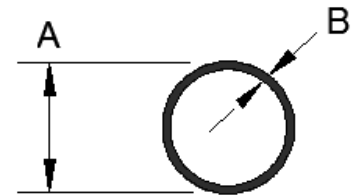


PRODUCT SUBMITTAL 113

Product: MUNICIPEX[®] Force Main Pipe
Date: 15 January 2018 (supersedes 15 April 2016)



Article No.	Nominal Diameter in.	Average OD (A) in. (mm)	Wall Thickness (B) in. (mm)	Weight lb/ft (kg/m)	Capacity Gal/ft (l/m)
318276	1 1/4	1.375±0.005 (34.92±0.12)	0.153 ^{+0.015/-0.000} (3.88 ^{+0.38/-0.00})	0.25 (0.37)	0.0467 (0.5827)
318272	1 1/2	1.625±0.006 (41.28±0.16)	0.181 ^{+0.019/-0.000} (4.59 ^{+0.48/-0.00})	0.35 (0.52)	0.0650 (0.8118)
318273	2	2.125±0.006 (53.98±0.16)	0.236 ^{+0.024/-0.000} (6.00 ^{+0.61/-0.00})	0.60 (0.90)	0.1114 (1.3906)

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TECHNICAL DESCRIPTION

Specification	English	SI	Standard
Minimum Density	58 lb/ft ³	926 kg/m ³	ASTM F876, DIN 53479
Degree of Cross-Linking	70 - 89%	70 - 89%	ASTM F876, DIN 16892
Thermal Conductivity	0.24 Btu/(hr-ft°F)	0.41 w/(m°K)	DIN 52612
Linear Exp.	9.33 x 10 ⁻⁴ in/ft°F @ 68°F 1.33 x 10 ⁻³ in/ft°F @ 212°F	0.14 mm/(m°C) @ 20°C 0.2 mm/(m°C) @ 100°C	DIN 42328
Modulus of Elasticity	87,000 - 130,500 psi @ 68°F 43,500 - 58,000 psi @ 176°F	600 - 900 N/mm ² @ 20°C 300 - 400 N/mm ² @ 80°C	DIN 53457
Tensile Strength	4,194 - 4,355 psi @ 68°F 2,610 - 2,900 psi @ 176°F	26 - 30 N/mm ² @ 20°C 18 - 20 N/mm ² @ 80°C	DIN 53455
IZOD Impact Res.	No Break	No Break	DIN 53453
Temperature Working Range	-40 to 200°F	-40 to 93°C	N/A
Roughness	e=0.00028 in	e=0.007 mm	N/A
Max. Short-term Exposure	150 psig @ 210°F (48 hr)	1035 kPa @ 99°C (48 hr)	ASTM F876
UV Resistance	One year	One year	ASTM F2657

FUNCTIONAL DESCRIPTION

MUNICIPEX Force Main pipe is used in a Publicly Owned Treatment Works System for conveying wastewater under pressure from the discharge side of a pump or pneumatic ejector to a discharge point. MUNICIPEX Force Main pipe is manufactured using REHAU's high-pressure peroxide extrusion method for crosslinked polyethylene (PEXa). MUNICIPEX Force Main pipe meets or exceeds the requirements of ASTM F876, CSA B137.5 and PPI TR-3, and is certified to NSF Standard 14 and AWWA C904. MUNICIPEX Force Main pipe meets the requirements of ASTM F2023 for chlorine resistance. MUNICIPEX Force Main pipe is manufactured by REHAU in a plant using a quality management system that is certified to ISO 9001.

MUNICIPEX Force Main is produced in SDR9 copper tube sizes (CTS) so that it is compatible with AWWA C800 valves and fittings when used with manufacturer's recommended insert which is required to stiffen the pipe.

LONG-TERM STRENGTH

The maximum temperature and pressure ratings of the MUNICIPEX Force Main pipe are in accordance to ASTM F876, CSA B137.5 and PPI TR-3. The designer shall determine the actual conditions and apply the appropriate and additional design factors as required for any particular project. The temperature and pressure ratings apply to the application of MUNICIPEX Force Main pipe for conveying hot and cold water at the 2.0 safety factor on allowable working pressure according to ASTM and CSA. REHAU confirms a 200 psi (1380 kPa) pressure rating at 73.4°F (23°C) when using a 1.5 safety factor; see REHAU *Technical Bulletin 239 MUNICIPEX Pressure and Temperature Ratings*. According to the REHAU *PEXa MUNICIPEX Force Main Limited Warranty*, the MUNICIPEX Force Main pipe warranty period of 5 years is for operating conditions at or below 180°F (82.2°C) in permitted applications when the handling, use, installation and maintenance continually complies with all REHAU technical guidelines.

MUNICIPEX SDR9

maximum pressures and temperatures	design factors
200 psi @ 73.4°F (1380 kPa @ 23°C)	0.63 (per CSA B137.0 clause 6.6.3.2.2, REHAU TB239)
160 psi @ 73.4°F (1055 kPa @ 23°C)	0.50 (per ASTM F876, CSA B137.5)
100 psi @ 180°F (690 kPa @ 82.2°C)	0.50 (per ASTM F876, CSA B137.5)