SharkBite®

PEX Installation Guide

The SharkBite®

Introduction

The purpose of this guide is to familiariz[e]
the recommended method of installing
products: push-to-connect fittings, bar[b]

SharkBite PEX is an excellent pipe prod[uct]
advantages than rigid pipe. The combin[ation]
PEX pipe is the fastest way to plumb a[nd]
SharkBite barb fittings may be used wit[h]
with SharkBite barb connectors are incl[uded]
rough-in solution.

SharkBite Featu[res]

Push-to-Connect Fittings

Instant connection for increased ease [of]
• No soldering, clamps, unions or glue re[quired]

Fittings certified to 200 psi and 200 °F
• Proven durability and quality.

Fits copper pipe, CTS, CPVC and PEX
• Connects all three types in any combi[nation]

Integral pipe liner for PEX installations
• No loose components, ensures secure
  connection.

Design certified and agency listed
• Provides peace of mind that it passes

Compact, robust DZR brass body
• Foundation of a strong, corrosion resis[tant]
  fitting.

Design certified to NSF/ANSI 61 and A[NSI]
product standard for use in potable w[ater]
hydronic heating water distribution
• Quality engineered and manufactured

Approved to be used underground and
walls without access panels. Designe[d]
and hydronic heating as well as potab[le]
distribution.

Table of Contents

Making a SharkBite Connection

The combination of SharkBite push-to-from meter to fixture.
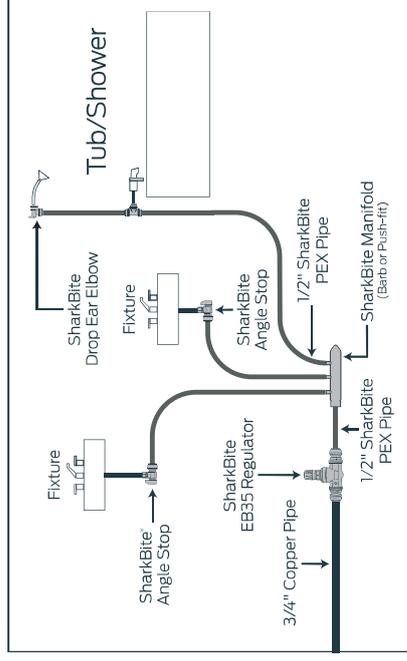

Disconnect Clip

Plumbing Systems

The SharkBite® connection system offers the only total rough-in solution, including a full line of valves, push-to-connect fittings, PEX pipe and traditional PEX components and tools. The SharkBite system offers three options for a PEX pipe installation — Trunk & Branch, Manifold or a Combination system — as described in the diagrams below.
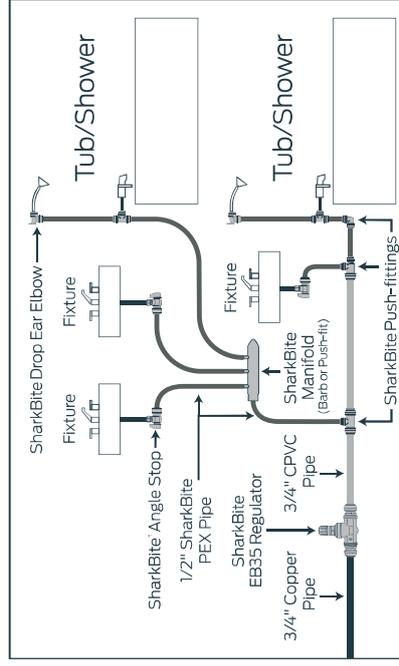
The Trunk and Branch System
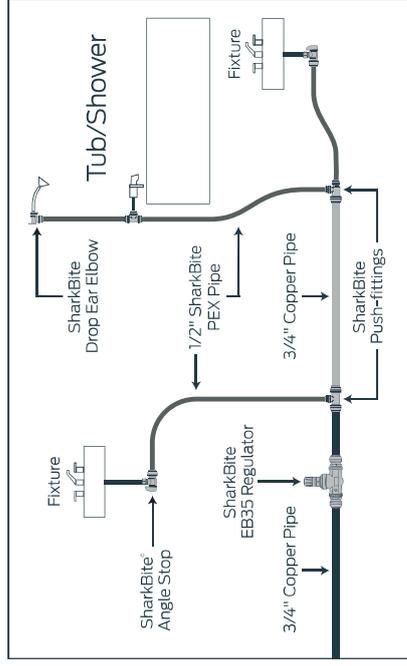
This system uses SharkBite PEX pipe and push-fittings. It offers the absolute fastest and easiest way to get from meter to fixtures.

