

UPONOR SERVICEPEX™ TEMPERATURE AND PRESSURE PRODUCT BULLETIN

ING 200PSI 73°F at 0.63 design factor

Products

All pipe sizes and coil lengths of Uponor ServicePEX™ Blue for Water Service

Temperature and Pressure Ratings

Uponor ServicePEX has a 5306 PEX material designation. Using the PPI recommended 0.5 design factor for pipes in this category, ServicePEX achieves temperature and pressure ratings of 160 psi at 73°F (11 bar at 23°C) and 100 psi at 180°F (6.9 bar at 82.2°C).

Additionally, Section F.7 of PPI TR-3 allows polyethylene (PE) materials to qualify for a higher design factor of 0.63. ServicePEX meets these requirements, resulting in a temperature and pressure rating of 200 psi at 73°F (13.8 bar at 23°C).

Per Section F.7 of PPI TR-3, a PE material that meets the following requirements qualifies for a recommended design factor of 0.63.

- + Long-term hydrostatic strength substantiation according to PPI TR-3 Part F.5
- + Minimum slow-crack growth performance by ASTM F1473 of 500 hours as required by ASTM D3350
- + LCL/LTHS ratio of at least 90% as per ASTM D2837

Temperature and Pressure Testing

ServicePEX has been tested according to PPI TR-3 policies and procedures. Specimens were submitted for testing to ASTM D2837 Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products.

The pipe then underwent testing to ASTM F1473 Standard Test Method for Notch Tensile Test to Measure the Resistance to Slow Crack Growth of Polyethylene Pipes. Results were evaluated and the ServicePEX pipe samples tested met the requirements of Section F.7 of PPI TR-3 for polyethylene (PE) materials to qualify for a higher 0.63 design factor, resulting in a temperature/pressure rating of 200 psi at 73°F (13.8 bar at 23°C).

- + ASTM D2837 testing confirms the 73°F (23°C) stress rupture regression is linear to 50 years.
- + ASTM F1473 testing confirms a minimum slow crack growth performance of over 500 hours.
- + The lower confidence limit/long-term hydrostatic strength (LCL/LTHS) ratio is above 90%, as required by ASTM D2837 (i.e., there is good consistency in the test data).

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