where, as the name suggests, a machine continually adds layers of fibre to the pipe until the desired thickness is met. These pipes can be made to any length, with the only restriction being



**MEASURE UP**  
Sameer Abu Hannun, FPI's vice president of GCC manufacturing demonstrates the scale of a 4m-diameter pipe.





WIND UP  
The continuous winding machine can make pipes of any length.



## KEY STRATEGY

**Future Pipe Industries gets closer to its customers by adding value to its product through additional services**

Future Pipe Industries' site services department offers an after-sales service to its customers to provide site supervision and technical assistance for laying the pipes it has supplied.

The department takes on the preparation and execution of the services provided as part of the company's contracts. This can range from supplying an entire site crew to join pipes, to simply providing a site engineer to oversee a pipe-laying.

Future Pipe Industries also uses its strategic alliance partner, Dynaflo International, to provide engineering consulting services for all aspects of piping structure. Dynaflo develops software for clients to address issues ranging from small-scale ad-hoc stress problems, to large-scale fluid flow problems and has built up a broad experience in all design aspects of glass reinforced polyester (GRP) piping systems.

**“WE ARE SO FLEXIBLE, FOR ANY PROJECT WE CAN EASILY INSTALL MACHINES AND INCREASE CAPACITY IN A COUPLE OF WEEKS.”**

FADY ASSAAD, GENERAL MANAGER, ABU DHABI

the practical issue of transporting the finished product.

The technology behind the manufacturing process is owned by FPI. Part of it was acquired when FPI bought the fibreglass arm of a Dutch manufacturer in the 90s.

The team at the site is quick to emphasise the benefits of the fibreglass product. Much lighter than the steel equivalents it can replace, fibreglass pipe products can be easier to handle onsite thanks to that weight reduction and the subsequent reduction in lifting capacity required.

They also claim a 50 year lifespan for the product, so it requires less frequent replacement. In some applications the pipes also result in lower pumping costs, since the internal friction of the product is lower than steel alternatives.

## AGILITY AND PROXIMITY

As with any product, client education is key and FPI acknowledges that making things easy for clients and customers is an essential part of a successful business. To help contractors get to grips with the product, it offers engineering services that help to turn a pipe from a simple product into that favourite output of all companies: a 'solution'.

## FACTORY VISIT



These services include guiding contractors through the installation process. The company also conducts third-party-certified training, to teach the skills needed to complete pipe joins, resulting in contractors gaining the skills they require to work with the product.

These qualities and services, reinforced by the fist-full of accreditations the company has worked hard to earn and maintain, have resulted in major project success.

Hannun doesn't want to talk project value in simple contract terms, he wants to position the company's work in the context of each project's importance. From Ras Laffan to Ruwais, or Al Ain to Abu Dhabi, the company's products are going into projects that make a difference to national economies.

It's a big-picture view and the project credits make for a long list, but it takes an agile company to manage the spikes in production these big projects demand. Add to this the fluctuating costs of the resin raw material, intrinsically linked to the price of oil, and it creates a complex balancing act that needs careful stewardship.

The spacious Abu Dhabi plant – it's the size of 12 football pitches – has more capacity built in, but the company has a more mobile back-up plan, in case a big order lands in one particular plant.

"We are so flexible, for any project we can easily install machines and increase capacity in a couple of weeks," says Assaad. "We have two machines ready to be transported to any plant in the group."

### TOP 5 GCC PROJECTS

#### Qatar

Ras Laffan common cooling seawater project

**\$500 MILLION**

#### UAE

Ghantoot water transmission

**\$66 MILLION**

#### Oman

Sohar 3 / Barka 2 power and desalination plant

**\$6 MILLION**

#### Kuwait

Petrochemical complex pipe system

**\$25 MILLION**

#### KSA

Jubail export refinery

**\$30 MILLION**



This transportable machinery, ready to move to any of the company's five plants around the Gulf, can be assembled and producing in a matter of weeks, allowing the company to boost capacity as, where and when it's needed.

The team at FPI builds a picture of a good business to be in. The pipes it makes are a necessary part of infrastructure development on all scales and across many sectors, from oil and gas, through to industrial and municipal applications.

Demand is broad and the range of products the company can produce is intended to match the market needs. It makes for a market ripe with opportunity, for a manufacturer that has spent decades building the experience and agility needed to take advantage of it.



**TEAM WORK**  
Sameer Abu Hannun (c), with plant manager Tariq Ajam (l) and Fady Assad, general manager - Abu Dhabi (r).

"We have the advantage of being a pioneer in this kind of manufacturing," says Hannun.

"We have our own technology, a wide range of products, the ability to engineer them, plus the experience, the capacity and the know-how."



**TECHNOLOGY**  
FPI owns the technology used in the manufacturing process.



**AGILE MANUFACTURING**  
The machinery involved with pipe production is mobile enough to allow FPI to boost capacity where it's needed most.

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SAMEER ABU HANNUN,  
VP-GCC MANUFACTURING