

More than value

SILON

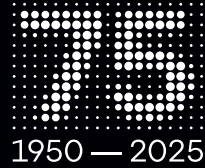
TABOREX[®] COMPOUNDS



— PEXellent Choice



OUR SUCCESSFUL HISTORY MAKES US A LEADER TODAY



1950 — 2025



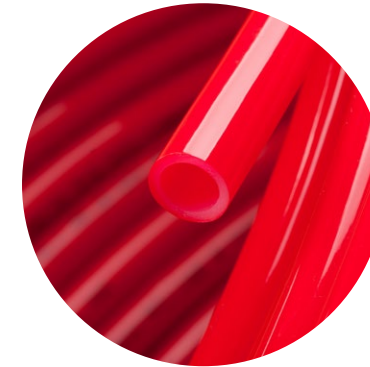
On the market since 1950

40 years of experience in compounding

100 000 t of production capacity



SILON PRODUCT PORTFOLIO



TABOREX® COMPOUNDS

Silane cross-linkable polyethylene compounds.



TABOREN® COMPOUNDS

Polyolefin compounds with mineral fillers for various applications.



TABOCAB® COMPOUNDS

Thermoplastic HFFR and cross-linkable PE compounds for cable industry.



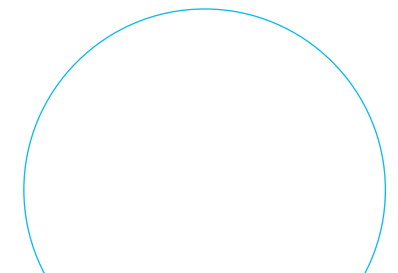
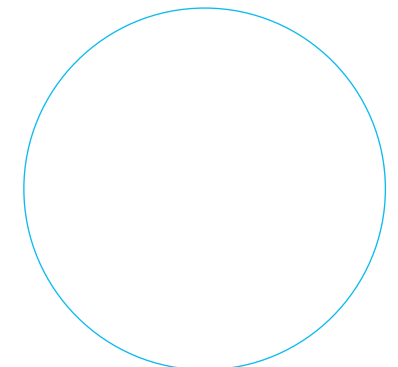
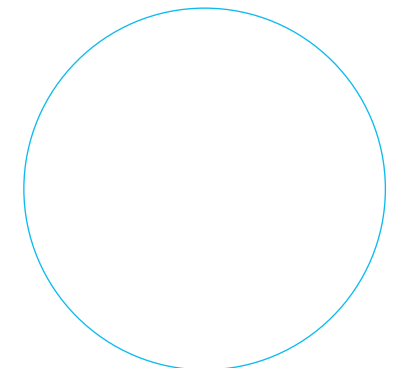
TABOREC® RECYCLED PLASTICS

Plastic regranulate and regrind used for sustainable products manufacturing with a mission to protect natural resources.



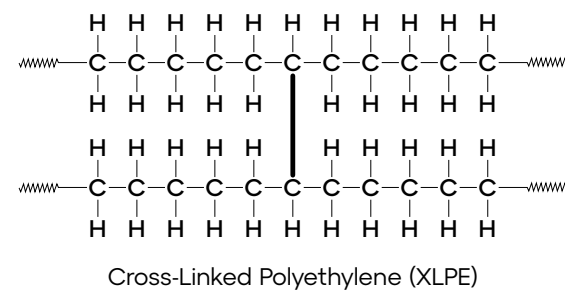
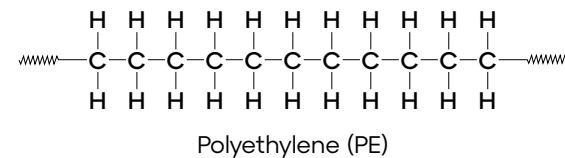
TOLL COMPOUNDING

Professional contract compounding specialized in reactive extrusion, high filled & customized products.

