






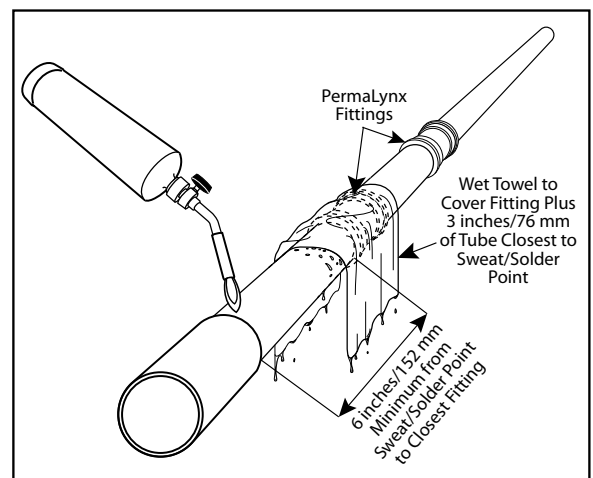
# PermaLynx™

permanent push-to-connect system

## IMPORTANT INFORMATION AND INSTALLER SAFETY REQUIREMENTS

<b>⚠ WARNING</b>				
				
<ul style="list-style-type: none"> <li>• <b>Read and understand all instructions before attempting to install any Victaulic products.</b></li> <li>• <b>Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic products.</b></li> <li>• <b>Wear safety glasses, hardhat, and foot protection during installation.</b></li> </ul> <p><b>Failure to follow these instructions could result in serious personal injury and property damage.</b></p>				

- **Approved Copper Tube:** PermaLynx products are approved for use only with ½ - 1½-inch/12.7 - 41.3-mm Type K, L, or M hard-drawn copper tube that is ASTM B88 compliant. PermaLynx products **MUST NOT** be used with annealed copper tube.
- **Pressure Rating:** The maximum pressure rating for PermaLynx products is 200 psi/1379 kPa.
- **Applications:** PermaLynx products are recommended for use in potable hot and cold water distribution systems\* up to 180° F/82° C. In addition, PermaLynx products are recommended for use in ambient, oil-free compressed air systems. PermaLynx products are not recommended for use in heating systems.  
\* Refer to the current version of the Uniform Plumbing Code, the International Plumbing Code, the International Residential Code, and NSF 61.
- **Wet or Dry Installations:** PermaLynx products can be installed on wet or dry tube. NEVER attempt to cut into or remove fittings from a pressurized system. Use caution around hot water piping and hot water.
- **Rotating Product:** PermaLynx products and/or tubing can be rotated while the system is depressurized. DO NOT attempt to rotate fittings/tubing while the system is pressurized.
- **Installer Safety:** DO NOT use electrically-powered tools in damp or wet locations. Maintain proper footing at all times. DO NOT over-reach while installing PermaLynx products. DO NOT insert fingers into PermaLynx products, and protect fingers from burrs and sharp edges that may exist on the tubing.
- **Tools:** DO NOT squeeze or grip PermaLynx products with pliers, wrenches, or any other tool containing metal teeth. DO NOT strike PermaLynx products with a hammer or other similar tools.
- **Support Hangers:** Support the tubing system in accordance with local code requirements, using sweat/solder system tables.
- **Electrical Grounding:** Electrical grounding for a PermaLynx system works on the same principles as a sweat/solder system. Ground the tubing system in accordance with local code requirements.
- **Adapting to a Threaded System:** Use PermaLynx male/female threaded adapters.
- **Adapting to a Pressed System:** Keep PermaLynx products a minimum of 6 inches/152 mm away from pressed fittings. Pressed fittings may distort the shape of the tube, which can cause leaks in nearby PermaLynx products.
- **Underground Applications:** PermaLynx products in an underground application work on the same principles as a sweat/solder system. Prevent deflection of joints due to backfilling and ground settlement, and prevent the system from freezing.
- **Sweating/Soldering Near PermaLynx Products:** When sweating/soldering near PermaLynx products, use a wet towel to cover the fitting plus 3 inches/76 mm of the tube closest to the sweat/solder point. The flame **MUST** be kept a minimum of 6 inches/152 mm away from the product (refer to sketch to the right). Heat damage to the rubber seals in PermaLynx products will cause leaks.





permanent push-to-connect system

**TUBE PREPARATION REQUIREMENTS**

**MINIMUM TUBE LENGTHS**

**⚠ WARNING**

- Extra attention must be given to proper end preparation and alignment during installation when using tube lengths shorter than the recommended length listed in the table below.
- DO NOT attempt to use tube lengths shorter than the absolute minimum lengths listed in the table below.
- Always keep hands a minimum of ½ inch/13 mm away from the chamfering tool during the chamfering operation.

