

TABOREX TA 1122 HD

A chemically-crosslinkable HDPE compound for the production of pipes for domestic hot and cold water, under floor heating and central heating application.

Description

TA 1122 HD is a crosslinkable compound made by Silane grafted ethylene polymer. This graft polymer constitutes together with a Masterbatch containing the cross-linking catalyst a "SIOPLAS-SYSTEM". Pipes produced with the SILON grade TA 1122 HD fulfil the requirements of ASTM F876-99a, ASTM F877-99a, CSA137.5-99, DIN 16892 and all related standards.

This system allows the compound to be extruded as a normal thermoplastic polymer, which will attain a high level of cross-linking in the processed form. The final product has all the improved properties associated with cross-linked polyethylene.

Physical Properties:

Properties	Test method	Units	Typical Value
Density	GB1033	g/cm ³	0.949
Bulk Density	CON. 1.1	g/cm ³	0.55
Melt Flow Index (190 °C/5kg)	GB 3682	g/cm ³	1.0
Volatile material	CON. 4.3	%	< 0,3
Tensile strength at break	GB 1040	Mpa	27
Elongation at break	GB 1040	%	450
Gel Content	CON. 12.2	%	72

The above details are given to the best of our knowledge and experience but are only meant as suggestions without obligation.

Processing of TA 1122 HD

Extruder:

TA1122HD can be processed on most modern thermoplastic extruders without problems. Particularly if the available screw is designed for Polyethylene excellent products can be expected.

Screw Parameters:

L/D: >25
Compression ratio: 3-2.5 : 1

Temperature Profile:

Zone 1	160°C - 170°C
Zone 2	170°C - 180°C
Zone 3	170°C - 190°C
Zone 4	170°C - 190°C
Head	200°C - 210°C
Die	190°C - 220°C
Screw*	70°C - 90 °C

* The thermostatic control of the screw improves processing results.

Recommendations for optimal extrusion conditions:

- Pre-drying of Catalyst Masterbatch and Colour Masterbatch about 2 hours at 80-90°C, preferably with dried air.
- Material preconditioning to ambient temperature before the package opening is necessary, to avoid moisture condensation on the pellet surface.
- Use screw suitable for PE-HD (3-zone or barrier screw).
- Head and tools should be designated allowing streamlined flow avoiding stagnation of the material.
- In case of line stop longer than 10-15 minutes: Before restarting purge with standard PE-HD (MFI: 0.3g/10min.)



- In case of the package damaged, the best suggestion is that it couldn't be used again, or used as normal PE-HD; the reason is to keep the quality of the pipe.

Crosslinking Cure:

The following methods are recommended:

- By immersion in hot water at 80-95°C
- Exposure to low pressure steam

The period required to obtain the final gel content depends on the wall thickness and the temperature. The exposure times are in the range of 6-8 hours.

Storage:

TA 1122 HD has a shelf life of six months from the production date printed on the packaging. The packages should be opened only before processing; exposure to direct sun radiation must be avoided. After opening the bags the product must be used within 4-5 hours. If it could not get to, it should be re-packaged or sealed strictly.

Packaging:

Graft Polymer:

- Moisture resistant multilayer bags containing 25kg

Catalyst Masterbatches:

- Moisture resistant multilayer bags containing 25kg