

TABOREX TA 1123 HD

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

Description

TA 1123 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 1123 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	0.945
Bulk Density	CON. 1.1	g/cm ³	0.55
Melt Flow Index (190 °C/5kg)	GB 3682	g/cm ³	1.30
Volatile material	CON. 4.3	%	<0,15
Tensile strength at break	GB 1040	Mpa	26
Elongation at break	GB 1040	%	500
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 1123 HD

Extruder:

TA 1123 HD 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 1123 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 repackaged or sealed strictly.

Packaging:

Graft Polymer:

- Moisture resistant multilayer bags containing 25kg

Catalyst Masterbatches:

- Moisture resistant multilayer bags containing 25kg