

gabotherm[®]

gabotherm[®] Pipes



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Polybutene Pipes:

Polybutene is said to be the material of the future, as this plastic is very flexible (easy installation and laying), displays little creeping (safety for press and clamp connections), little thermal expansion (bending leg length, expansion compensation) and guarantees an excellent chemical durability (various application areas). Polybutene was used as pipe material as early as the 60s and has since then attained double-digit growth rates.

This pipe material can be used to manufacture **pipe diameters of various sizes**, the **smallest** gabotherm® pipe dimension, for example, has an exterior diameter of **8.0 mm** and a wall thickness of 1.0 mm (mainly used for wall heating systems), and the **largest** pipe dimension has an exterior diameter of **32 mm** and a wall thickness of 3.0 mm (inlet pipes for heating and sanitary installations).

Due to its special material properties, polybutene allows for a reduction in the wall thickness (e.g. 1.5 mm for d = 15 and 1.3 mm for d = 12) which dramatically improves the ease of installation, reduces the net weight and produces a smaller pressure loss in the pipe compared to conventional wall thicknesses.

The thermoplastic base material polybutene can be classified into two material groups – grey and ivory-coloured base material. The grey base material is tasteless and is therefore used in sanitary installations (can also be used for heating systems), the ivory-coloured base material is suitable only for heating purposes. gabotherm® PB pipes fulfil the requirements according to DIN 4726/27.

gabotherm® polybutene pipes are suitable for the following **operating conditions**:

- ⇒ Drinking water pipes: 70°C / 10 bar
- ⇒ Heating pipes: application class 5 (floor heating and radiator connections) / 6 bar



PE-Xc Pipes:

Due to their positive properties, crosslinked polyethylene pipes (PE-Xc formerly VPE) are excellently suited for use in heating and drinking water installations. In gabotherm PE-Xc pipes, the properties of the base material PE-HD (polyethylene high density) are optimised by electron-beam-crosslinking. This beam-crosslinking reaction causes the macromolecules of the plastic to physically bond to form crosslinks that improve the mechanical and thermal properties of the material. The abrasion resistance, the chemical resistance, the creep strength and the pressure and thermal resistance are thus increased, while stress cracking is decreased. This pipe material therefore fulfils ideal prerequisites for being used in heating and sanitary installations.

The **pipe diameters** of the gabotherm® PE-Xc pipes are **14 x 2.0 mm to 20 x 2.0 mm**.

gabotherm® PE-Xc pipes are suitable for the following **operating conditions**:

- ⇒ Drinking water pipes: 70°C / 10 bar
- ⇒ Heating pipes: application class 5 (floor heating and radiator connection) / 6 bar



gabotherm® pipes fulfil the technical requirements according to DIN 4726 and DIN 4739

PE-RT (Resistant Temperature)

Polyethylene-RT (increased temperature resistance) is a pipe especially suited for use in heating systems. This pipe is used without crosslinks but nonetheless displays a great toughness / fatigue strength and an excellent stress-cracking resistance.

This pipe, which is also oxygen-impermeable according to DIN 4726, is mainly used for floor heating piping and, due to its great flexibility, allows for easy installation.

The pipe diameters of the gabotherm® PE-RT pipes are 14 x 2.0 mm to 20 x 2.0 mm. Its suitability is verified by an independent testing institute.

gabotherm® PE-RT pipes are suitable for use in floor heating systems and radiator connections for the following **operating conditions**:

- ⇒ dimension 14–18 class 5 (floor heating systems and radiator connections) / 5 bar
- ⇒ dimension 20 class 5 / 4 bar



