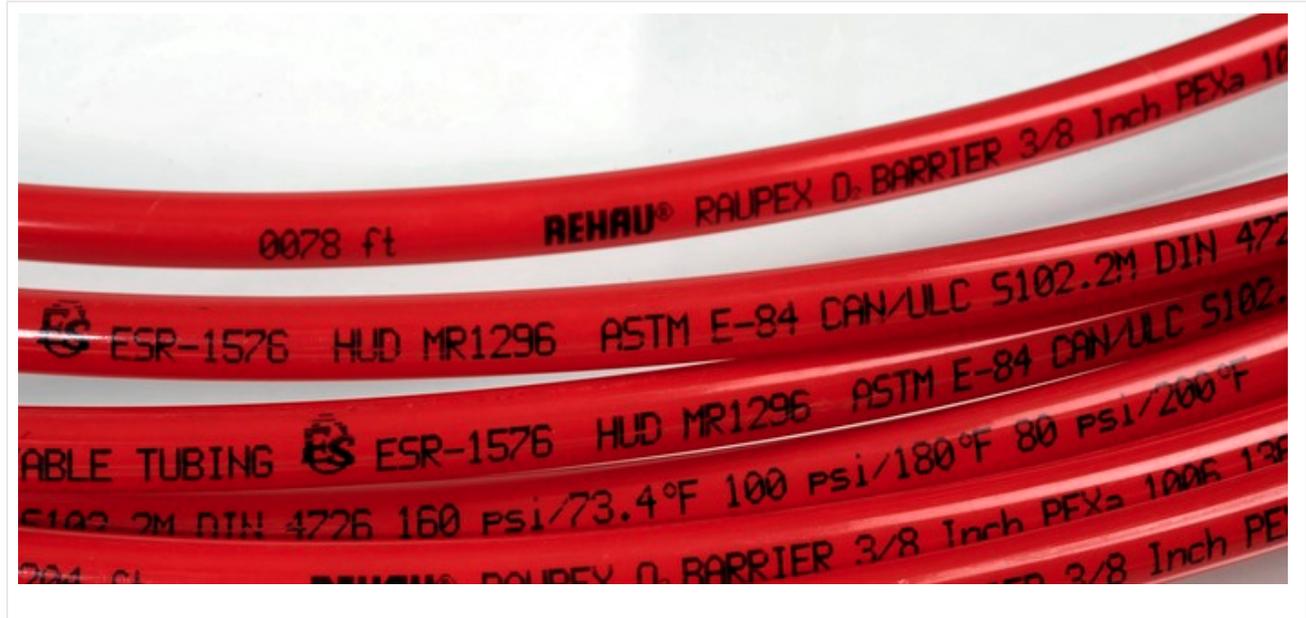


WHY REHAU PEX?



RAUPEX®: From Raw Material to Finished Pipe All Under One Roof

As a manufacturer of pipes made from PVC, PP, PE and PEX, REHAU's experience and knowledge of extrusion techniques is unmatched. We perform our own compounding, blending the various ingredients under very tight controls, right in the extrusion facility, so that the product goes from raw material to our finished RAUPEX pipe all under one roof. RAUPEX pipe exceeds all international standards for performance.

What Exactly is Crosslinked Polyethylene (PEX)?

Cross-linked polyethylene is polyethylene (PE) which has undergone a change in molecular structure whereby the polymer chains are chemically linked, crosslinked (X), with each other to form a three-dimensional network. The result is a flexible thermoset/thermoelastic¹ polymer with improved properties.

The Commercial Crosslinking Process – Pioneered by REHAU in 1968

REHAU uses the high-pressure peroxide method of crosslinking which is also known as **PEXa**. This method was pioneered by REHAU starting in 1968.

In this procedure, a very small amount of liquid peroxide is added to the base HDPE (high-density polyethylene) pellets, in a controlled mixing chamber at moderate temperature. Next, through a combination of high temperature and pressure developed within the extrusion machine, crosslinking occurs as the resulting compound is melted and extruded as crosslinked pipe. The peroxide is consumed in the reaction. The high-pressure peroxide method allows precise control over the degree of crosslinking. REHAU's RAUPEX typically is 85% crosslinked.

Similar to a Chain-Link Fence

Like a chain-link fence, PEX will expand with excessive pressure and then return to its original shape when the pressure is removed – so PEX pipe will usually allow the expansion of water that freezes inside. Non-crosslinked pipe is rigid. It may resist higher pressure before initial expansion, but once it does deform and expand, it is forever changed and weakened.

Minimum Burst Pressure Rating as High as 475 psi @ 73.4°F

Temperature and pressure ratings on PEX pipe include 160 psi @ 73.4°F and 100 psi @ 180°F; some pipes are also rated at 80 psi @ 200°F for continuous² operation, with minimum burst pressure ratings as high as 475 psi @ 73.4°F. PEX pipes resist corrosion, erosion and abrasion encountered during installation.

Outstanding Flexibility

- Withstands freezing and impacts
- Withstands surge pressures much better than copper, steel or CPVC, enough to avoid water hammer in many situations

Superior Strength

- High burst strength and long-term pressure ratings

Extreme Temperature Resistance

- Up to 200°F (93°C) exposure is possible

Chemical Resistance

- Resistant to glycols, latex paints, silicone, urethane foam, most acids and bases

Corrosion Resistance

- Immune to corrosion from soil or water
- No pinhole leaks

Ease of installation

- Superior joining techniques
- No flame, no solder, no glue
- Lightweight and flexible

Reliable

- More than 40 years of proven experience worldwide

Environmentally Sustainable

PEX presents an overall lower cost to the environment compared to alternative piping materials.

- Greener production: PE is abundant, created by refining operations; no mining operations for ore, as with copper
- No chlorine is used in production of PEXa
- Reduced heat loss and condensation through pipes
- Saves energy, faster delivery of hot water
- Smooth wall and excellent flow characteristics reduce pumping costs
- Proven long life and durability
- Light weight of PEX reduces transportation costs

Our PEX pipe meets the performance requirements of North American standards ASTM F876 and F877, NSF Standards 14 and 61 and CSA B137.5.

¹A thermoset polymer is analogous to a scrambled egg – once you mix the yolk and white, you cannot separate them. A non-crosslinked polymer, known as thermoplastic polymer, is analogous to chocolate – you can always melt and reform it into some other shape. Since PEX is mostly, but not entirely, crosslinked, and because of its high elastic properties, it is sometimes referred to as “thermoelastic.”

²Derived from an extrapolated time-to-failure prediction based on the minimum requirements as defined in ASTM F876. These pressure ratings are based on a “50-year strength value” which is a mathematical extrapolation based on the minimum requirements as defined in ASTM F876.

