



Bi-layer co-extrusion plastic pipe - polyamide coupled with advanced processing technology bring innovation to automotive coolant pipes (*Awarded by the Society of Plastics Engineers (SPE) for most Innovative use of Plastics Award – Chassis 2014*)

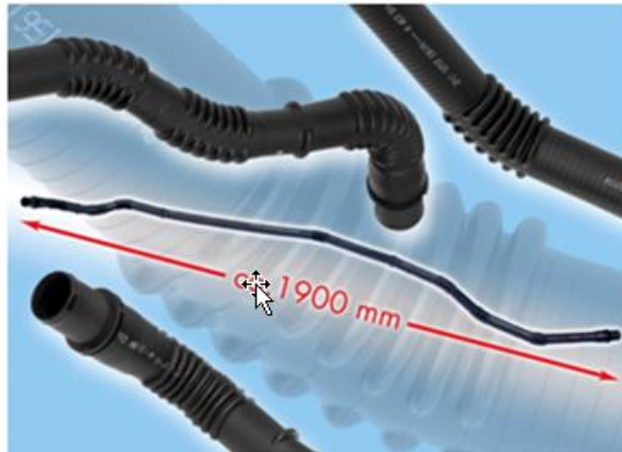
Replacing metal, saving weight

The quest for Tristone Flowtech Group was to find a material/technology solution for an unusually long 2 to 3 meter variable flexibility coolant pipe designed to transport water and glycol fluid from the radiator end tank at the front of the car to the engine at the back, while saving weight. The challenge was not so much the length of the part since it was extruded, but to produce large pipes of up to 27mm diameter, with suitable compliance that would still resist 3 bar pressures, aggressive fluids, and road salt.

The solution was found with Dupont via a co-extrusion of Bynel®PP & Zytel® PA612 LCPA and its patented Variable Stiffness Bellows (VSB) technology, enabling thermoplastic parts to be flexible yet high pressure resistant. At the same time, the new pipe can withstand engine compartment temperatures of 150°C, aggressive fluid temperatures up to 120°C combined with road salt, and continuous working temperatures of 95°C.

In this application, Zytel® PA612 in a corrugated extrusion offers a lightweight alternative to metal, enabling up to 60% weight reduction over the former aluminum component.

This product is applied on Renault Twingo and Daimler Smart programs:



TRISTONE is a full system provider of Engine & Battery Cooling, Air charge and Air Intake applications for the automotive industry. As one of the market leaders in Europe, TRISTONE has successfully expanded its customer support network and operations into the NAFTA region & China and is now looking to India and further global locations.

Tristone Flowtech USA Inc.
1441 E. Maple Rd. #308
Troy, MI 48083, USA
info@tristone.com

Tristone Flowtech,
Unterschweinstiege 2-14,
60549 Frankfurt am Main,
Germany,
info@tristone.com

Technical contact : François Le Briquer
Sales contact : Ignacio Salazar
info@tristone.com

