

All Legend PEX fittings and Legend PEX valves are compatible with PEX tubing manufactured in compliance with ASTM F 876 or ASTM F 877.

All Legend PEX fitting connections are manufactured in compliance with **ASTM F 1807** (*Standard Specification for Metal Insert Fitting Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing*). These fittings are intended for use in 100 psi cold- and hot-water distribution systems operating at temperatures up to and including 180 °F. These fittings are not intended for use in constant re-circulating or hydronic heating systems.

Copper crimp rings offered by Legend are manufactured in compliance with **ASTM F 1807**. Copper crimp rings offered by others are compatible with Legend PEX fittings only if they are manufactured in compliance with **ASTM F 1807** (Figure 1). Only, stainless steel clamp bands (Figure 2) or clamp sleeves (Figure 3) manufactured in compliance with **ASTM F 2098** (*Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing to Metal Insert Fittings*) are compatible with Legend PEX fittings. It is up to the installer to determine if their stainless steel bands and/or sleeves are in compliance with ASTM F 2098, as these items are not offered by Legend at this time.



Figure 1: Metal Insert Fitting with Copper Crimp per ASTM F1807.



Figure 2: Metal Insert Fitting w/ Stainless Steel Clamp Band per ASTM F2098



Figure 3: Metal Insert Fitting w/ Stainless Steel Clamp Sleeve per ASTM F2098

WHAT IS PEX TUBING?

PEX is a material made of high-density polyethylene (HDPE) molecules that are permanently linked to each other by a process called “crosslinking”. The three most common methods of crosslinking polyethylene are: Peroxide (PEXa); Moisture-cured Vinylsilane (PEXb) and Beta Irradiation (PEXc). PEX tubing made from any of these three methods is capable of meeting the requirements of **ASTM F 876** (*Specification for Cross-linked Polyethylene (PEX) Tubing*) or **ASTM F 877** (*Specification for Cross-linked Polyethylene (PEX) Plastic Hot and Cold Water Distribution Systems*). PEX tubing manufactured in compliance with these standards is easily identifiable as it should be clearly marked as such directly on the tubing, spaced at intervals of not more than five feet.

PEX tubing made from any of the three common methods may also be manufactured with an oxygen barrier. The oxygen barrier is typically a very thin layer of EVOH (Ethylene Vinyl Alcohol) co-extruded onto the tubing that is designed to limit the permeation of oxygen molecules through the walls of the tubing which may be important in closed systems utilizing iron based components. The oxygen barrier is most often adhered to the outside diameter of the tubing, but it may also be placed between two layers of PEX which is sometimes referred to as multi-layer PEX. PEX tubing manufactured with an oxygen barrier is capable of meeting the requirements of **ASTM F 876** or **F 877** and therefore, compatible with Legend PEX fitting connections.

PEX-AL-PEX COMPOSITE TUBING

Legend PEX fitting connections are **NOT** compatible with composite or multi-layer PEX tubing such as PEX-AL-PEX. As the name implies this type of tubing is comprised of a layer of aluminum (AL) in between two layers of PEX (typically PEXb). The aluminum layer acts as the main structural component and the oxygen barrier, but requires an insert fitting that incorporates two o-rings for a proper seal.

INSTALLATION & TOOLS

Legend PEX fitting connections should be assembled in accordance with the installation instructions provided with the product. Legend PEX fittings must be assembled and installed using a crimping tool designed for **ASTM F 1807** crimping systems. The use of a Go-/No-Go gauge to inspect for correct fitting assembly is highly recommended. Crimping tools and gauges can be found at most plumbing wholesale distribution companies.

For additional information or questions regarding this or any other Legend Valve products, please visit www.legendvalve.com.

TECHNICAL BULLETIN



Subject: Legend PEX Fittings & Valves – PEX Tubing Compatibility

13-Mar-08

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See the chart below for the more common brands of PEX tubing available on the market and their compatibility with Legend PEX fitting connections.

<i>Manufacturer / Supplier</i>	<i>PEX Brand</i>	<i>Typical Application</i>	<i>Suitable for use with Legend PEX Fittings & Valves</i>
Uponor Wirsbo	AQUAPEX	Plumbing	Yes - all colors (PEXa)
	AQUAPEX plus	Plumbing	Yes - all colors (PEXa)
	hePEX	Heating	Yes (PEXa)
	MultiCor	Heating	No (PEX-AL-PEX)
Vanguard	VANEX PEX	Plumbing	Yes - all colors (PEXb)
	VANEX Ultra PEX	Plumbing	Yes - all colors (PEXb)
	VANEX Barrier PEX	Heating	Yes (PEXb)
	COMPAX-L PAX	Heating	No (PEX-AL-PEX)
Viega	ViegaPEX	Plumbing	Yes - all colors (PEXb)
	ViegaPEX Ultra	Plumbing	Yes - all colors (PEXb)
	FostaPEX	Heating	No (PEX-AL-PEX)
Zurn	Zurn PEX	Plumbing	Yes - all colors (PEXb)
	Zurn PEX Oxygen Barrier	Heating	Yes (PEXb)
Watts	WaterPEX	Plumbing	Yes - all colors (PEXb)
	RadiantPEX	Plumbing	Yes (PEXb)
	RadiantPEX-AL	Heating	No (PEX-AL-PEX)
	Onix Radiant	Heating	No (rubber composite)
IPEX	PlumbBetter PEX	Plumbing	Yes - all colors
	XPA PEX-AL-PEX	Heating	No (PEX-AL-PEX)
REHAU	RAUPEX	Plumbing	Yes - all colors (PEXa)
	RAUPEX O ₂ Barrier	Heating	Yes (PEXa)
Roth	PEXc w/o Oxygen Barrier	Plumbing	Yes (PEXc)
	PEXc w/ Oxygen Barrier	Heating	Yes (PEXc)
	DuoPEXc S5 w/ Oxygen Barrier	Heating	No
	AluLaser Plus	Heating	No (PEX-AL-PEX)
Nibco	Dura-PEX	Plumbing	Yes - all colors (PEXc)
	Dura-PEX Radiant	Heating	Yes (PEXc)
HeatLink	Non-Barrier	Plumbing	Yes (PEXa)
	O ₂ Barrier	Heating	Yes (PEXa)

NOTE: This chart is for general guidance only. The installer is ultimately responsible for determining the compatibility of the tubing with ASTM F 1807 fittings.

Resources – Figures 1, 2 and 3 from “Residential PEX Water Supply Plumbing Systems, Design Guide”, NAHB Research Center, Inc.