

## Multi-layer pipe adhesive for long term hot and cold water use

**A**N adhesive for bonding multi-layer pipes has been introduced by Dow Europe. Amplify GR 380 is intended for use in hot and cold water pipe systems. It is a polyethylene compound that combines processability with adhesion in the context of the long-term temperature requirements of hot and cold water multi-layer pipes.

Its primary application is to bond layers of polar barrier materials, such as EVOH, PET or epoxy, with layers of non-polar polyethylene. Adhesion is achieved by a chemical reaction between the reactive elements of Amplify GR 380 and the

polar components of a barrier layer.

The material has been tested to resist thermal oxidation based on EN ISO 2578 at the malfunction temperature of 100 degC as specified in ISO 10508 in classes 4/5. The malfunction time at 100 degC is 100 hours and the adhesive was tested for more than 10,000 hours at this temperature resulting in a factor of 100. Tests conducted by Dow also show that Amplify GR 380 can be extruded using conventional techniques with melt temperatures between 180 and 230 degC.

[www.plasticpipes.com](http://www.plasticpipes.com)

## Coolant line system brings added flexibility

**A**NOTHER Vestamid nylon 12 multi-layer tubing system for automotive coolant lines has been introduced by Degussa. MLT 8000.3 is more flexible than the existing MLT 8000.1.

Coolant lines of the 8000 series, which have diameters up to 30 mm and wall thicknesses ranging from 1 to 1.5 mm, consist of three layers. The inner layer is polypropylene, then comes an adhesion-promoting layer, and the outer layer is Vestamid.

Because of a modification carried out at the molecular level, the compound for the MLT 8000.3 system provides higher flexibility without needing a plasticiser. MLT 8000.1, on the other hand, has higher bursting strength, especially at high temperatures.

The lines withstand brief external temperature loads exceeding 150 degC, as occur close to the engine, and have high heat-ageing resistance and good burst strength. The inner polyolefin layer also resists the ethylene glycol-water mixtures used as coolants, at temperatures up to 135 degC.

The new MLT 8000.3 has proven itself under extreme conditions in the Lotus Exige racing car, which participated in this year's Dutch Supercar Challenge Series.

[www.degussa-hpp.com](http://www.degussa-hpp.com)

**Latest Degussa nylon 12-based multi-layer coolant line system is race-proven.**



## PEX curing oven cools the pipe as well

**H**IGHER output of PEX A pipes with the same degree of crosslinking is claimed for a new infrared oven developed by iNOEX of Germany and CrossLink of Finland.

The oven combines heating and cooling. A regular and controlled amount of heat is applied to the pipe for the crosslinking process, while the skin of the pipe is protected from overheating or the formation of blowholes by the integrated cooling system.

The new oven can be retrofitted into existing lines, and iNOEX and CrossLink are currently working on the integration of the ovens into iNOEX's established control terminals.

[www.inoex.de](http://www.inoex.de)

## Window frame giant sold to Bahrain buy-out firm

**E**UROPE's, and possibly the world's biggest manufacturer of PVC window and door frame profiles, Profine of Germany, has been bought by a buy-out firm based in Bahrain. Arcapita Bank has paid a reported €775 million for the company which Carlyle Group and Advent International bought from Rütgers in 2004.

Profine employs 3,700 people in 21 countries and generated revenues of €848 million last year.

When Carlyle and Advent bought Profine it was part of HT Troplast, which also included cross-linked polyolefin foam producer Trocellen and Dynos, which makes vulcanised fibres for abrasive discs. Trocellen was subsequently sold to Furukawa Chemical and Otsuka Chemical, and Dynos to M2 Capital Partners.

## Tight tolerances in TPU hoses

**H**OSES with high dimensional stability can be produced in new Desmopan DP 1350 D TPU, says Bayer MaterialScience, because the melt solidifies rapidly and tight wall thickness and diameter tolerances can be maintained. The ester based material is transparent and hoses can also be made in colours.

A hardness of 50 Shore D withstands bursting pressures of more than 25 bar, depending on hose diameter. Bayer says the material resists oils and various chemicals and recommends it for fuel and lubricant hoses, pressure control systems and pipelines for transporting chemicals.

As well as 1350 D, ether-based grades of various hardnesses are available for resistance to hydrolysis and microbes and low temperature flexibility. Other grades have been developed for foodstuffs and drinking water.

# temperature control

## Tricool refocuses and innovates

**F**OLLOWING its takeover by ICS Cool Energy in April Tricool Engineering has restructured its operations and plans to add new heating products and hire services.

The sales forces for the cooling and heating divisions have been separated and over the next six months Tricool will be increasing the number of its sales engineers throughout the UK and Europe. Rationalising the product ranges will enable the company to stock equipment across all ranges for next day delivery.

Plans are underway to introduce new products, increase capacities and offer heaters up to 96 kW with electric power and up to 1 MW using gas.

Tricool is also adding a 'hire to buy' package, giving customers the option of being able to rent equipment, try it out and buy later. This provides greater flexibility for businesses with no capital budget.

Tricool will also be launching a rental service towards the end of this year. It will

adopt the rental structure used for chillers by Cool Energy to offer temperature control products on short or fixed term contracts. All the contracts will be backed-up with full servicing and warranties.

[www.industrialcooling.co.uk](http://www.industrialcooling.co.uk)

## Bigger bore connectors

**T**HE Stäubli RMI range of manifold connectors with nominal bores from 6 to 25 mm has been augmented by a new unit with 37 mm bore. Its new locking mechanism is stronger than the traditional ball system and provides a larger contact area.

Designed for a maximum working pressure of 16 bar, the long profile of the plug gives a leak-free connection and the double shut-off valve design provides minimum pressure drop, says Stäubli. A wide choice of end fittings is offered with fluorocarbon, ethylene-propylene or nitrile seals for a working temperature range from -2 to 200 degC.

The unit is suitable for use with hot and cold water, water glycol and other heat transfer fluids.

[www.staubli.com](http://www.staubli.com)

**Factfinder 117**