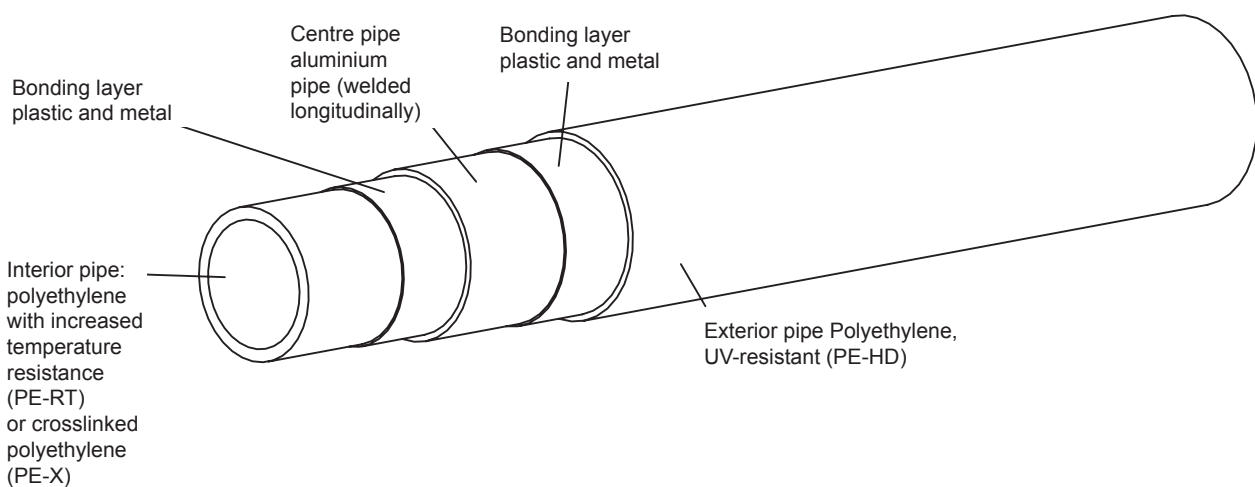
Extruder for pipe manufacture in the Niederwinkling plant

MV pipes:

gabotherm® multilayer composite pipes (MV) consist of 5 layers (from inside to outside): PE-RT or PE-X for d 50 and d 60 (inliner) / adhesion layer / aluminium / adhesion layer / PE-HD.

The aluminium layer is applied in different thicknesses, depending on the pipe dimension, and is butt welded in longitudinal direction.

An outstanding feature of these oxygen-impermeable pipes is their deformation resistance. This makes them particularly suitable for rising distribution pipes and cellar distribution pipes.

