

## "PolyTank" project: testing welded joints in thermoplastic storage tanks

Thermoplastic tanks are an attractive alternative to metal tanks for the containment of many products, including hazardous chemicals. At present there are no established procedures for inspecting the welds in these tanks, either following manufacture or during service. With an expected lifespan of between 15-25 years, thermoplastic tanks are susceptible to failure through cracking due to chemical degradation, fabrication flaws or elevated operating temperatures.

TWI - The Welding Institute from Cambridge/UK is combining expertise with eight European project partners to develop a new

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approach for testing welded joints in thermoplastic storage tanks using automated non-destructive evaluation (NDE). The "PolyTank" project, launched as part of the European 7th Framework Programme, began in November 2012 and will last for two years.

The inspection technique will involve ultrasonic examination of the full weld volume, from the outside surfaces of the tank. This means it will not be necessary to open up a tank to prepare the inside for examination. Until now, full volumetric examination of tank welds has not been possible.

The project team proposes that as well as ensuring the safety of thermoplastic tanks in specific or corrosive environments, the development of a volumetric NDT and inspection technique will result in new confidence for their use in demanding applications across many industries, as well as extending operating life, and allowing cheaper installation and maintenance.

Part of the "PolyTank" project will be to develop acceptance criteria for different types of flaws in welded joints based on both short-term and long-term testing. NDE and mechanical test data will be brought together in a database to highlight critical defect sizes that cause a reduction in the long-term integrity in different types of welds. The data will be put forward to CEN as the basis for producing a European Standard.

The project team comprises: Chem Resist Group Ltd (UK), TWI (UK), Technology Assistance BCNA 2010 SL (Spain), Hessel Ingenieurtechnik GmbH (Germany), Acutech Ltd (Greece), InnoTecUK (UK), HSE (UK) and Univar Ltd (UK). For further information please contact Malcolm Spicer at TWI: malcolm.spicer@twi.co.uk. (According to press information from TWI)

## Construction has started on new TWI building in Malaysia

In recent years annual growth rates as high as 30% have been achieved at TWI's training business in South East Asia and as a result the current facility in Kuala Lumpur can no longer accommodate TWI's needs. As the facility cannot be extended further, a decision was taken in 2011 to move to a new, much larger, purpose-built facility.

Linear Vista, a Malaysian based architectural practise with a proven track record, was appointed in early 2012 to lead the facility design. Lessons from TWI's operations in the region and the knowledge and experience from recent UK facility developments were also incorporated via design input from both local and UK based TWI staff.

Having developed the design to a point at which the facility functionality was clear and a reasonable cost estimate was available, in September 2012 a tender exercise was launched for the award of a design development and build contract. After a two-stage selection process and thorough value engineering exercise, the contract was awarded to Changal Jaya Sdn Bhd in April 2013. Following a short mobilisation period, work on site has now begun. With a construction period of just under one year, facility commissioning is forecast to begin in Spring 2014 with full operational capability available by Summer 2014. When fully operational the facility will provide accommo-



TWI's new facility in Kuala Lumpur will provide accommodation for up to 100 staff and be able to handle over 8,000 trainees per year.

modation for up to 100 staff and be able to handle over 8,000 trainees per year. Capacity will also be available to support expansion of the engineering services provided by TWI SEA. (According to press information from TWI)