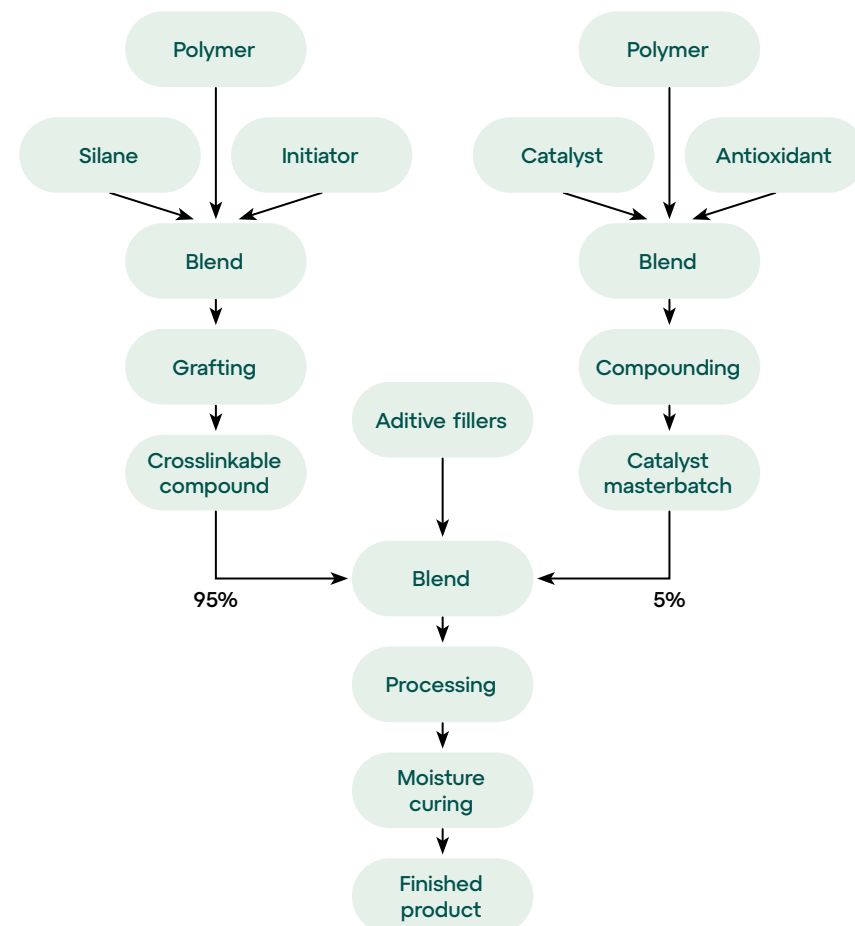


WHAT IS PEX?

Cross-linked polyethylene, commonly abbreviated PEX, XPE or XLPE, is a form of polyethylene with cross-links. It is used predominantly in building services pipework systems, hydronic radiant heating and cooling systems, domestic water piping, and insulation for low and medium voltage electrical cables.

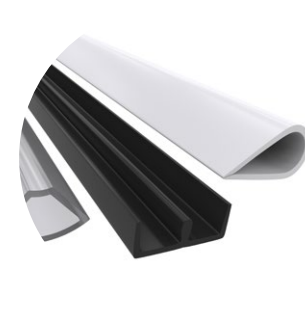
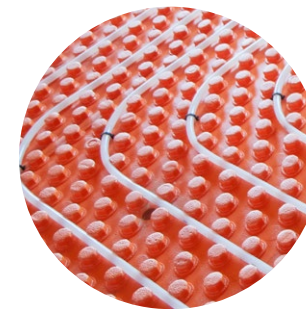
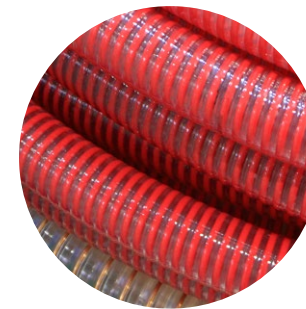


