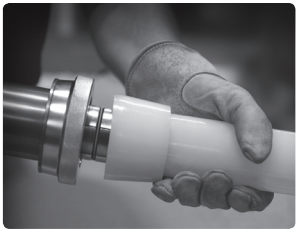
uponor



Commercial Plumbing
Pocket Guide

Making a ProPEX® Connection

1. Square cut the pipe.
2. Place a ProPEX Ring on the end of the pipe. **Ensure ring reaches stop edge or overhangs the pipe 1/16".**
3. Expand the pipe and ring, allowing the pipe to feed itself onto the head. **Do not force the pipe onto the expander head.**
4. Ensure that rotation of expander head is happening during each expansion.
5. Once the pipe reaches the shoulder, expand the pipe once more.
6. Insert a ProPEX fitting into the end of the pipe.
7. Ensure the pipe and ring seat tight against the shoulder of the fitting.
8. Only perform the necessary number of expansions, **do not over expand the pipe**.

Recommended Number of Expansions

Piping Size	Milwaukee ProPEX Tool		Uponor ProPEX Tool
	M12	M18	201
3/8"	8	9	—
1/2"	5	6	—
3/4"	9	8	—
1"	13	5	—
1 1/4"	—	7	—
1 1/2"	—	6	—
2"	—	—	5H

Note: The required number of expansions can vary with ambient temperature. Uponor recommends making a test connection first to gauge the pipe's reaction time.

Note: "H" in table refers to Uponor H-series heads.

Troubleshooting ProPEX Connections

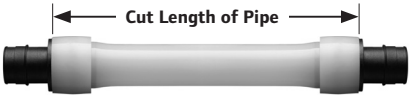
1. Ensure the ProPEX Expander Tool is properly maintained and in good working condition.
2. Make sure the expander head is securely tightened onto the tool.
3. Frequently check that the expander head is securely tightened to tool.
4. Ensure the segment fingers are not bent.
5. Remove excess grease.
6. Check the fitting for damage. Nicks and gouges will cause the fitting to leak.
7. Make sure the last expansion is not held in the expanded position before inserting the fitting.
8. If using a manual (hand) expander, rotate the head ⅛ turn after each expansion.

Cold-weather Expansions

Temperatures affect the time required for the piping and ring to shrink onto the fitting.

1. Warming the ProPEX fittings and ProPEX Rings reduces contraction time. Put fittings and rings in your pockets prior to installation to keep them warm.
2. Make ProPEX connections at temperatures above 5°F (-15°C).
3. Fewer expansions are necessary in temperatures below 40°F (4.4°C).
4. Perform a test connection for each pipe size when temperatures differ from day to day, keeping note of number of expansions to make a snug fitting connections.

Distance Between Fittings



Minimum Distance Between ProPEX Fittings

Pipe Size	Cut Length of Pipe
½"	2½"
¾"	3½"
1"	4½"
1¼"	5½"
1½"	6½"
2"	7½"

Uponor AquaPEX® Storing and Handling Guidelines

Refer to the Uponor Professional Plumbing Installation Guide for a comprehensive list of guidelines.

- **Do not** store PEX piping outdoors.
- Keep PEX piping in the original packaging until time of installation.
- **Do not** use Uponor piping where temperatures and pressures exceed limits.
- **Do not** weld, glue or use adhesives or adhesive tape with Uponor piping.
- **Do not** apply open flame to Uponor piping.
- **Do not** install Uponor piping within six inches of any gas appliance vents.
- **Do not** install Uponor piping within 12" of any recessed light fixture unless the piping is protected with suitable insulation or the light is Insulation Contact (I.C.) rated.
- **Do not** install Uponor piping within 5 ft. of direct view from fluorescent lighting without sleeving the pipe with UV-blocking material.
- **Do not** solder, braze, weld or fusion-weld within 18" of any Uponor piping in the same water line. Make any heat-related connections prior to making the ProPEX connection.
- **Do not** spray on or allow organic chemicals, strong acids or strong bases to come into contact with Uponor piping.
- **Do not** use petroleum or solvent-based paints, greases or sealants on Uponor piping.
- **Do not** install Uponor piping between the tub/shower valve and the tub spout.
- **Do not** use Uponor piping for an electrical ground.
- **Do not** press ProPEX brass fittings (i.e., copper press).

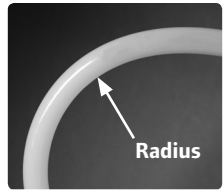
Note: When transitioning from PEX to other piping materials, follow the appropriate installation instructions for that product.