Tub/Shower

Fixture

Fixture

SharkBite Drop Ear Elbow
1/2" SharkBite PEX Pipe
3/4" Copper Pipe
SharkBite Push-fittings
SharkBite® Angle Stop
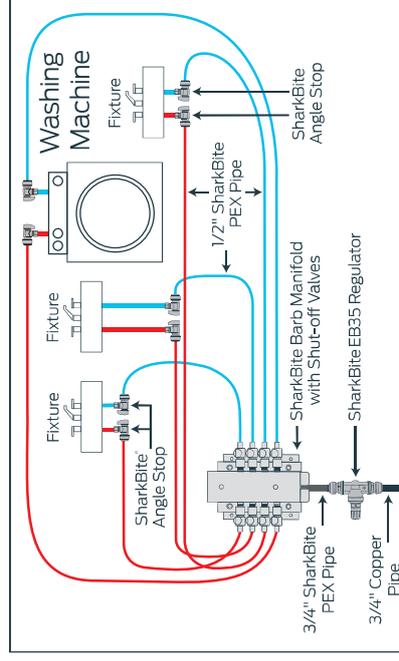SharkBite EB35 Regulator
3/4" Copper Pipe

The Manifold System

This system uses traditional PEX components (manifolds, barbed fittings, clamp rings, etc.) and offers the total lowest material cost. When you need special configuration fittings, such as drop ear elbows, SharkBite push-fittings offer greater speed and efficiency than traditional barbed fittings while costing about the same.

Tub/Shower

Fixture
SharkBite Drop Ear Elbow
Fixture
SharkBite Angle Stop
1/2" SharkBite PEX Pipe
SharkBite Manifold (Barb or Push-fit)
1/2" SharkBite PEX Pipe
SharkBite® Angle Stop
SharkBite EB35 Regulator
3/4" Copper Pipe

The Combination System

Tub/Shower

Tub/Shower

SharkBite Drop Ear Elbow
Fixture
Fixture
Fixture
SharkBite Manifold (Barb or Push-Fit)
SharkBite Push-fittings
SharkBite® Angle Stop
1/2" SharkBite PEX Pipe
SharkBite EB35 Regulator
3/4" CPVC Pipe
3/4" Copper Pipe

The Home-Run System

Washing Machine

Fixture
Fixture
Fixture
SharkBite Angle Stop
1/2" SharkBite PEX Pipe
SharkBite Barb Manifold with Shut-off Valves
SharkBite EB35 Regulator
SharkBite® Angle Stop
3/4" SharkBite PEX Pipe
3/4" Copper Pipe

Check Calibration of the Cl[...]

Always check the clamp tool with the c[...] the last crimp.

Step 1

Close the clamp tool handles to the stop point and insert gauge into jaw gap.

G[...]
G[...]
c[...]

Calibrating the Clamp Tool

If the gauge goes into the jaws beyond [...] following steps.
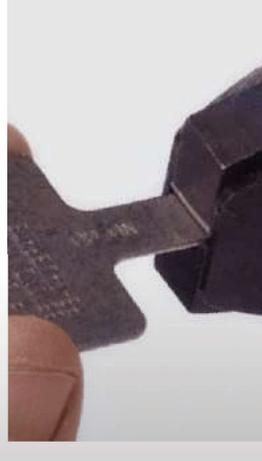
Step 1

Place GO portion of gage into jaw gap.

L[...]

Warning: Tools out of calibration may [...] connections and can result in leaks dev[...]

Making a SharkBite®
Clamp/Barb Connection

The use of traditional PEX components (manifolds, barbed fittings, clamp or crimp rings, etc.) offers the total lowest material cost.

Step 1

Use pipe cutters to make a square cut of the pipe to length. A rough or uneven cut can result in a weakened joint.

Step 2

Slide the appropriate clamp ring size over the pipe to about 2 inches from the end of the pipe.

Step 3

Push the pipe onto the barbed fitting until it touches the fitting shoulder. Position the clamp ring 1/8 to 1/4 inch from the end of the pipe. This distance ensures that the clamp ring is positioned directly over the barbs on the fitting.
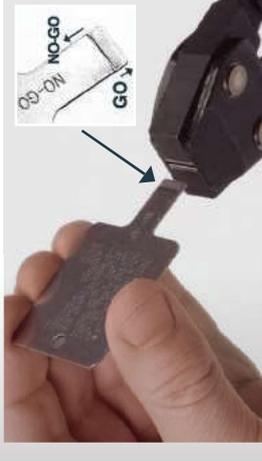

Step 4

Position the open jaws of the clamp tool over the raised tabs of the clamp ring and squeeze.

One clamp tool fits all size clamp rings. It can be operated with one hand, leaving the other hand free to hold the clamp ring in position. The tool cannot be removed until the clamp ring is fully compressed.

For potable water and hydronic distribu[tion...]

What to do:

- Do install SharkBite PEX pipe to the a[ppropriate] plumbing code.
- Do use SharkBite PEX pipe for hot and [cold water] distribution only.
- Do keep hot and cold lines separate.
- Do use only fittings and accessories th[at have] been tested and approved for the Sha[rkBite] connection system.
- Do leave extra pipe at both ends of th[e] connections easier.
- Do ensure the pipe is supported prope[rly...] undue stress, strain, thermal expansio[n and] contraction.