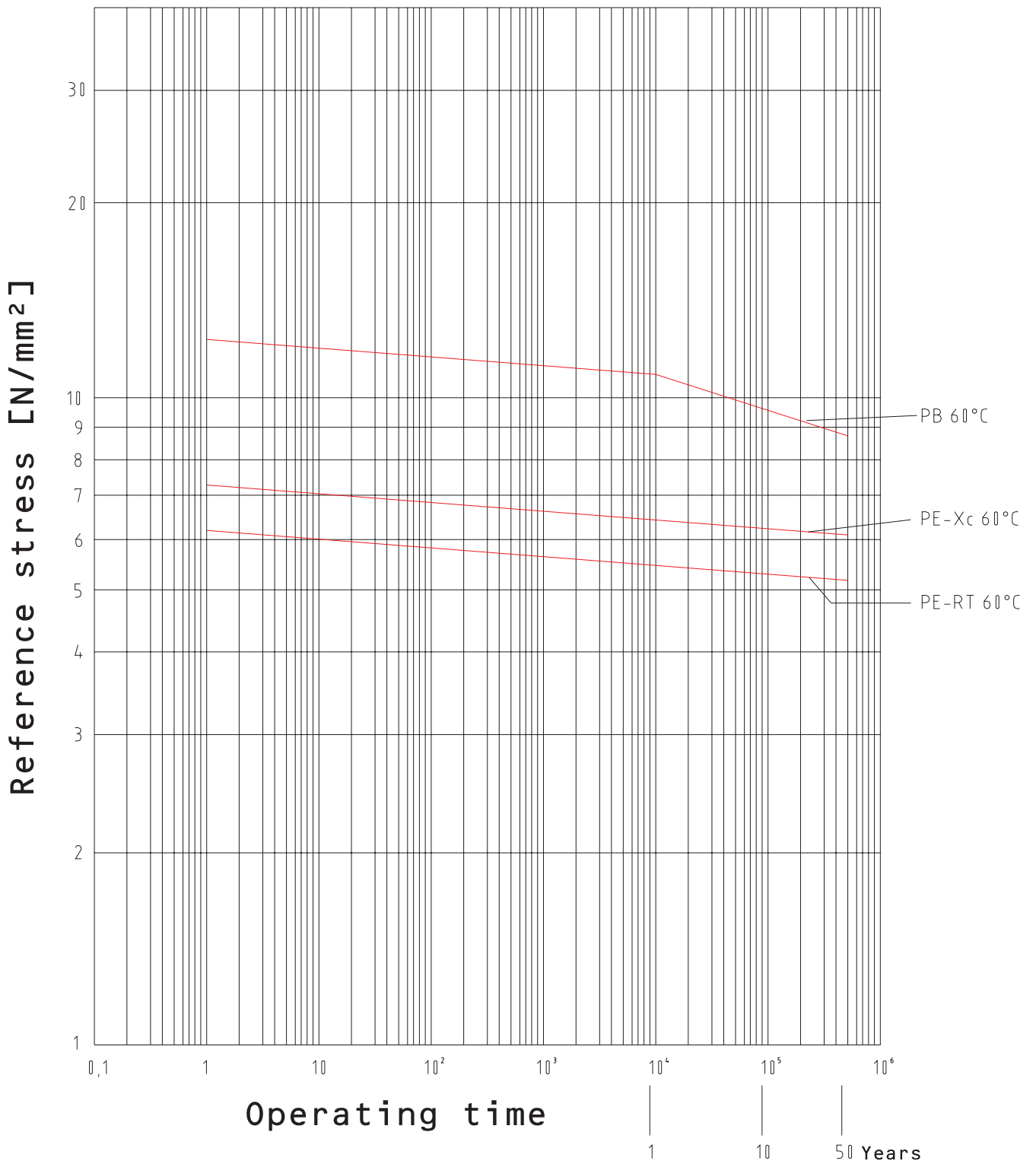


These pipes can withstand a maximum operating temperature of 95°C and a maximum operating pressure of 12 bar.

PE protective pipes:

gabotherm® protective pipes made from corrugated polyethylene serve as protection for various interior pipes in numerous application areas. Protective pipes can be used in cold water pipes of drinking water installations e.g. for protection from condensation water, in floor heating applications e.g. as floor tempering for flow temperatures up to 70°C. For distinguishing, the protective pipe is manufactured in different colours (mainly black and white) and is also available as an insulated protective pipe.

Fatigue strength of gabothersm[®] pipes



This graph shows the lifetime of the different pipe materials, in relation to the temperature and the hoop stress prevalent in the pipe wall

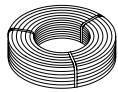
Material Polybutene

gabotherm® Pipe

thrice coextruded, oxygen-impermeable (diffusion resistant) polybutene pipe, corresponding to the technical requirements according to DIN 4726/27 and DIN EN 12319, various test certificates and certifications (MPA, DIN-Certco, KTW and DVGW) are available.

Code HR-PB-DD

In coils



Type	Heat.	DVGW	Unit	Item ID
8 x 1.0 (red) Base material: PB-ivory	x		200 m	12010
	x		400 m	12003
12 x 1.3 (red) Base material: PB-ivory	x		120 m	12748
	x		200 m	12749
	x		300 m	12750
14 x 2.0 (grey)	x		120 m	04559
15 x 1.5 (orange) Base material: PB-ivory	x		120 m	12714
	x		200 m	12715
	x		300 m	12716
	x		600 m ¹⁾	12724
15 x 1.5 H+S (grey)	x	x	200 m	12794
16 x 2.0 (grey)	x	x	200 m	05620
16 x 2.0 (ivory)	x		200 m	00115
18 x 2.0 (grey)	x	x	120 m	04780
	x	x	200 m	04782
	x	x	300 m	03059
	x	x	750 m ²⁾	08979*
	x	x	2500 m ³⁾	07646*
20 x 2.0 (grey)	x	x	200 m	05107
25 x 2.3 (grey)	x	x	60 m	09735
32 x 3.0 (grey)	x	x	60 m	09736

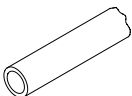
1) Cardboard core b=680 mm; di = 435 mm 2) Cardboard core single-use drum b= 800m; da=855 mm

3) On wooden single-use drum

***Per order**

Code HR-PB-DD

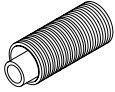
In rods



Type	Heat.	DVGW	Unit	Item ID
15 x 1.5 (orange) Base material: PB-ivory	x		15 x 4 m	12778
15 x 1.5 H+S (grey)	x	x	20 x 3 m	12730
16 x 2.0 (grey)	x	x	15 x 4 m	06689
18 x 2.0 (grey)	x	x	15 x 4 m	00598
20 x 2.0 (grey)	x	x	15 x 4 m	05770
25 x 2.3 (grey)	x	x	10 x 3 m	03796
32 x 3.0 (grey)	x	x	10 x 3 m	03761

gabotherm® Pipe in Protective Pipe

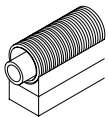
thrice coextruded, oxygen-impermeable (diffusion resistant) polybutene pipe, corresponding to the technical requirements according to DIN 4726/27 and DIN EN 12319, various test certificates and certifications (MPA, DIN-Certco, KTW and DVGW) are available. In a corrugated protective pipe made from polyethylene, colour of protective pipe black or white.

