

## Jeddah & Western province

### SIR charts a progressive course

**The Ashland-Saudi joint venture's initiatives ensure it will enhance its role as the main supplier of industrial resins in the Mena region**



An overview of SIR's facilities in Jeddah

Recent developments at Saudi Industrial Resins (SIR), including the purchase of Alhamrani's resin factory in Jubail, have strengthened SIR's position as the leading supplier of unsaturated polyester resins and vinylester resins in the Middle East and North Africa region.

The Alhamrani acquisition helped raise SIR's capacity to between 70,000 and 75,000 tonnes per year, depending on the product mix. The acquisition came after several years of cooperation between SIR and the Alhamrani Industrial Group.

Earlier, SIR had completed a significant capacity increase for polyesters at its Jeddah factory followed by a tripling of its vinylester capacity. Several other expansions are on the anvil.

Saudi Industrial Resins is a joint venture between global speciality chemical company Ashland Inc and several private Saudi shareholders. It locally produces the Siropol and Hetron ranges, and distributes a wide range of composite auxiliaries - including glassfibre, catalysts and accelerators. The company also distributes Ashland's Derakane range. Derakane and Hetron are registered trademarks of Ashland Inc, while Siropol is a registered trademark of SIR.

The company's unsaturated polyester resins and epoxy vinylester resins are consumed by the composites sector and have major applications in glass reinforced plastics (GRP) and fibre reinforced plastics (FRP). Pipe manufacturers account for a significant portion of the volumes of GRP and FRP.

'The durability of GRP/FRP pipes is well-proven, particularly in water and wastewater reticulation,' said SIR director Nicholas Judd. 'In addition, the company undertakes joint-developments - with major pipe/tank fabricators - in increasingly specialised corrosion resistant and/or fire-retardant pipe and tank applications.'

### Expansion projects

SIR's existing site-infrastructures allow it to add capacity - particularly in Jubail - at low costs and in minimal time. Its facilities in Jeddah have sufficient capacity to service all growth in consumption in the Western regions of Saudi Arabia and North Africa. 'Following an increase in the company's capital, we are pursuing expansion projects into additional product ranges, and into other significant geographic regional markets,' said Judd.

The upgrades will include growth in storage capacities. 'The expansions will ensure that any regional growth in consumption is matched by availability of cost-effective quality materials. SIR will be well-supported by the increasing range of petrochemicals-based raw materials produced in Saudi Arabia from low-cost feedstocks,' commented Judd.

As part of its ongoing product range development, SIR has been making additional investments into composite testing facilities. The company is positioned to subject its development products to a wide range of in-house mechanical and thermomechanical qualifications.

These allow the company to continue to upgrade its technical service and product-customisation capabilities to guarantee that it continues to be a leader in the provision of fit-for-purpose quality materials, said Judd.

'The company's technical association with Ashland ensures its access to global leading-edge polyester and vinylester technologies, supplemented by our ability to customise materials to local conditions.'

Judd estimates that the company's exports, including those to the Mena region, account for approximately 40 per cent of the company's revenues.

Judd also observed that a current expansion to the licensing agreements will provide SIR with access to new Ashland products – developed to meet the needs of more sophisticated resin consumers. The company has, for example, accessed improved technology for gelcoats, marine resins, fire-retardant materials and pultrusion and SMC/BMC applications.

Joint product-development projects underway with several leading regional resin customers emphasised SIR's and Ashland's joint technical strengths, he added.



The company continues to upgrade its technical service and product-customisation capabilities

Commenting on the resins market in the region, Judd said there is oversupply, with theoretical capacity that exceeds projected demand. 'A danger to the resin industry is that some significant resin users have downgraded their quality standards. It is expected that the short-term savings gained by purchasing from low-cost suppliers — delivering low- and inconsistent-quality materials — will result in product failures in the medium-term. Such failures will inevitably damage the reputation of the industry – an industry that was built on the back of excellent technologies, long-term corrosion and durability testing, and consistently-high quality standards,' the official cautioned.

He highlighted that FRP/GRP products, especially pipes and tanks, produced by qualified fabricators using proven high-quality resins, have extraordinarily long service lives.

SIR has invested heavily in key accreditations for its product range. Its main lines are, for example, WRAS-certified for contact with potable water, and have Lloyd's certifications.

As an ISO-9002 company SIR continuously reviews and improves its business processes to ensure that its customer service abilities improve.

#### **Ashland's accomplishments**

SIR's parent company Ashland, meanwhile, has chalked up impressive accomplishments in recent times. Here are a few of them, quoted in Ashland's published 'Corrosion Chronicle.'

- Two US establishments, Harbor Technologies LLC and the University of Maine's AEWAC Advanced Structures and Composites Centre, were both recognised at the American Composites Manufacturers Association's (ACMA) national conference and exhibition in Las Vegas - the former with the 'Infinite Possibility Award', and the latter with the 'Most Creative Application Award.' Harbor Technologies won for its entry 'Hybrid Composite Beam,' and AEWAC for its 'Bridge in a Backpack,' - a hybrid composite concrete bridge. Both used Ashland's vinylester resins for their entries.

- Ershigs won the ACMA award for Composites Excellence in a Corrosion Application for its work on the FRP Pilot Carbon Capture Scrubber and Ductwork at AEP's Mountaineer Station. The 10 ft diameter vessel and 48-inch to 60-inch ductwork were fabricated using Hetron 922 and Hetron FR992 epoxy vinylester resins. They were the first of their kind to be installed at an operating coal-fired power plant.



The company's plant in Jeddah: recent initiatives will help take SIR to the next level

- A ship carrying four FRP tanks fabricated by Plasticos Industriales de Tampico (Pitsa) of Tampico, Mexico, berthed in the South Pacific. The tanks were built to store hydrochloric acid and nickel chloride for one of the world's largest nickel mines in New Caledonia. Each tank weighed 120 tonnes, and they were perhaps the biggest composite tanks ever shipped in one piece. For the glass-reinforced polymer construction, the company used Derakane 470 epoxy vinylester resin from Ashland. 'We had to use the best materials available,' said a Pitsa official. 'There is a lot of risk for a company like ours with such a big project,' he continued. 'The chemicals stored in the tanks are very aggressive, and the barrier reef that surrounds the island is the world's second largest and a Unesco World Heritage Site.'

- The Buffalo (NY) Sewer Authority's Bird Island Wastewater Treatment Plant replaced three large sodium hypochlorite tanks - made with HDPE - with FRP tanks from Plas-Tanks. The polyethylene tanks showed signs of deterioration after only eight years' service with 15 per cent sodium hypochlorite. The new Plas-Tanks tanks were fabricated using Hetron FR992 epoxy vinylester resin.

- The Ashland Product Development Team developed a new LSE (low styrene emission) formulated styrene suppressant package that can be added to key Derakane and Hetron resins. Utilising this technology breakthrough, reportable Environmental Protection Agency (US) emissions can be reduced by more than 30 per cent. Numerous customers have already switched to this next-generation technology - including Belco Manufacturing Company, an ASME RTP-1 accredited manufacturer of corrosion-resistant reinforced products. Belco is a longtime user of Hetron 922L-25, a pre-promoted epoxy vinylester resin.

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