PE-Xb SIOPLAS PROCESS



TABOREX® (PE-Xb) APPLICATIONS

EXTRUSION



INJECTION MOULDING



ROTATIONAL MOULDING



BLOW MOULDING



FOAM



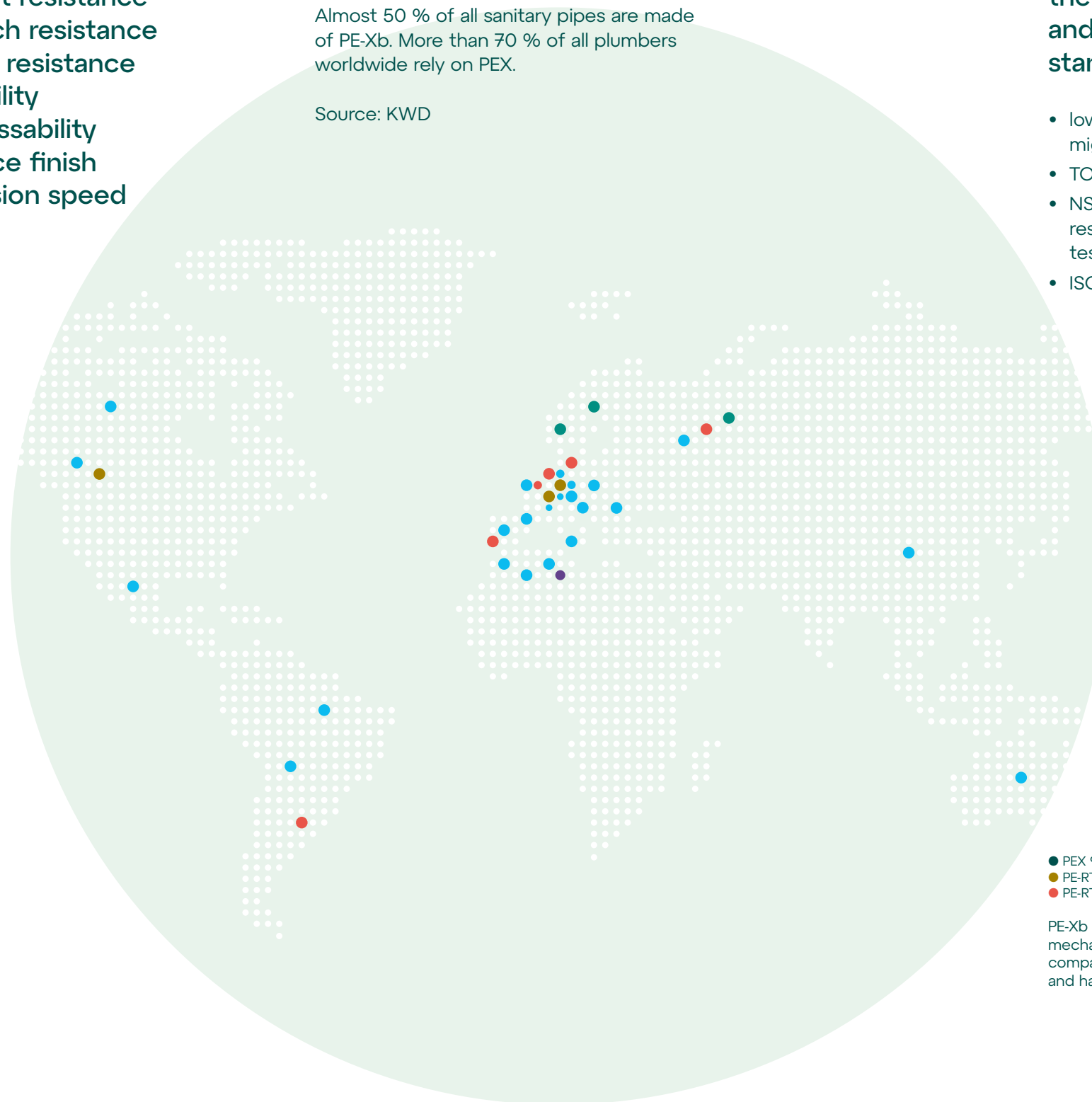
BENEFITS OF TABOREX® (PE-Xb) IN PIPES

- Temperature resistance
- Pressure resistance
- Impact resistance
- Scratch resistance
- Aging resistance
- Flexibility
- Processability
- Surface finish
- Extrusion speed

Global Plastic pipes Market overview

Almost 50 % of all sanitary pipes are made of PE-Xb. More than 70 % of all plumbers worldwide rely on PEX.