Uponor AquaPEX Ultraviolet (UV) Resistence Ratings

Product	Marking	UV Resistance
Uponor AquaPEX White	5106	1 month
Uponor AquaPEX Blue	5206	3 months
Uponor AquaPEX Red	5206	3 months

Minimum Bend Radius for Uponor AquaPEX Pipe

Pipe Size	O.D. (in)	Min. Bend Radius
3/8"	0.500	3"
1/2"	0.625	3.75"
3/4"	0.785	4.71"
1"	1.125	6.75"
1 1/4"	1.375	8.25"
1 1/2"	1.625	9.75"
2"	2.125	12.75"
3"	3.125	18.75"



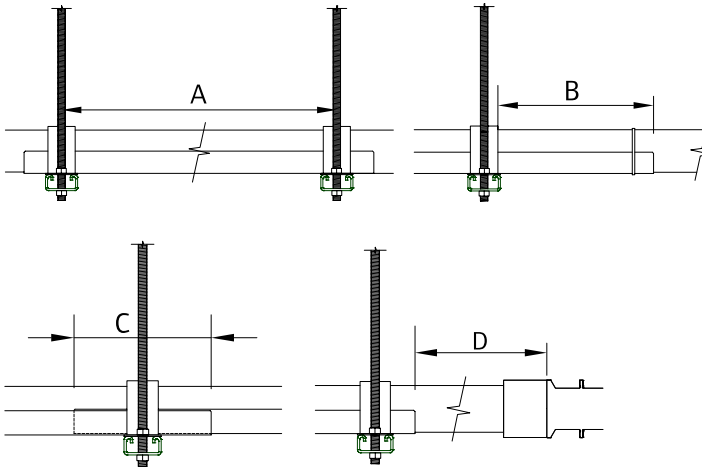
Support Spacing Requirements for PEX-a Pipe as of 2012 Code Cycle

	Pipe Size	International Plumbing Code (IPC)	Uniform Plumbing Code (UPC)	National Plumbing Code of Canada
Horizontal with PEX-a Pipe Support	1/2" - 3/4"	6' (2m)	6' (2m)	6' (2m)
	1" - 2"	8' (2.6m)	8' (2.6m)	8' (2.6m)
Horizontal without PEX-a Pipe Support	1/2" - 1"	32" (0.8m) O.C.	32" (0.8m) O.C.	32" (0.8m) O.C.
	1 1/4" - 3"	32" (0.8m) O.C.	48" (1.22m) O.C.	32" (0.8m) O.C.
Vertical	All Pipe Sizes	Base of each floor; provide mid-story guide	Base of each floor; provide mid-story guide	Supported at base, and floor levels at alternate stories

Note: Use of support channel or Uponor PEX-a Pipe Support in conjunction with CTS hangers is an alternative to the 32" (0.8m) or 48" (1.22m) on-center support spacing requirements. Vertical support requirements for non-riser applications is every 4 to 5 feet.

Uponor PEX-a Pipe Support

Pipe Size	Max. Support Spacing (A)	Max. Cantilever (B)	Min. Overlap (C)	Min. Distance to Fitting (D)
1/2"	6'	18"	6"	1 1/4"
3/4"				1 3/4"
1"	8'			2 1/4"
1 1/4"				2 3/4"
1 1/2"				3"
2"				4"



Strapping Requirements for Uponor PEX-a Pipe Support

Application	Maximum Distance
Clamps	Greater than 48" = 1 tie mid-span
Hangers	• Less than 48" = 2 ties equally spaced • Greater than 48" = 3 ties (1 mid-span and 1 on each end placed 2" from end of support)

*Strapping is required with minimum 50 lb. tensile rating and suitable for application (e.g., UV, high temperature).

Fire-resistant Construction

For a list of fire-resistant standards and details, refer to *Chapter 3: Fire-resistant Construction* in the Plumbing Design Assistance Manual (PDAM).

United States — ASTM E84

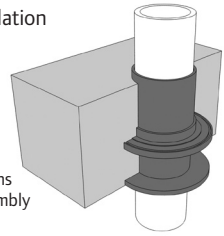
ASTM E84	Limitations
Nominal ½" to ¾" size	Adjacent pipe runs shall be located at least 18" apart.
2" maximum nominal size Uponor PEX-a supported with Uponor PEX-a Pipe Support	Minimum length of PEX-a Pipe Support is 48". Maximum distance of 10" between PEX-a Pipe Support segments.
3" maximum nominal size Uponor PEX-a with ½" insulation	½" minimum thickness insulation

Canada — CAN/ULC-S102.2

CAN/ULC-S102.2	Limitations
½" nominal size	No spacing limitations
¾" and 1" nominal sizes	Adjacent pipe runs shall be located at least 18" apart.
2" maximum nominal size (water-filled)	No spacing limitations
3" maximum nominal size Uponor PEX-a with ½" insulation	½" minimum thickness insulation
2" maximum nominal size Uponor PEX-a with ½" ArmaFlex insulation	No spacing limitations

Firestopping/Through Penetrations

Refer to the Uponor Professional Plumbing Installation Guide for a list of commonly available firestop and cast-in-place manufacturers.



*Not all caulks are approved for all penetrations. Ensure the penetration is sealed in accordance with the appropriate test assembly using that manufacturer's recommended type of firestop material. Larger penetrations may not use a caulk type of firestop; a wrap or collar assembly may be required.

*Refer to the respective firestop manufacturer for more information pertaining to the appropriate application of their products.