What not to do:

- Do not use sharp instruments to open[...] PEX packaging. You may damage the[...]
- Do not use with natural gas, propane, [...] other fluid, chemical or product. Shark[Bite] pipe (non-oxygen barrier) is for use w[ith] **water only** and is not approved or inte[nded for] other use.
- Do not freeze. SharkBite pipe is freeze[...] but not freezeproof. Pipe embedded i[n...] that is subjected to freezing condition[s...] damage both the concrete and the pip[e...] is frozen and not embedded may dam[age...] manifolds. Be sure to carefully pressu[re...] and repair systems that have been su[bjected to...] freeze before returning them to norma[l...]
- Do not pressure test with water in free[zing] conditions.
- Do not store or install where pipe will [be exposed to] direct or indirect ultraviolet light (i.e. s[unlight).]
- Do not expose the pipe to direct flame[...] install pipe near extreme heat.
- Do not use in excessive operating con[ditions...] inconsistent with pressure ratings tha[t...]

Making a SharkBite®
Crimp/Barb Connection

The use of traditional PEX components (manifolds, barbed fittings, clamp or crimp rings, etc.) offers the total lowest material cost.

Step 1

Use pipe cutters to make a square cut of the pipe to length. A rough or uneven cut can result in a weakened joint.

Step 2

Slide the appropriate clamp ring size over the pipe to about 2 inches from the end of the pipe.

Step 3

Push the pipe onto the barbed fitting until it touches the fitting shoulder. Position the clamp ring 1/8 to 1/4 inch from the end of the pipe. This distance ensures that the clamp ring is positioned directly over the barbs on the fitting.

Step 4

Position the open jaws of the crimp tool over the crimp ring and squeeze. The jaws are interchangeable and include sizes for 3/8-, 1/2-, 5/8-, 3/4- and 1 in. crimp rings.

Technical Data for SharkBite PEX

Certifications

The SharkBite PEX pipe is design certifi...
F-876, F-877, CSA B137.5 standards and...
the NSF/ANSI 14 and CSA B137.5 stand...
potable water systems.

Maximum Working Pressur...

160 psi @ 73.4°F (23°C)
100 psi @ 180°F (80°C)
80 psi @ 200°F (93°C)

Thermal Expansion

Since SharkBite PEX pipe will expand a...
during temperature changes, please allo...
running the pipe through the building. Sh...
expand and contract at a rate of approx...
per 100 feet of pipe for each 10°F chang...
(see equation below). We recommend t...
expansion loops be used as ways to co...
expansion and contraction. The change...
due to temperature increase can be calc...

$\Delta L = \alpha(L \cdot \Delta T)$
where: ΔL = change of length (inches)
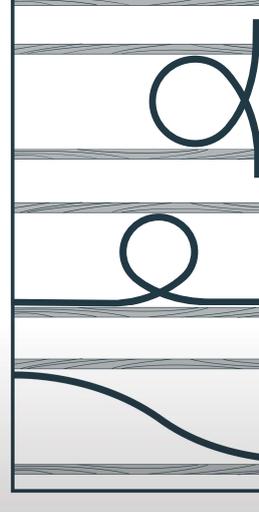ΔT = change of temperature (°F)
L = original pipe length (feet)
α = coefficient of linear expansion = (8...

Example:
$\Delta T = 10°F$ L = 100' $\Delta L = 0.08$"

Expansion/Contraction Lo...

Proper Support of
SharkBite® PEX Pipe

SharkBite PEX must be properly supported to protect against excessive strain. For both vertical and horizontal applications we recommend the pipe be supported every 32 inches between supports, leaving a little slack (1/8-1/4 inch) in the pipe to allow for normal expansion and contraction. Always use approved PEX supports, and never use a support that has sharp edges.

Typical
approved
PEX support

— 32" —

Installing SharkBite PEX Pipe in Concrete

The SharkBite PEX pipe can be submerged in concrete, but we recommend following these guidelines to ensure a long-lasting, maintenance-free installation.

- Protect the pipe with non-metallic sleeves when entering or exiting the concrete slab. A larger diameter piece of SharkBite PEX also works well in this application.

- Do not allow joints within the slab. Use a continuous length of SharkBite PEX within the slab and be sure to check for leaks before pouring concrete.

Cross-Linking Methods

Cross-linking is a process that changes the chemical structure of high density polyethylene used to make PEX pipe so that the polymer chains are connected to each other in a three-dimensional net by chemical bonds. PEX A, B, C and D are terms used to describe the different manufacturing methods used to produce PEX pipe.

Regardless of which manufacturing method is used, all PEX pipe meets the same standards for commercial and residential plumbing applications.

Classification of Cross-linked Polyethylene

	Typology	Method	Symbol
A	Chemical	Peroxide cross linking	PEX-a
B	Chemical	Silane cross linking	PEX-b
C	Physical	Radiation cross linking (beta)	PEX-c
D	Chemical	Azocomponets cross linking	PEX-d

SharkBite®

For more information, visit
sharkbite.com

Connect with us

Certifications
The most up-to-date certifications can be found at sharkbite.com.

Manufactured & Distributed by Reliance Worldwide Corporation®.
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AN RWC BRAND
RWC