Source: KWD



6%
PP-R

10%
PE-Xa

11%
PE-Xc

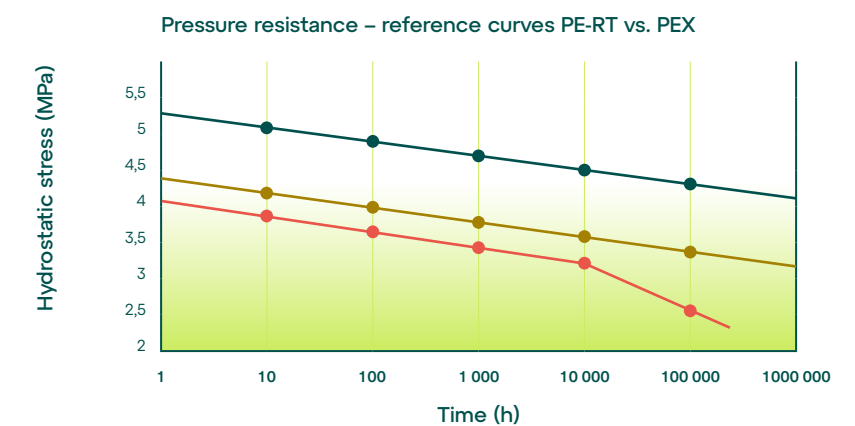
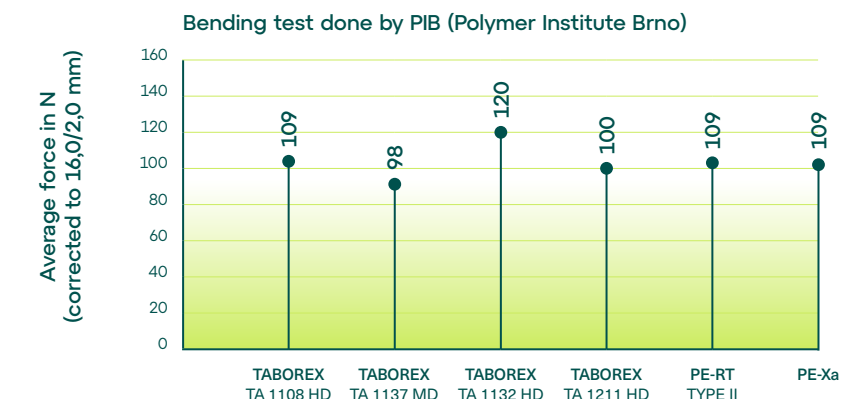
24%
PE-RT

49%
PE-Xb

Pipes made from TABOREX® meet the latest hygienic and mechanical standards

- low level of substance migration
- TOC, TON
- NSF listed PEX 5306 – Chlorine resistance of ASTM F876 tested according to F2023
- ISO 9080

	mechanical	hygienic
GERMANY	ISO 15875	KTW
ITALY	ISO 15875	KTW
FRANCE	ISO 15875	ACS
AUSTRIA	ISO 15875	B5014
UK	BS7291	WRAS
NETHERLANDS	BRL5609	ATA
DENMARK	ISO 15875	DTC
NORTH AMERICA	ASTM F876	NSF 61



● PEX 95°C, ISO 15875
● PE-RT TYPE II 95°C ISO 22391
● PE-RT TYPE I 95°C, ISO 22391

PE-Xb pipes have higher mechanical resistance compared to PE-RT pipes and have good flexibility.

PE-Xb ADVANTAGES IN PIPE APPLICATIONS

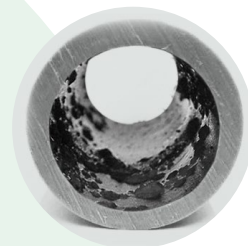
Chlorination is the most important chemical disinfection method currently used, but unfortunately has a negative impact on the plastic water piping systems. The level of ClO_2 differs from country to country from 0,5 to max. 4,0 mg/l and generally has an increasing trend.