Code GT-PB-DD
In coils


Interior pipe	PP = do	Heat.	DVGW	Unit	Item ID	
					Protective pipe white	black
12 x 1.3 (rot) Base material: PB-ivory	21	x		120 m	12752	12751
14 x 2.0 (grey)	21	x		120 m	03091	03090
14 x 2.0 (ivory)	21	x		120 m	09337	09338
15 x 1.5 (orange) Base material: PB-ivory	25	x		120 m	12780	12779
15 x 1.5 H+S (grey)	25	x	x	120 m	on request	12729
16 x 2.0 (grey)	25	x	x	120 m	00145	00141
16 x 2.0 (ivory)	25	x		120 m	12725	12726
18 x 2.0 (grey)	25	x	x	60 m	06575	06571
			x	120 m	04772	04771
20 x 2.0 (grey)	28	x	x	60 m	06577	06576

gabotherm® Pipe in Protective Pipe with 100% Insulation

thrice coextruded, oxygen-impermeable (diffusion resistant) polybutene pipe, corresponding to the technical requirements according to DIN 4726/27 and DIN EN 12319, various test certificates and certifications (MPA, DIN-Certco, KTW and DVGW) are available. Colour of protective pipe black, with 100% insulation with predetermined breaking point reducible to 50% insulation, construction height 51 mm.

Code GT-PB-DD 100%
In coils


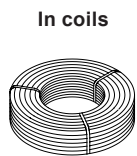
Interior pipe	PP	Heat.	DVGW	Unit	Item ID	
					Protective pipe black	
12 x 1.3 (red) Base material: PB-ivory	21	x		60 m	12761	
14 x 2.0 (grey)	21	x		60 m	05313	
15 x 1.5 (orange) Base material: PB-ivory	25	x	x	60 m	12788	
16 x 2.0 (grey)	25	x	x	60 m	04753	
18 x 2.0 (grey)	25	x	x	60 m	06690	
20 x 2.0 (grey)	28	x	x	60 m	06691	

Material PE-Xc

Heating Pipe

thrice coextruded, oxygen-impermeable PE-Xc pipe, corresponding to the technical requirements according to DIN 4726/29 and DIN EN 12318, various test certificates and certifications (MPA, DIN-Certco, KTW) are available.

Code HR-PE-Xc DD



In coils

Type	Heat.	Unit	Item ID
14 x 2.0	x	200 m	00121
16 x 2.0	x	200 m	00050
17 x 2.0	x	200 m	00049
	x	600 m ¹⁾	12776
	x	600 m ⁴⁾	12793
	x	600 m ⁵⁾	12801
18 x 2.0	x	200 m	00069
20 x 2.0	x	200 m	00070

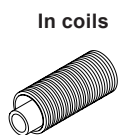
1) Cardboard core b= 680 mm; di = 435 mm 4) Cardboard core single-use drum b= 700 mm; do=855mm

5) Cardboard core b= 560 mm; di = 435 mm

Heating Pipe in Protective Pipe

thrice coextruded, oxygen-impermeable PE-Xc pipe, corresponding to the technical requirements according to DIN 4726/29 and DIN EN 12318, various test certificates and certifications (MPA, DIN-Certco and KTW) are available. In a corrugated protective pipe made from polyethylene, colour of protective pipe white or black.

Code GT-PE-Xc DD



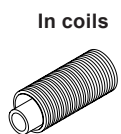
In coils

Interior pipe	PP	Heat.	Unit	Item ID	
				Protective pipe white	black
14 x 2.0	21	x	120 m	03684	03683
16 x 2.0	25	x	120 m	00045	00046
17 x 2.0	25	x	120 m	on request / 00048	
18 x 2.0	25	x	120 m	on request / 11050	
20 x 2.0	28	x	120 m	on request / 00078	

gaboflex Sanitary Pipe

gaboflex PE-Xc pipe, with system accreditation from KTW, registration with DVGW, base pipe made from crosslinked polyethylene PE-Xc according to DIN 16892/93, usable in accordance with DVGW for up to 70°C / 10 bar, in a corrugated protective pipe made from polyethylene, colour of protective pipe black.