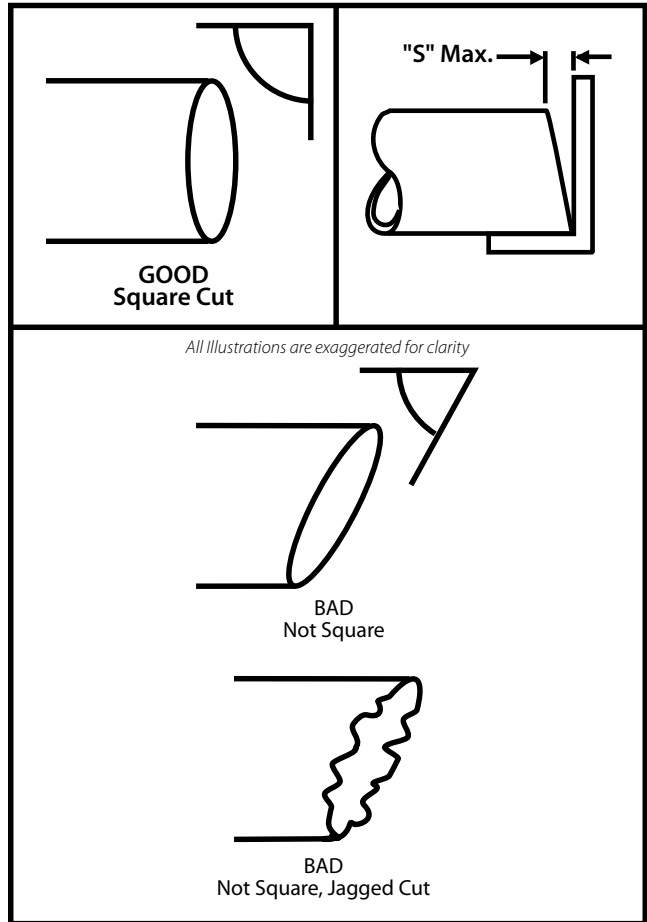
Failure to follow these instructions could result in serious personal injury.

The following table identifies the recommended minimum tube lengths and the absolute minimum tube lengths for use with PermaLynx products. Tube end preparation and tube/fitting alignment during assembly become more sensitive when using tube shorter than the recommended minimum lengths listed in the table below. Therefore, extra attention must be given to proper end preparation (per the requirements on page 3) and alignment during installation. DO NOT attempt to use tube lengths shorter than the absolute minimum lengths listed below.

Copper Tube/ Fitting Size	Recommended Minimum Length	Absolute Minimum Length	Copper Tube/ Fitting Size	Recommended Minimum Length	Absolute Minimum Length
Nominal inches/ Actual mm	inches/ mm	inches/ mm	Nominal inches/ Actual mm	inches/ mm	inches/ mm
½	5	1⅞	1¼	5	1¾
12.7	127	29	34.9	127	44
¾	5	1⅞	1½	5	2
22.2	127	35	41.3	127	51
1	5	1½			
28.6	127	38			

**SQUARE CUT AND INSPECT TUBE ENDS**

Tube ends must be square cut within 0.030 inch/0.8 mm (“S” dimension shown below). Victaulic recommends factory-prepared tube ends or the use of a tube cutter to ensure square cuts. Hacksaws or reciprocating saws can be used; however, extra attention must be given to the square cut requirement listed in this section and the proper end preparation requirements on page 3.