Waterborne pathogens include the microorganisms Giardia, Cryptosporidium and Legionella.

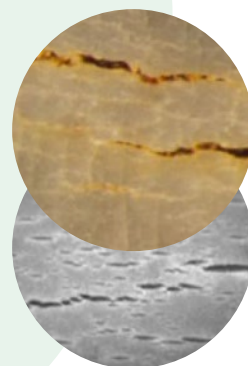
PE-Xb pipes can best resist chlorination in comparison with other plastic pipe materials.



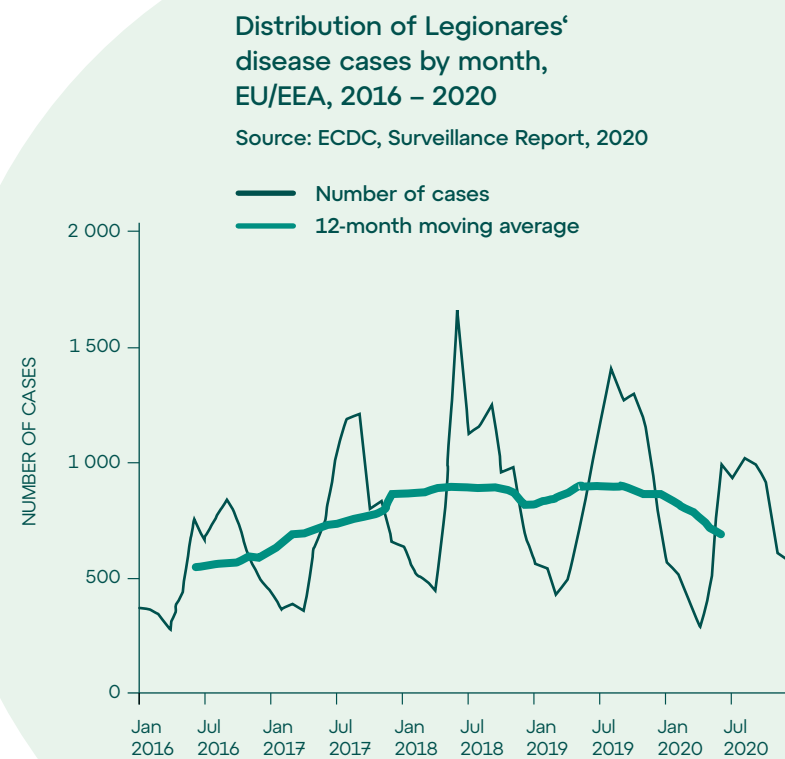
Legionella bacteria



Biofilm in the piping before chlorination



Cracks on the inner surface of non-PEX pipes after chlorination



CHLORINE RESISTANCE OF PE-Xb WATER PIPES

SILON study
01/2019 — 03/2020

SILON conducted quality testing in 2019 at ELEMENT Sweden, an independent and accredited test laboratory.

OBJECTIVE

Screen performance of PE-based hot water pipes at 105 °C and 115 °C, pH 6,8 and 1 ppm ClO_2 (4,14 bar)

EXPERIMENTAL

Four different pipes grades were taken from the market (Dn: 16 mm, En: 2.0 mm). Two samples of each pipe were tested at 105 °C and 115 °C.

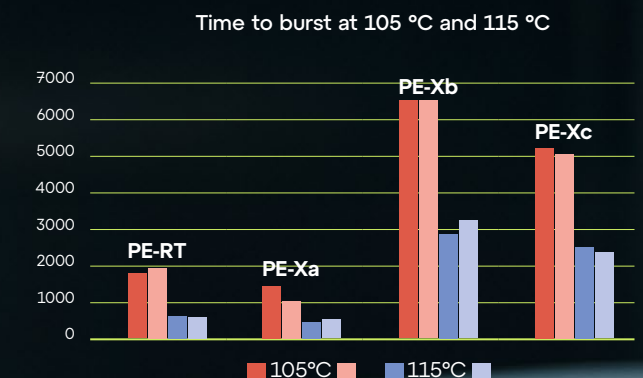
LIMITATIONS

Double temperature comparison, no lifetime extrapolations (predictions) possible

RESEARCH RESULTS*

Test was stopped after 6582 hours, PE-Xb pipes were still going strong without failure.