Code GFL-PE-Xc



In coils

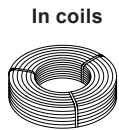
Interior pipe	SR	DVGW	Unit	Item ID
				Protective pipe black
16 x 2.2	25	x	30 m	10404
		x	60 m	10403
20 x 2.8	28	x	30 m	10406
		x	60 m	10405

Material PE-RT

gabotherm® Heating Pipe

thrice coextruded, oxygen-impermeable polyethylene pipe with increased temperature resistance, oxygen-impermeable according to DIN 4726, base pipe made from polyethylene of medium density, certification from SKZ is available.

Code HR-PE-RT DD



In coils

Type	Heat.	Unit	Item ID
14 x 2.0	x	500 m	03249
16 x 2.0	x		on request
17 x 2.0	x	120 m	06403
		200 m	06399
		500 m	03168
18 x 2.0	x	200 m	06400
		750 m ²⁾	07644
20 x 2.0	x		on request

2) Cardboard core single-use drum b= 800m;
do=855mm

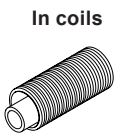
5) Cardboard core b= 560 mm di = 435 mm

Further coil sizes and pipe dimensions available on request

gabotherm® Heating Pipe in a Protective Pipe

thrice coextruded, oxygen-impermeable polyethylene pipe with increased temperature resistance, oxygen-impermeable according to DIN 4726, base pipe made from polyethylene of medium density, certification from SKZ is available.

Code GT-PE-RT DD



In coils

Type	Heat.	Unit	Item ID
14 x 2.0	x		on request
16 x 2.0	x		on request
18 x 2.0	x		on request

Further coil sizes and pipe dimensions available on request

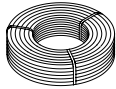
Metal Composite Pipe

gabotherm® Metal Composite Pipe

multilayer composite pipe in 5 layers from inside to outside made from PE-RT (or PE-X)/AL/PE-HD, aluminium butt welded longitudinally, oxygen-impermeable, 70°C/10 bar for heating and sanitation, tested by DVGW, colour white.

Code GT-MV-H+S

In coils



Type	AL thickness	Heat.	DVGW	Unit	Item ID
14 x 2.0 for heating only	0.2 mm	x		200 m	12813
16 x 2.0 for heating only	0.2 mm	x		200 m	12773
16 x 2.0	0.4 mm	x	x	200 m	12774
18 x 2.0	0.4 mm	x		200 m	12805
20 x 2.0	0.4 mm	x	x	100 m	12807

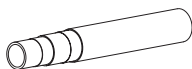
Further dimensions and coil sizes available on request

gabotherm® Metal Composite Pipe

multilayer composite pipe in 5 layers from inside to outside made from PE-RT (or PE-X)/AL/PE-HD, aluminium butt welded longitudinally, oxygen-impermeable, 70°C/10 bar for heating and sanitation, tested by DVGW, colour white.

Code GT-MV-H+S

In rods 5m



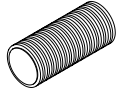
Type	AL thickness	Heat.	DVGW	Unit	Item ID
16 x 2.0	0.4 mm	x	x	24 x 5 m	12804
18 x 2.0	0.4 mm	x		24 x 5 m	12806
20 x 2.0	0.4 mm	x	x	24 x 5 m	12808
26 x 3.0	0.5 mm	x	x	24 x 5 m	12768
32 x 3.0	0.5 mm	x	x	10 x 5 m	12769
40 x 3.5	0.5 mm	x	x	10 x 5 m	12810
50 x 4.0 Inliner: PE-Xc	0.5 mm	x	x	10 x 5 m	12811
63 x 4.5 Inliner: PE-Xc	0.5 mm	x	x		on request

Protective Pipes Made From PE

gabotherm® Protective Pipe

corrugated protective pipe made from polyethylene. Colour of protective pipe black.

In coils



Code GT-SR

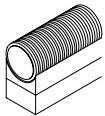
Type = do	for interior pipe	Heat.	San.	Unit	Item ID
15	d 6 – d 8	x	x	50 m	12226
21	d 12 – d 14	x	x	60 m	03046
25	d 15 – d 18	x	x	60 m	01823
28	d 20	x	x	60 m	06697
40	d 25	x	x	60 m	00103

Further coil sizes and colours available on request

gabotherm® Protective Pipe with 100% Insulation

corrugated protective pipe made from polyethylene, colour of protective pipe black, with 100% insulation for pulling through the gabotherm® pipe on the building site. With predetermined breaking point reducable to 50% insulation.

In coils



Code GT-SR 100 %

Type = do	for interior pipe	Heat.	San.	Unit	Item ID
25	d 12 – 18	x	x	60 m	05630
28	d 20	x	x	60 m	06992