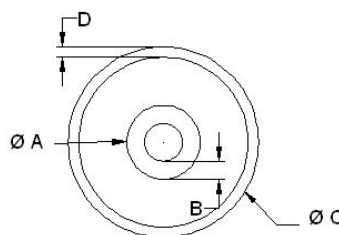
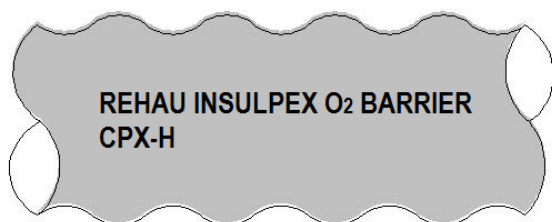


PRODUCT SUBMITTAL 132

Product: INSULPEX[®] with RAUTHERM-FW Pipe SDR 11
Date: 01 January 2018 (supersedes 01 January 2017)



| Article No. | Nominal Size mm/mm | PEXa Carrier Pipe | | | Outer Jacket | | INSULPEX | |
|-------------|--------------------|-------------------------------|----------------------------------|-----------------------|--------------------------|--------------------------|---------------------|----------------------------|
| | | Average Outer Diam. A In (mm) | Minimum Wall Thickness B In (mm) | Capacity gal/ft (l/m) | Outer Diameter C In (mm) | Wall Thickness D In (mm) | Weight lb/ft (kg/m) | Minimum Bend Radius Ft (m) |
| 423418-001 | 25/91 | 0.990 (25.2) | 0.091 (2.3) | 0.0263 (0.327) | 3.6 (91) | 0.083 (2.1) | 0.8 (1.2) | 2.6 (0.8) |
| 423419-001 | 32/91 | 1.266 (32.2) | 0.114 (2.9) | 0.0434 (0.539) | 3.6 (91) | 0.083 (2.1) | 0.9 (1.4) | 2.6 (0.8) |
| 241082-001 | 40/91 | 1.583 (40.2) | 0.146 (3.7) | 0.0672 (0.835) | 3.6 (91) | 0.083 (2.1) | 1.0 (1.5) | 2.6 (0.8) |
| 241092-001 | 50/111 | 1.978 (50.3) | 0.181 (4.6) | 0.1052 (1.307) | 4.4 (111) | 0.091 (2.3) | 1.5 (2.2) | 3.0 (0.9) |
| 221317- | 63/126 | 2.492 (63.3) | 0.228 (5.8) | 0.1683 (2.091) | 5.0 (126) | 0.106 (2.7) | 1.9 (2.9) | 3.3 (1.0) |
| 221327- | 75/142 | 2.967 (75.4) | 0.268 (6.8) | 0.2384 (2.961) | 5.6 (142) | 0.118 (3.0) | 2.3 (3.4) | 3.5 (1.1) |
| 221337- | 90/162 | 3.561 (90.5) | 0.323 (8.2) | 0.3425 (4.254) | 6.4 (162) | 0.125 (3.2) | 3.1 (4.6) | 4.0 (1.2) |
| 221347- | 110/162 | 4.350 (110.5) | 0.394 (10.0) | 0.5123 (6.362) | 6.4 (162) | 0.125 (3.2) | 3.4 (5.1) | 4.0 (1.2) |
| 222677-001 | 125/182 | 4.945 (125.6) | 0.449 (11.4) | 0.6537 (8.120) | 7.2 (182) | 0.130 (3.3) | 4.3 (6.4) | 4.5 (1.4) |
| 315265-001 | 140/202 | 5.512 (140) | 0.500 (12.7) | 0.8300 (10.31) | 8.0 (202) | 0.130 (3.3) | 4.0 (7.6) | 4.5 (1.4) |

Note: 63–140 mm available in 39 ft straight sticks

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TECHNICAL DESCRIPTION (BY COMPONENT)

| Component | Specification | English | SI | Standard | Component | Specification | English | SI | Standard |
|--------------|-----------------------------|---|--|------------------------------|--------------|---------------------------|---|-------------------------|-----------|
| Carrier pipe | Minimum Density | 58 lb/ft ³ | 926 kg/m ³ | DIN 16892 | Carrier pipe | Roughness | 0.00028 in | 0.007 mm | -- |
| Carrier pipe | Min. Degree of Crosslinking | 70% | 70% | DIN 16892 | Carrier pipe | Max. Short-term Exposure | 87 psi @ 212°F(100 hr) | 600 kPa @ 100°C(100 hr) | ISO 15875 |
| Carrier pipe | Max. Thermal Conductivity | 2.84 Btu-in/h-ft ² ·°F | 0.41 W/(m K) | DIN 16892 | Insulation | Max. Thermal Conductivity | 0.20 Btu-in/h-ft ² ·°F @ 122°F | 0.029 W/(m K) @ 50°C | EN 253 |
| Carrier pipe | IZOD Impact Resistance | No Break | No Break | -- | Insulation | Closed Cellular Structure | >=90 % | >=90 % | -- |
| Carrier pipe | 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 | Minimum @ 20°C per DIN 16892 | Insulation | Maximum Water Absorption | <10% (vol) | <10% (vol) | EN 15632 |
| Carrier pipe | O ₂ Permeability | -- | <=0.32 mg/m ² /day @ 40°C | DIN 4726 | Outer Casing | Maximum UV Resistance | 2 years | 2 years | -- |

FUNCTIONAL DESCRIPTION

INSULPEX one-pipe system consists of one RAUTHERM-FW pipe encased in closed-cell polyurethane (PUR) foam insulation, with a protective low-density polyethylene (PE) outer casing. RAUTHERM pipe according to ISO 15875 and DIN 16892 is manufactured using the high-pressure peroxide method for crosslinked polyethylene (PEXa). RAUTHERM pipe is manufactured by REHAU using a quality management system which has been certified to the latest version of ISO 9001. RAUTHERM-FW has a co-extruded oxygen diffusion barrier that exceeds the strict requirements of DIN 4726. RAUTHERM-FW pipe is SDR11, red in color, compatible with SDR11 compression-sleeve fittings in accordance with ISO 15875, and not for use in potable water applications.

LONG TERM STRENGTH

The maximum temperature and pressure ratings of the RAUTHERM pipe are according to ASTM D2837 and F2788. 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 RAUTHERM pipe for conveying heating and cooling water at the 2.0 design coefficient on allowable working pressure. According to the REHAU *PEXa Limited Warranty*, the RAUPEX 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.

RAUTHERM SDR11

| maximum pressures and temperatures | design factors (coefficients) |
|------------------------------------|-------------------------------|
| 125 psi @ 73.4°F (860 kPa @ 23°C) | 0.50 (2.0) |
| 80 psi @ 180°F (550 kPa @ 82.2°C) | 0.50 (2.0) |
| 65 psi @ 200°F (450 kPa @ 93.3°C)* | 0.50 (2.0) |

* REHAU defines Elevated Temperature Applications as those with operating conditions greater than 180°F (82.2°C). When REHAU PEXa pipes are planned to be operated in Elevated Temperature Applications, contact REHAU Engineering to verify your project conditions comply with the REHAU *PEXa Limited Warranty* in accordance to REHAU *Technical Bulletin TB230 Elevated Temperature Applications*.