Pipe	Material	Failure time (105°C)	Failure time (115°C)
Mono layer	PE-RT type II	1784	1948
Mono layer	PE-Xa	1450	1047
Mono layer	PE-Xb	*6582	*6582
Mono layer	PE-Xc	5235	5070



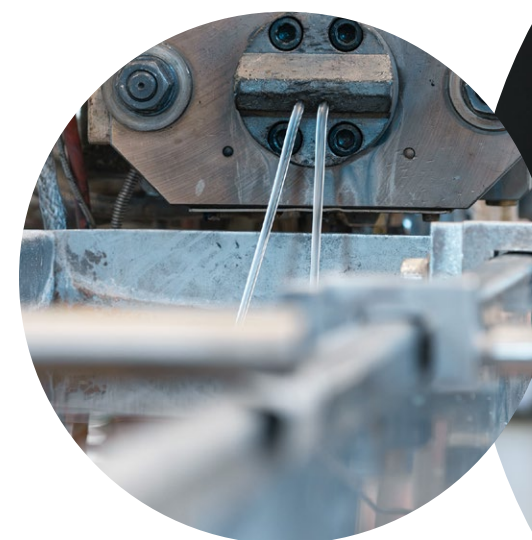
Physical cross-linking (PE-Xb, PE-Xc) indicates improved ClO_2 resistance.

Pipe grades PE-Xb and PE-Xc show significantly better results than pipe grades PE-Xa and PE-RT.

RESEARCH IS THE HEART OF OUR DEVELOPMENT

R&D is the core of our business. The SILON Research and Development Center, located in the Czech Republic, is a modern R&D facility that aims to boost innovation and enhance our customer support. Our extensive knowledge and understanding of our client's applications is at the heart of successful long-term partnerships. Our technical experts help you find the best product for your specific requirements and support you in ensuring smooth processability.

The Research and Development Center includes



FACILITIES

- Compounding line for small-scale production and sampling
- Laboratory extruder
- Autoclave chamber, helping customers to find optimal curing cycle
- Laboratory kneader mixer

DEVICES

- DSC (Differential Scanning Calorimetry)
- SEM (Scanning Electron Microscope)
- OCS (Optical Control System)
- Rotational Rheometer
- HPLC (High Performance Liquid Chromatography)
- Universal testing machine for mechanical properties
- FTIR (Fourier-Transform Infrared Spectroscopy)
- TGA (Thermogravimetric Analyzer)
- XRF (X-ray Fluorescence)
- GC-MS (Gas Chromatography–Mass Spectrometry)
- UV-VIS
- Karl Fischer Titration

MEASUREMENT METHODS

- LOI (Limiting Oxygen Index)
- Gel content (Crosslinking Level of Final Product)
- TOC content (Total Organic Carbon Content)
- MFI (Melt Flow Index)
- OIT (Oxidative Induction Time)
- Additives and stabilizers
- Water concentration in material
- Density
- Material Aging
- Hot set test



FIND THE BEST SOLUTION

Our TABOREX® products work as a "Sioplas-System", consisting of crosslinkable Compound and Catalyst Masterbatch that contains the crosslinking agent.