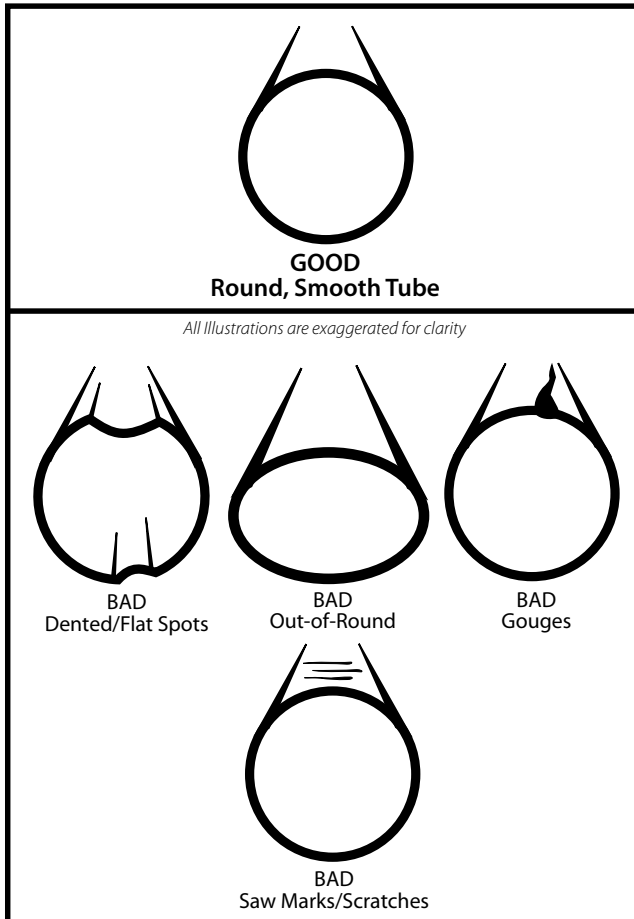


# PermaLynx™

permanent push-to-connect system

## INSPECT TUBE CONDITION

Tube condition must be inspected. DO NOT use tube that is out-of-round or tube that contains dents/flat spots, gouges, or saw marks/scratches within 3/4 inch/19mm from the tube end.



## CHAMFER AND DEBURR TUBE ENDS

### CAUTION

- Victaulic strongly recommends the use of the Tube Prep Max Tool or the Tube Prep Tool for preparing tube ends. If a different tool is used, extra attention must be given to the proper tube end preparation procedures outlined on this page.
- Victaulic makes no expressed or implied guarantee of any kind regarding the ability of other commercially available tools to provide performance that is comparable to the Tube Prep Max Tool and the Tube Prep Tool.

Failure to properly chamfer and deburr tube ends may cause difficult installation and gasket damage, resulting in joint leakage, personal injury, and property damage.

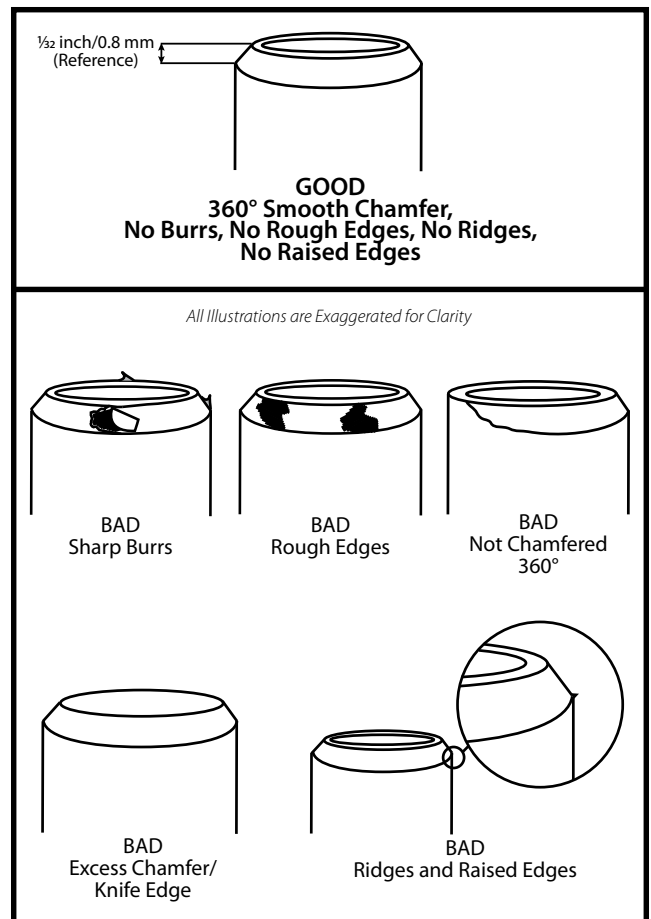
Two tools are available from Victaulic and are strongly recommended for chamfering and deburring tube ends. The Tube Prep Max Tool is power-drill operated, and the Tube Prep Tool is driven by a power

drive. It is important to inspect the tube end periodically during the chamfering process to prevent the tube end from being chamfered too much (resulting in a knife-edge effect). Burrs, rough edges, and over-chamfered ends can damage the rubber seal in PermaLynx products.

### WARNING

- Always keep hands a minimum of 1/2 inch/13 mm away from the chamfering tool during the chamfering operation.
- Failure to follow this instruction could result in serious personal injury.

