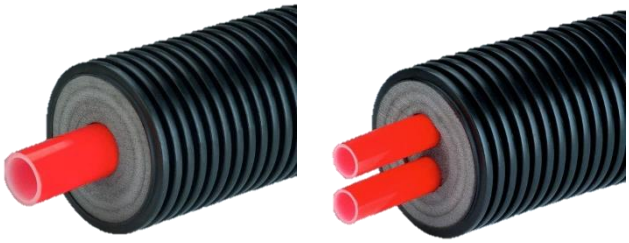
TECHNICAL DATA SHEET

PRODUCT DESCRIPTION



The flexible, high performance underground piping system AUSTROPEX single/double PE-Xa, PN6 consists of cross-linked PE-Xa carrier pipes with high resistance to corrosion and pressure at high temperatures according to the German DIN 16892/16893 standards. PE-Xa carrier pipes for central heating purposes feature an oxygen diffusion barrier in accordance with DIN 4726. The thermal, elastic, CFC-free foam insulation made from cross-linked PE-X with closed microcellular structure guarantees a minimal water absorption capacity of < 1% in accordance with DIN 53428. The corrugated outside casing made of HDPE (High-Density-Polyethylene) provides high-grade flexibility and protection to the piping system.

APPLICATION

The AUSTROPEX single/double PE-X, PN6 piping system is suitable for use in heating applications, for example: long-distance and short-distance heating lines, thermal lines, connection lines from building to building and cooling lines.

TECHNICAL DATA

AUSTROPEX-Pipes PEX PN6			
Medium (carrier) pipe	Cross-linked PE-Xa		
Insulation	PE-Insulation (PE-X with closed microcellular structure)		
Jacket pipe (outside casing)	flexible, corrugated HDPE jacket pipe		
Thermal conductivity Component PE-Insulation Component Medium pipe	0.040 0.41	[W/m·K]	EN 15632
Delivery length up to medium pipe dimension da 125 mm,	100	[m]	Standard full coil length Special sizes on request
Delivery length for medium pipe dimension da 160 mm	11.8	[m]	Outside casing
	11.3		Medium pipe (carrier pipe)

	Austroflex HT-Pipe dimension	Weight [kg/m]	min bending radius [m]
Available pipe dimensions and minimum bending radii	AUSTROPEX A-090 1/25 x 2,3 PN6	0,9	0,25
	AUSTROPEX A-090 1/32 x 2,9 PN6	1,0	0,25
	AUSTROPEX A-125 1/40 x 3,7 PN6	1,3	0,35
	AUSTROPEX A-145 1/50 x 4,6 PN6	1,9	0,40
	AUSTROPEX A-145 1/63 x 5,8 PN6	2,3	0,55
	AUSTROPEX A-175 1/75 x 6,8 PN6	3,3	0,80
	AUSTROPEX A-200 1/90 x 8,2 PN6	4,3	1,10
	AUSTROPEX A-200 1/110 x 10,0 PN6	5,2	1,20
	AUSTROPEX A-200 1/125 x 11,4 PN6	6,1	1,40
	AUSTROPEX A-250 1/160 x 14,6 PN6 (12 m)	15,1	---
	AUSTROPEX A-125 2/20 x 1,9 PN6	1,2	0,45
	AUSTROPEX A-145 2/25 x 2,3 PN6	1,6	0,50
	AUSTROPEX A-175 2/32 x 2,9 PN6	2,5	0,60
	AUSTROPEX A-175 2/40 x 3,7 PN6	2,7	0,80
	AUSTROPEX A-200 2/50 x 4,6 PN6	3,6	1,00
	AUSTROPEX A-200 2/63 x 5,8 PN6	4,3	1,20

