



## Cross-linked Polyethylene PEX Pipe Technical Specifications

**TECH**

### Technical Specifications

Mechanical Properties	PEX A (Engel/Peroxide)	PEX C (Irradiation)	Unit	Standard Tested
Density	938	940	kg/m <sup>3</sup>	ASTM F 876
Tensile strength (at 20°C)	20-26	23-26	N/mm <sup>2</sup>	DIN 53455
(at 100°C)	13-Sep	13-Sep	N/mm <sup>2</sup>	
Modulus of elasticity E (at 20°C)	1150	600-900	N/mm <sup>2</sup>	DIN 53457
(at 80°C)	560	400	N/mm <sup>2</sup>	
Elongation on failure (at 20°C)	300-450	500-700	%	DIN 53455
(at 100°C)	500-700	750-900	%	
Impact strength (at 20°C)	No failure	No failure	kJ/m <sup>2</sup>	DIN 53453
(at -140°C)	No failure	No failure*	kJ/m <sup>2</sup>	
Moisture absorption (at 22°C)	0.01	0.01	mg/4d	DIN 53472
Coefficient of friction on steel	0.08-0.1	0.08-0.1	-	
Surface energy	34 x 10 <sup>-3</sup>	34 x 10 <sup>-3</sup>	N/m	
Oxygen permeability (at 20°C)	0.7 x 10 <sup>-3</sup>	0.7 x 10 <sup>-3</sup>	g/m <sup>3</sup> day	DIN 4726
(at 55°C)	2.6 x 10 <sup>-3</sup>	2.6 x 10 <sup>-3</sup>	g/m <sup>3</sup> day	
ESCR (environmental cracking)	No failure	No failure		ASTM F 876
Degree of Crosslinking 65% to 75%				ASTM F 876
Thermal Properties	PEX A	PEX C	Unit	
Service Temperature	-100, +120	-100, +120	°C	
Coefficient of linear expansion (at 20°C)	1.4 x 10 <sup>-4</sup>	1.4 x 10 <sup>-4</sup>	m/m °C	
Coefficient of linear expansion (at 100°C)	2.05 x 10 <sup>-4</sup>	2.05 x 10 <sup>-4</sup>	m/m °C	
Softening temperature	, +133	, +133	°C	
Specific heat	2.3	2.3	kJ/kg °C	
Coefficient of thermal conductivity	0.38	0.38	W/m °C	
Electrical Properties	PEX A	PEX C	Unit	
Specific internal resistance (at 20°C)	10 <sup>15</sup>	10 <sup>15</sup>	Ωm	
Dielectric constant (at 20°C)	2.3	2.3	-	
Dielectric loss factor (at 20°C/50Hz)	1 x 10 <sup>-3</sup>	1 x 10 <sup>-3</sup>	-	
Rupture voltage (at 20°C)	60-90	60-90	kV/mm	

\* tested at -80° C

\* **Basic Standard DIN 16892/3** ---Pipe properties such as: degree of crosslinking, dimensions and tolerances, long term pressure testing at 95° C @ 6 bar (203° F @ 90 PSI) , ageing resistance in heat, and more, are tested according to DIN 16892/3 in frequencies exceeding DIN requirements. ComfortPro® pipes meet all these standards and exceed these requirements in many cases.

\***Basic Standard ASTM F 876, for nominal Imperial sizes**---dimensions are marked in nominal sizes, long term pressure testing at 200° F @ 80 PSI. ComfortPro Systems® pipes meet all these standards and exceed these requirements in all cases. ComfortPro Systems® **PEX pipes are made of a unique high density Polyethylene and contains special additives to avoid thermic ageing at high high heating water temperatures.** Pipes for floor heating systems may be coated with an optional Oxygen diffusion barrier. Strict quality testing and control are routinely performed at the manufacturer's laboratories, in addition to elaborate on line monitoring. Independent testing agencies assure the high quality of the product and conformity to standard requirements.