COMPOUND						
Material	Processing type	Application		MFI [g/10min]*	Density [g/cm³]	Flexibility
TABOREX TA 1108 HD	extrusion	sanitary & drinking water	underfloor heating	2,7	0,943	medium
TABOREX TA 1132 HD	extrusion	sanitary & drinking water	underfloor heating	1,9	0,948	low
TABOREX TA 1155 HD	extrusion	sanitary & drinking water	underfloor heating	1,0	0,947	low
TABOREX TA 1160 CL	extrusion	sanitary & drinking water	underfloor heating	1,4	0,950	low
TABOREX TA 1201 HD	extrusion	sanitary & drinking water	underfloor heating	1,6	0,948	low
TABOREX TA 1206 HD	rotomoulding	large hollow parts	coating	20,0	0,948	low
TABOREX TA 1211 HD	extrusion	sanitary & drinking water	underfloor heating	2,5	0,941	high
TABOREX TA 3004 HD	injection moulding	fittings		6,5	0,954	low
TABOREX TA 7400 LD	extrusion	metal pipe coating	foam	9,0	0,925	high
*MFI (190°C / 5,0 kg)						



CATALYST						
Material	Processing type	Stabilization		MFI [g/10min]*	Reactivity	Colour
TABOREX TA 2111 HD	extrusion	standard AOX	metal deactivator	5,5	high	opaque
TABOREX TA 2120 HD	extrusion	standard AOX		8,5	medium	opaque
TABOREX TA 2131 HD	extrusion	standard AOX		5,0	high	opaque
TABOREX TA 2142 HD	extrusion	standard AOX		5,0	medium	opaque
TABOREX TA 2143 HD	extrusion	standard AOX	metal deactivator	5,5	high	opaque
TABOREX TA 2147 HD	extrusion	standard AOX	metal deactivator	9,0	high	opaque
TABOREX TA 2155 HD	extrusion	standard AOX		8,3	medium	opaque
TABOREX TA 2160 UV	extrusion	high AOX/UV	metal deactivator	11,8	medium	opaque
TABOREX TA 2170 CL	extrusion	chlorine resistant (CL)		9,0	medium	opaque
TABOREX TA 2171 PW	extrusion	standard AOX		9,0	high	opaque
TABOREX TA 2174 HD	extrusion	standard AOX		8,0	low	opaque
TABOREX TA 2175 CL	extrusion	chlorine resistant (CL)		9,0	high	opaque
TABOREX TA 2343 HD	extrusion	standard AOX/UV		2,5	low	black
TABOREX TA 2350 HD	extrusion	standard AOX		8,6	high	black
TABOREX TA 2384 HD	extrusion	standard AOX		8,7	low	white
TABOREX TA 2385 HD	extrusion	standard AOX		8,7	low	white
TABOREX TA 2363 HD	extrusion	standard AOX		9,2	medium	yellow
TABOREX TA 2410 CL	extrusion	high AOX/UV	metal deactivator	9,0	high	red
TABOREX TA 2411 CL	extrusion	high AOX/UV	metal deactivator	12,9	high	blue
TABOREX TA 2412 CL	extrusion	high AOX/UV	metal deactivator	12,9	high	white
TABOREX TA 8030 LD	extrusion	standard AOX	metal deactivator	4,5	low	opaque

PROCESSING AID					
Material	Processing type	Application	MFI [g/10min]*	Density [g/cm³]	Colour
TABORADD 23-08350	extrusion, injection moulding	processing aid	8,2	0,970	opaque
TABORADD 23-08010	extrusion, injection moulding	processing aid	7,8	0,980	opaque

*MFI (190 °C/2,16 kg)

SUCCESS STORIES

PE-Xb material has been successfully used in many extraordinary projects. Here you can see examples.



King Abdullah metro station, Riyadh, Saudi Arabia
UNDERFLOOR COOLING systems



SANITARY PE-Xb pipes,
Hospital of Toulouse, France



GAS PIPING SYSTEM in luxury residence
of Torri Camuzzi, Pescara, Italy



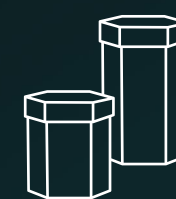
PE-Xb HEATING pipes under the racing circuit
in Monza, Italy

PACKAGING

Compounds are packed in moisture-resistant bags and octabins on heat-treated wooden pallets.

The goods shall be stored inhouse.

600 kg
1 200 kg



20 kg





Get in touch with us



1950 — 2025

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