Uponor PEX vs. PE-RT

PE-RT is a non-crosslinked polyethylene piping material that has disadvantages when compared to the properties and characteristics of Uponor PEX.

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An internal test examined joint and pipe integrity under load. After 0.56" of travel at 364 lbf max. load, the fitting pulled off the PE-RT pipe. Uponor system had no failure after 12.6" of travel at 364 lbf max. load.

Because PE-RT is not crosslinked, it compromises the strength of the connection. Uponor PEX pipe and ProPEX® fittings are designed and tested for strength and durability. Don’t risk your reputation on pipe and fittings that can’t meet your performance standards.

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Features	PEX	PE-RT
Meets requirement to withstand 720 hours of constant pressure at 150 psi	✓	✗
Fully listed to ASTM E84 and CAN/ULC S101/102.2 for fire-resistive construction	✓	✗
Meets environmental stress crack requirement of 100 hours	✓	✗
Designed specifically for F1960 expansion fittings	✓	✗[1]
Most comprehensive offering in sizes up to 3"	✓	✗
Crosslinked for greater durability	✓	✗
Proven performance for 40+ years	✓	✗
Proven UV resistance	✓	✗

Uponor PEX vs. PE-RT

Features	PEX	PE-RT
Kink repairable	✓	✗
200°F (93.3°C) hydrostatic rating	✓	✗
Potable listing for barrier pipe	✓	✗
Proven resiliency in freeze/thaw cycles	✓	✗
180°F temperature rating	✓	✓
Compatible with F1807 and F2159 fittings	✓	✓
25-year warranty	✓	✓[2]
Recyclability	✓	✓[3]
More flexible than PEX-b and PEX-c	✓	✓

Uponor PEX vs. PE-RT

[1]While some PE-RT manufacturers claim their pipe is compatible with F1960 fittings, the pipe does not have the same elasticity as PEX-a, and therefore connections could be at risk for failure.

[2]Some PE-RT manufacturers claim to have a longer warranty, but coverage may not be transferable to subsequent owners.

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- The Plastics Pipe Institute (PPI) Technical Report TR-52 proves the resiliency of PEX pipe in freeze/thaw cycles. There is no test report proving the resiliency of PE-RT in freeze/thaw cycles.
- PEX offers higher hydrostatic temperature and pressure ratings up to 200°F (93.3°C) at 80 psi; PE-RT is only rated to 180°F (82.2°C).
- The potable rating on Wirsbo hePEX™ barrier pipe allows the use of short pieces for plumbing applications (allowing the contractor to use unused barrier pipe for potable-plumbing applications, eliminating waste and saving money).
- The crosslinking of PEX provides the best workability in colder climates. Since PE-RT is not crosslinked, the material is not as workable in cold weather.
- Uponor has the most comprehensive offering of pipe and fittings in both brass and engineered polymer (EP) for plumbing, heating, and cooling applications in sizes up to 3". PE-RT has a limited offering of pipe sizes and fittings.

Uponor PEX vs. PE-RT

- Using F1960 connections with PE-RT introduces risk of failure to a system since PE-RT does not feature the same pipe elasticity of PEX-a.
- Generic F1960 fittings also introduce risk as well. Internal Uponor testing on low-quality F1960 fittings revealed failures with out-of-spec dimensions, flash, and residual stress.
- PEX pipe is required to withstand 720 hrs of 150 psi constant pressure with water at 210°F (99°C) before failure whereas PE-RT is only required to withstand 48 hours and cannot meet the same temperature and pressure ratings as PEX.
- For environmental stress crack resistance (ESC), PEX pipe is required to withstand 100 hours before failure. PE-RT pipe has no known test method for proving durability with ESC.
- In the rare instance of a kink with PEX-a pipe, a simple shot of heat from a heat gun is all that is required. A kink in PE-RT will require a coupling, which, in some jurisdictions, is not allowed in the slab.

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