

What is PEX?

PEX is an abbreviation for cross-linked polyethylene which is made of HDPE (high density polyethylene), through one of several processes, links are formed between polyethylene molecules to create bridges, giving the polyethylene extra strength and flexibility. This resulting material is more durable under temperature extremes. It also has a better resistance to chemical damage and the processes of erosion, making it a convenient material for domestic water piping and other applications such as insulation for high voltage electrical cables.

In consonance with to ASTM standard F 876-93 the mandatory ratio of cross-linking is between 65 and 89%. A larger degree in cross-linking would cause the material to be brittle and prone to cracking.

There are 3 different types of PEX.

1) PEX-A - is produced by the peroxide (Engel) method. This process brings "hot" cross-linking, above the crystal liquefying point. The "Engel" or peroxide process uses a certain extruder with a plunger action where peroxide is added to the base resin and through a mixture of pressure and elevated temperature the cross-linking takes place as the tubing is produced.

2) PEX-B - The "Silane" process of PEX rendering involves implanting a reactive silane molecule to the backbone of the polyethylene. The tubing is created by merging this joined compound with a catalyst which can be accomplished by using either the Sioplas technique or by applying a special extruder it can be done using the Monosil method. After extrusion the tubing gets exposed to steam or very warm water to lead to the final cross-linking reaction in the tubing. This is the most common method of producing PEX.

3) PEX-C - Electron Ray cross-linking happens when highly elevated energy radiation is used to achieve molecular cross-linking in high density polyethylene. This product is extruded like ordinary HDPE then taken to an E-beam facility and routed under a beam or ray in the accelerator where it is dosed with a specific amount of radiation to release the hydrogen atoms and cause polymer chains to bond or link to the open carbon sites.

[3/8" PEX Tubing w/ Oxygen Barrier](#)

[1/2" PEX Tubing w/ Oxygen Barrier](#)

[5/8" PEX Tubing w/ Oxygen Barrier](#)

[3/4" PEX Tubing w/ Oxygen Barrier](#)