

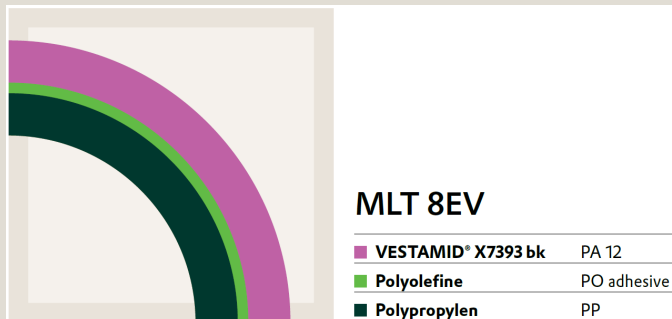
Product Information

MULTILAYER TUBING 8EV series

VESTAMID® MLT 8EV FOR COOLING LINES IN BATTERY ELECTRIC VEHICLES



The multilayer tubing system **MLT 8EV** is an automotive industry proven 3-layer system for thermal management systems. In battery electric powered vehicles (BEV) thermal management of battery, E-motor or power electronic is essential. The VESTAMID® MLT 8EV offers a cost-effective composition for cooling line application, following especially the requirements of BEV. An inner layer made of polypropylene act as diffusion barrier. As adhesion-promoting layer a polyolefin guarantee the adherence of the inner with the outer layer. At the outside a layer made of polyamide 12 VESTAMID® ensures the requested mechanical and thermal strength.



Benefits of plastic coolant lines

Coolant line systems made of plastics offer many advantages over conventional metal systems or elastomer hoses. They are lighter, thinner because of their strength, and easier to thermoform. In contrast to metal lines, they are not susceptible to corrosion and resist vibration cracking. They are easily and quickly joined by means of quick connectors, making them more economical than both conventional systems. Compared to elastomer hoses, the outer polyamide layer also provides low temperature impact strength, and stone impact resistance.

Production

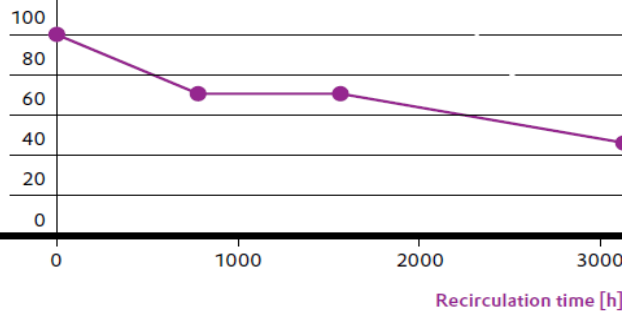
Tubing of the MLT 8EV can be manufactured by conventional coextrusion technology at line speeds normally used for monowall tubing. The assembly of MLT 8EV with the various components is done with the same techniques used for monowall tubing. The mechanical properties are nearly comparable to the long-proven polyamide 12 monowall tubing. With an outer layer of VESTAMID® polyamide 12 and a special polypropylene inner layer the system offers high hydrolysis resistance against coolant liquids and urea solutions, good cold impact performance and significantly weight savings compared to less innovative concepts (metal/ rubber hoses).

**Properties of
VESTAMID® MLT 8EV**

Properties	Test method	Unit	MLT 8EV virgin	MLT 8EV after recirculation
Stress at yield	ISO 527	MPa	22	29
Strain at break	ISO 527	%	>150	>150
Modulus of elasticity	ISO 527	MPa	750	780
Hoop strength	DIN 53578	N/mm ²	23	30
Cold impact resistance after recirculation*	SAE J2260	failures/ specimen	0/10	0/10

Recirculation ageing

Normalized elongation at break [%]



● MLT 8EV

Key Features

Industrial Sector

Automotive and Mobility

Processing

Extrusion

Delivery form

Pellets, Granules

Resistance to

Heat (thermal stability), Hydrolysis / hot water

Electrical

Insulating

Conformity

Automotive

Characteristics

Applications

Tube and hose, Refrigeration

Processing

Thermoforming, Pipe/Tube extrusion

Special Characteristics

Halogen-free, High impact strength

Chemical Resistance

Hydrolytically stable, Aging resistance