

POLIDAN[®] T/A-SL

POLIDAN[®] PEX System

Crosslinkable polyethylene compound for pipe applications

Description

POLIDAN[®] T/A-SL is a silane crosslinkable PE compound which is used together with a catalyst masterbatch to accelerate the crosslinking reaction. It is used for flexible crosslinkable pipes.

Applications

POLIDAN[®] T/A-SL is used for the production of pipes for domestic hot and cold water supply. This compound is designed for both mono layer and composite pipe solutions.

PHYSICAL AND MECHANICAL PROPERTIES	Typical Value	Unit	Test Method
Density at 23°C	0.949	g/cm ³	ASTM D 792
MFI, 190°C/2.16 Kg /5 Kg	0.60 2.4	g/10'	ISO 1133
Mechanical properties:			
Tensile strength	> 25	MPa	ASTM D 638
Elongation at break	> 400	%	
Vicat softening temperature	127	°C	ASTM D 1525
Gel content	> 65	%	EN 579
Specific Heat at 23°C	1.8	J/(g °K)	ISO 11357-4
Coefficient of linear expansion at 20°C	1.6 x 10 ⁻⁴	1/°C	ASTM D 696
Thermal conductivity at 23°C	0.48 ± 0.004	W.m ⁻¹ .K ⁻¹	HOT DISK METHOD

Above values are typical averages obtained from 18 x 2 mm mono layer pipe specimens which are extruded with 95 parts of POLIDAN[®] T/A-SL and 5 parts of CATALYST PS/4. These pipe specimens are cured by immersion in 95°C hot water for 6 hours.

Processing Guidelines

The silane crosslinkable compound POLIDAN[®] T/A-SL shall be used together with a Solvay Padanaplast catalyst masterbatch in the ratio of 95 to 5 parts respectively. Mixing shall be done just before extrusion or during the extrusion process with the use of automatic feeders. POLIDAN[®] T/A-SL can be processed with modern PE single screw extruders.

We suggest the following processing conditions:

Screw Profile		Temperature Profile	
L/D:	25 - 30	Cylinder:	from 150 to 200°C
Compression Rate:	>2.5 : 1	Head:	200°C
		Die:	210°C

This data is only indicative. Exact temperature settings depend on the available equipment. It is recommended to use conveyors and shaped tools in order to prevent stagnation in the head. In case of prolonged stop purge the extruder with a low MFI HDPE.

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Curing

The final pipe properties are curing dependent.

Curing can be done in the following ways:

- by immersion in hot water at 90-95°C
- by circulation of hot water inside the pipe at 90-95°C
- by exposure to steam

In all cases curing time depends on the pipe wall thickness, pipe structure and applied curing temperature.

Colouring

POLIDAN[®] compounds and catalyst masterbatches can be used together with good quality PE based colour masterbatches. Solvay Padanaplast suggests pre-drying all colour masterbatches prior use.

Storage and Handling

In order to avoid pre-mature crosslinking, the silane crosslinkable compound and the catalyst masterbatch shall be stored separately and mixed only when used. The silane crosslinkable compound shall be used within 6 – 8 hours after bags are opened.

The product shall be stored under the following conditions:

- Closed and unbroken bags
- Ambient temperature not exceeding 40°C
- Indoor in order to avoid direct exposure from sunlight

The product could undergo alterations due to extended period of storage. Solvay Padanaplast suggests the product use within six months from the production date printed on the packaging. Solvay Padanaplast accepts no liability of any kind in case the above mentioned conditions are not fulfilled.

Packaging

POLIDAN[®] T/A-SL is supplied in 500 kg octabins which contain a single moisture resistant bag or in 25 kg moisture resistant bags placed on 1375 kg pallets.

Technical Service

POLIDAN[®] T/A-SL is part of the Solvay Padanaplast POLIDAN[®] PEX System product range. Solvay Padanaplast Technical Service is available to assist customers with further information and advice including the start-up and also for any eventual necessity during the use of the product.

Disclaimer

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