1. Center the chamfering tool over the tube end. Push the tube against the rotating tool, while turning the tube clockwise. Continue this procedure, and check the tube end periodically until a 360° chamfer is achieved.
2. Ream the inside of tube ends to remove all burrs and sharp edges.
3. Use emery cloth or another fine-grit abrasive cloth to remove any remaining protrusions from the tube end.



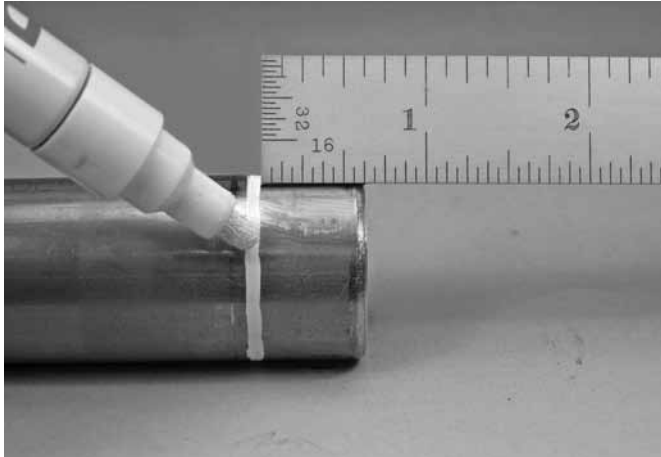
# PermaLynx™

permanent push-to-connect system

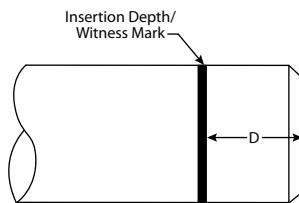
## PRODUCT INSTALLATION

### NOTICE

- The insertion depth (witness mark) **MUST** be made prior to installing PermaLynx products. This mark serves as an important aid during visual inspection of the system.



1. Refer to the "Insertion Depth Requirements" table below. Using a tape measure or ruler, measure the required distance back from the tube end. Place a mark around the tube circumference with a bright-colored marker or paint stick, as shown above.



Exaggerated for Clarity

### Insertion Depth (Witness Mark) Requirements

Copper Tube/ Fitting Size	Insertion Depth "D"	Copper Tube/ Fitting Size	Insertion Depth "D"
Nominal inches/ Actual mm	inches/ mm	Nominal inches/ Actual mm	inches/ mm
1/2	1/2	1/4	1/16
12.7	13	34.9	17
3/4	9/16	1 1/2	3/4
22.2	14	41.3	19
1	5/8		
28.6	16		

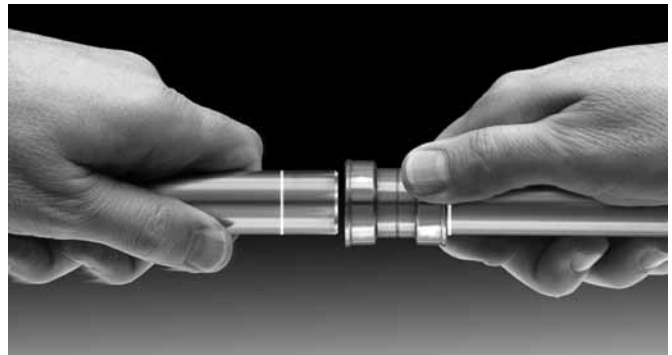
### CAUTION



- **DO NOT** insert fingers into the openings of PermaLynx products. Failure to follow this instruction could result in personal injury.



2. Using a brush, apply a thin coat of Victaulic lubricant or silicone lubricant to the seals inside the fitting ends. **DO NOT** over-lubricate the seals.



3. Align the tube with the opening of the fitting. Push the tube straight into the fitting until the edge of the fitting lines up with the insertion depth mark on the tube. **NOTE:** The insertion depth mark **MUST NOT** be further than 1/16 inch/1.6 mm from the edge of the fitting. **DO NOT** rock the tube in the fitting during insertion.
4. Inspect each joint to ensure tube ends are inserted fully into the fittings. Any joint that is not assembled properly must be cut out and replaced before the system is pressurized.

## SYSTEM TESTING

Pressure test the system with air or water. Normal testing to 1 1/2 times the design pressure is allowable up to a maximum test pressure of 300 psi/2068 kPa.

For complete contact information, visit [www.victaulic.com](http://www.victaulic.com)

I-PERMALYNX 4991 REV C UPDATED 10/2009 Z000PMLX00

VICTAULIC IS A REGISTERED TRADEMARK OF VICTAULIC COMPANY. © 2009 VICTAULIC COMPANY. ALL RIGHTS RESERVED. PRINTED IN THE USA.

I-PERMALYNX

