



TABOREX TA 1117 HD

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

Product Description:

TABOREX TA 1117 HD is a crosslinkable compound made by Silane grafted ethylene polymer. This graft polymer constitutes together with a TABOREX Masterbatch containing the crosslinking catalyst a "SIOPLAS-SYSTEM". Pipes which are produced with the SILON grade TABOREX TA 1117 HD fulfil the requirements of ASTM F876, CSA 137.5, EN ISO 15875, BS 7291 and all related standards.

This system allows the compound to be extruded as a normal thermoplastic polymer and will attain a high level of crosslinking in the processed form. The final product provides all the superior properties associated with crosslinked polyethylene.

Physical Properties:

Properties	Test method	Typical Value	Units
Density	ISO 1183-1	0.948	g/cm ³
Bulk density	ISO 60	0.54	g/cm ³
Melt Flow index (190°C/5 kg)	ISO 1133 / ASTM D 1238	1.0	g/10 min
Volatile level	ITN-ZP 300CH 3-5-5 / ČSN 640311	<0.25	%
Moisture (water)	ISO 15512	<0.02	%
Tensile strength at break	ISO 527	24	MPa
Elongation at break	ISO 527	450	%
Gel content	ISO 10147	70	%

The above details are given to the best of our knowledge and experience but are only meant as suggestions without obligation. Existing third party patent rights must be observed.



Processing of TABOREX TA 1117 HD

Extruder: TABOREX TA 1117 HD can be processed on standard 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: 2.5 - 3 : 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.

Recommendation for

Optimal extrusion conditions:

- Pre-drying of foreign masterbatches e.g. colour, PPA and others. Drying has to be done preferably with dried air. Residual moisture of the added masterbatches must not exceed 0.02%.
- 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 designed allowing streamlined flow avoiding stagnation of the material.
- In case of line stop longer than 10 - 15 minutes: Before restarting purge with standard HDPE (MFI: 0.3 g/10 min.)

Crosslinking Cure:

The following methods are recommended:

- Autoclave using saturated steam at 100-115°C (optimal method)
- By immersion in hot water at 80°C - 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 4 - 8 hours.

Storage:

TABOREX TA 1117 HD has a shelf life of nine 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 of the product must be used within 3 - 4 hours.

Packaging:

Boxes of 600 kg containing a moisture resistant multilayer lining

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