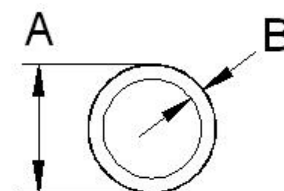


# PRODUCT SUBMITTAL 151

**Product:** RAUGEO™ Collect Pipe  
**Date:** 01 January 2018 (supersedes 01 January 2017)



Article No.	Nominal Size in	Average OD A in (mm)	Minimum Wall Thickness B in (mm)	Weight lb/ft (kg/m)	Capacity gal/ft (l/m)	Bend Radius in (mm)
235381	1	1.125 (28.58)	0.125 (3.18)	0.17 (0.26)	0.0316 (0.3939)	5.75 (144)
235391	1 1/4	1.375 (34.92)	0.153 (3.88)	0.25 (0.37)	0.0467 (0.5827)	7.00 (178)

## TECHNICAL DESCRIPTION

Specification	English	SI	Standard	Specification	English	SI	Standard
Minimum Density	58 lb/ft <sup>3</sup>	926 kg/m <sup>3</sup>	ASTM F876	Tensile Strength	4194-4355 psi @ 68°F	26-30 N/mm <sup>2</sup> @ 20°C	--
Min. Degree of Crosslinking	70%	70%	ASTM F876		2610-2900 psi @ 176°F per ASTM D638	18-20 N/mm <sup>2</sup> @ 80°C per ASTM D638	
Max. Thermal Conductivity	2.84 Btu·in/h·ft <sup>2</sup> ·°F	0.41 W/(m K)	DIN 16892	IZOD Impact Resistance	No Break	No Break	--
Coefficient of Linear Expansion	9.33 x 10 <sup>-4</sup> in/ft·°F @ 68°F	0.14 mm/(m°C) @ 20°C	Mean @ 20-70°C per DIN 16892	Roughness	e=0.00028 in	e=0.007 mm	--
	1.33 x 10 <sup>-3</sup> in/ft·°F @ 212°F	0.2 mm/(m°C) @ 100°C		Temperature Working Range	-40 to 200°F	-40 to 93°C	--
Modulus of Elasticity	87,000-130,500 psi @ 68°F	600-900 N/mm <sup>2</sup> @ 20°C	Minimum @ 20°C per DIN 16892	Max. Short-term Exposure	150 psig @ 210°F (48 hr)	1035 kPa @ 99°C (48 hr)	ASTM F876
	43,500-58,000 psi @ 176°F	300-400 N/mm <sup>2</sup> @ 80°C		UV Resistance	See TB218		ASTM F2657

## FUNCTIONAL DESCRIPTION

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RAUGEO Collect pipes are certified to CSA C448 and are recognized by the International Ground Source Heat Pump Association's (IGSHPA) *Design and Installation Standards* guide as an accepted piping system for ground loop heat exchangers.

RAUGEO Collect pipes are manufactured using the high-pressure peroxide method for crosslinked polyethylene (PEXa). RAUGEO PEXa pipe has a coextruded grey PE UV shield that protects the pipe when exposed to ultraviolet light (sunlight) per REHAU Technical Bulletin TB218. All RAUGEO Collect pipe meets or exceeds the requirements of ASTM F876, F877, CSA B137.5, CSA C448 and PPI TR-3. RAUGEO pipe is manufactured by REHAU using a quality management system which has been certified to the latest version of ISO 9001.

RAUGEO Collect pipe is copper tube size SDR9, grey in color, and compatible with F2080 compression-sleeve fittings in accordance with ASTM F2080 and CSA B137.5 and electro-fusion fittings certified to ASTM F1055.

#### **LONG TERM STRENGTH**

The maximum temperature and pressure ratings of the RAUGEO 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 RAUGEO 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 (1370 kPa) pressure rating at 73.4°F (23°C) when using a 1.5 safety factor, see REHAU *Technical Bulletin 256 RAUGEO Pressure and Temperature Ratings*. According to the REHAU *PEXa Limited Warranty*, the RAUGEO pipe warranty period of 25 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.

<b>RAUPEX SDR9</b>	
<b>maximum pressures and temperatures</b>	<b>design factors</b>
200 psi @ 73.4°F (1370 kPa @ 23°C)	0.63 (per CSA B137.0 clause 6.6.3.2.2, REHAU TB-239)
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)