



## **TEPPFA INTERNATIONAL NEWS**

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### **THE GYMANSTICS OF PLASTICS**

Beijing. With an estimated annual production of over 4 million tons of plastic pipes, China has become the world's largest growing market for the industry. Many thousands of kilometres have been installed to deliver energy, water and communications for the Olympic Games. Furthermore plastics conversion has increased significantly in every application area.

Dr. David Walton, Marketing expert for plastic pipes at Borouge explains: "China's tremendous economic growth has not occurred without social and environmental problems. It ranks fourth in the world for renewable water resources. Large populations and increasing industrial consumption are placing heavy demands on this resource. But China has clearly identified that good water management systems supplied by high quality pipeline materials are key to future growth and prosperity."

Walton quotes the new water pipeline to the dry islands of Quemoy as an example of how China is encouraging this development. "Shanghai producer Chinaust Plastics has supplied twin 800 mm and 560 mm diameter polyethylene pipes. A 7 kilometre section of the 20 km pipeline has been submerged to connect the Taiwanese islands with China via the Xiamen Water Company that has commissioned the project."

"The long term durability of submerged pipelines is of paramount importance for security and for minimizing repair and maintenance costs. China has the will and the means to master the technical and in service environmental challenges."

By 2010, plastics pipe are expected to account for as much as 80 percent of all new installations in China. One interesting order for the Games was the supply of 2,000 meters of a PL-X fuel pipe system for the Olympic Qingdao International Sailing Centre. The pipe will provide an underground pipe system that links a filling station with three dispensers at Qingdao city harbour. PL-X is a fusion welded composite plastic pipe. Environmental concerns from the corrosion of steel pipes and the associated risk of pollution were clearly arguments for the winning tender.

PVC pipes have a major share of this market with new capacity being added continuously. There are now several pipe makers with a capacity approaching 100,000 tons in both pressure (including PE) and non-pressure.

Like Europe, China has experienced the porous legacy of corroded steel pipes. No dig techniques such as swagelining and compact pipe technology are being increasingly used to correct these leaking networks.

Flexibility is after all a winning component in the art and rigorous discipline of gymnastics. .

## KEY ITEMS FOR PLASTIC PIPES CONFERENCE

Budapest. More information is being released about some of the technical papers that will be presented at Plastics Pipes XIV. This Conference brings together the global plastic pipe community and will be held from 22 – 24 September 2008 at the Marriott Hotel in Budapest.

Professor Alessandro Marangoni from the prestigious Bocconi University of Milan will present a paper entitled 'The benefits of Pipeline Innovation'. It will detail the actual cost to Italian society of modernising Italy's old and porous water and sewer networks. He has also calculated the cost of doing nothing.

"Our cost comparisons will be of extreme interest to all stakeholders involved with the delivery of water and the dispatch of household waste," says the Professor. "They not only evidence the need for urgent investment but also signal the most economical solution. The Benefits of Plastics Innovation are overwhelming."

The three-day Plastics Pipes Conference will comprise the presentation of about one hundred papers, a trade exhibition and a social program. 500 participants are expected for what has become an ideal meeting place for delegates and the latest ideas from utility companies, technical and certification institutes, plastic pipe companies, equipment manufacturers, compound makers and other suppliers.

Conference keynote speaker is Ray Hammond, Europe's preeminent futurologist. His World in 2030 forecasts a "positive outlook for **plastics**," arguing that the material has an important part to play in overcoming future challenges.

Conference key sessions will represent a wide interest of plastic pipe technology including **Market Growth Potential of Plastic Pipes** and **Case Studies for Novel Applications**.

Plastic Pipes XIV is organised by TEPPFA, PE 100 +, PVC4Pipes and the Plastics Pipe Institute.

## DIPLOMATIC LEAKS

Geneva. The Palais des Nations in Geneva has 42 kilometres of rusting and leaky water pipes. Built 70 years ago as the predecessor to the United Nations, the building has not kept up with necessary modernisation.

One reason quoted for this lapse of investment is that the organisation is more concerned with helping nations in need rather than looking after the comforts of their own staff. The UN provides these nations with food, medicine and often plastic pipes for the creation of water management and good sanitation.

Unfortunately the porosity of this historical building will have to continue until the UN building in New York has been renovated in 2013.

## **MACHURIANS OPT FOR SUSTAINABLE STORMWATER MANAGEMENT**

Manchester. Plastics are making a fundamental contribution to stormwater management systems. A recent residential scheme in Manchester, England demonstrates how efficiently managed drainage can reduce the risk of flooding.

Built by Richardson Projects the new development includes 73 three bedroom properties. Comprising three tanks with a total of 99m<sup>3</sup> capacity, the system uses a method of attenuation to temporarily store rainwater below ground level.

A number of Flowloc control devices (ranging from 3.8 litres/second to 9.0 litres/second) control the rate at which rainwater is discharged from the tanks into the stormwater drain or soakaway. Water is thus released at a gradual rate, independent of the head of the water in the tank.

Waterloc cells are strong, lightweight and feature columns of extruded polypropylene. These columns are uniquely combined with injection-moulded grids to provide both horizontal and vertical water flow. They can be used for soakaway (infiltration) applications. The firm also offers a range of rainwater harvesting systems for both commercial and domestic applications.

Matthew Ward of Richardson Projects comments: "The system is an extremely valuable addition as it promotes a sustainable approach to stormwater management whilst being cost effective. Traditional drainage methods can lead to sudden rises in water levels, whereas the cells and the Flowloc devices prevent this, reducing the threat of localised and downstream flooding."

## **MARKET WARMING FOR GEOTHERMAL PIPES**

Brussels. Plastic pipes are used almost exclusively for collecting and delivering geothermal energy. A new report published by Frost & Sullivan indicates that high start-up costs of such schemes are dropping and that the sector is poised for significant growth.

Geothermal energy has been used for thousands of years in Roman and Ottoman baths. Modern geothermal systems harness this relatively constant, renewable energy source and use it for heating, air conditioning and hot water. In Europe, Iceland with its rich geothermal resources has pioneered the application of mainly polypropylene or polybutylene pipes to many district heating systems. Typically, these are built in rural areas and serve about 4,000 inhabitants. Total pipe length is 900 kilometres with diameters ranging from 25 to 110 mm.

France has also been successful at tapping into this carbon-free source of energy for domestic and commercial purposes. For instance, Orly Airport recently announced a plan to distribute a third of its heating needs through tapping into underground hot water geysers.

"Geothermal energy has several advantages when compared to other renewable energy sources as well as carbon-emitting fuels. The sector is something to watch out for in the next few years," explains Gouri Nambudripad, a research analyst with Frost & Sullivan.

High density polyethylene is also used in creating so called geothermal loops. A series of pipes carry a fluid used to connect the geothermal system's heat pump to the earth. Using an electrically-powered water source heat pump, a geothermal heating system is basically a system of pipes that act like a heat exchanger. Heat is collected from the water collected below the earth's surface and transferred to the air surrounding the pipe in a room or building.

The development of these systems and the need to move away from fossil fuels has prompted large scale development projects requiring larger diameter PE pipes for exchanging heat from Caribbean waters or distributing renewable energy from volcanic geothermal resources.