Medium pipe (Carrier pipe)								
Material	Cross-linked PE-Xa SDR 11 according to DIN 16892/16893, EVOH oxygen diffusion barrier according to DIN 4726							
Cross-linking type	Peroxide-linked (Engel process), designation PE-Xa							
Max operating pressure	6 bar							
Service temperature	-40 °C to +90 °C							
Max fluid temperature	95 °C							
Linear expansion coefficient in the temperature range 0 to 70°C	$1.5 * 10^{-4}$		[K^{-1}]					
Building material class	B2						DIN 4102	
Oxygen permeability (at 80°C)	<1.8		[mg/m²day]				EN15632	
Long-term behaviour PE-Xa pipe district heating (Pipe Serie 5 SDR11)								
Temperature [°C]	30°	40°	50°	60°	70°	80°	90°	95°
Pressure [bar]	13,4	11,9	10,6	9,5	8,5	7,6	6,9	6,6

The used PE-Xa pipe is manufactured and quality controlled in accordance with EN 16892 and EN 16893 . Designed for an operating time of 24h - 365 days per year (8760 h). Required by EN 15632 the life cycle of 30 years is achieved at 80 ° C.

PE-Insulation			
Material	PE-X foam, closed microcellular structure , CFC-free		
Temperature resistance	up to +95	[°C]	
Water absorption after 28 days	< 1%	DIN 53428	
Thermal conductivity	0.040	[W/m·K]	DIN 52613

Jacket pipe (outside casing)		
HDPE jacket pipe properties	highly flexible highly resistant to mechanical damage highly corrosion-resistant	
Jacket pipe type	O.D. [mm]	I.D. [mm]
A 90	89,0 +2,5	> 74
A 125	122,5 +2,5	> 104
A 175	172,0 +3,0	> 124
A 200	196,0 + 3,0	> 168
A 250 (PE 100, 11.8 m)	253,3	> 232

HEAT LOSS AUSTROFLEX® HT-single/double PE-X, PN

Heat loss single pipes

Heat loss in W/m at ΔT = Tf-Tg											
ΔT [K]	10	20	30	40	50	60	70	80	90	100	U-value [W/m · K]
90 1x25	1,90	3,80	5,69	7,59	9,49	11,39	13,28	15,18	17,08	18,98	0,1898
90 1x32	2,36	4,71	7,07	9,42	11,78	14,13	16,49	18,84	21,20	23,55	0,2355
125 1x40	2,16	4,32	6,48	8,64	10,80	12,96	15,12	17,28	19,44	21,60	0,2160
145 1x50	2,29	4,57	6,86	9,14	11,43	13,71	16,00	18,29	20,57	22,86	0,2289
145 1x63	2,93	5,85	8,78	11,70	14,63	17,55	20,48	23,40	26,33	29,25	0,2925
175 1x75	2,87	5,74	8,60	11,47	14,34	17,21	20,07	22,94	25,81	28,68	0,2868
200 1x90	3,09	6,18	9,28	12,37	15,46	18,55	21,65	24,74	27,83	30,92	0,3092
200 1x110	4,16	8,32	12,48	16,64	20,81	24,97	29,13	33,29	37,45	41,61	0,4161
200 1x125	5,33	10,67	16,00	21,34	26,67	32,01	37,34	42,67	48,01	53,34	0,5334
250 1x160	4,67	9,35	14,02	18,70	23,37	28,05	32,72	37,40	42,07	46,75	0,4675

Heat loss double pipes

Heat loss in W/m at ΔT = (Tf+Tr)/2-Tg											
ΔT [K]	10	20	30	40	50	60	70	80	90	100	U-value [W/m · K]
125 2x20	2,19	4,37	6,56	8,74	10,93	13,11	15,30	17,48	19,67	21,86	0,2186
145 2x25	2,23	4,46	6,69	8,92	11,15	13,38	15,61	17,84	20,07	22,30	0,2230
175 2x32	2,30	4,59	6,89	9,19	11,48	13,78	16,08	18,38	20,67	22,97	0,2297
175 2x40	2,82	5,64	8,46	11,28	14,10	16,92	19,75	22,57	25,39	28,21	0,2821
200 2x50	3,19	6,38	9,57	12,77	15,96	19,15	22,34	25,53	28,72	31,91	0,3191
200 2x63	4,25	8,50	12,76	17,01	21,26	25,51	29,77	34,02	38,27	42,52	0,4252

Attention to handling details in users manual!

Fix points must be installed to absorb the possible effects of thermal expansion / shrinkage of the PE-Xa carrier pipes.

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