



**PLUMBING
FITTINGS**

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COMMON FITTING TYPES

COUPLING

Couplings join two separate pipes together



90

90's join pipes together at a 90 degree bend



45

45's join pipes together at a 45 degree bend



WYE

Wyes are a three way connection that looks like a Y



ADAPTER

Adapters are a connection that join two different types of pipes together



PLUG

Plugs go inside of pipes or fittings to make a termination



CAP

Caps go on the outside of pipes or fittings to make a termination



TEE

Tees are a three way connection that connect pipes at a 90 degree angle to each other



BUSHING

Bushings allow for an increase or decrease in pipe size being used



SANITARY TEE

Sanitary Tees are for vertical uses in many drainage scenarios. They are similar to regular tees except the side inlet has a clear slope in one direction.



NIPPLE

Nipples come in all shapes and sizes and most simply put they are a piece of pipe that has male threads on both ends.



UNION

Unions are used similarly to couplings except they can be attached to two rigid pipes and then still be connected because the union can be threaded independent of the other pipes



CONNECTION

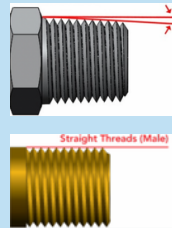
METHODS

Threaded Water Supply Connections:

National
Pipe
Threads

Tapered

Non-Tapered



National Pipe Thread is definitely the most commonly used thread type. Specifically the tapered style. Teflon tape and pipe dope can be used to create a seal with either tapered or non-tapered. Non-tapered can also seal with a rubber washer.

Garden
Hose
Threads

Garden Hose
Threads thread to
National Pipe
Threads adapter



Garden Hose Threads are explained in the name. They are most commonly used for garden hoses but can be found elsewhere as well. They require a rubber washer in order to seal.

Glue Water Supply or Drain Connections:

CPVC = Yellow Glue

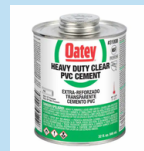


CPVC pipe and glue are typically used in higher end water supply applications. With yellow glue there is no need for a primer.

PVC = Purple Primer +
Clear Glue



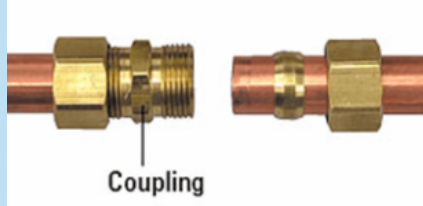
+



Depending on the type of PVC being used *PVC, purple primer, and clear glue can be used in water supply or drain applications.

*schedule 40 PVC and above schedules can be used in water supply/pressurized applications

Compression Water Supply Connections:



Compression style connections create a water tight seal by compressing a ferrule against the outside of the pipe and the inside of the fittings. These fittings must be tightened very tightly.

Propress Water Supply Connections:



Propress fitting connections are for copper specific uses. These fittings seal using a special tool that compresses the copper or brass fitting into an O-Ring that seals to the outside of the pipe.



Push-To-Connect Water Supply. Connections:

Sharkbite



Standard Push-To-Connect



Push-To-Connect fittings come in many different styles with the most common one being Sharkbite. These fittings are the simplest to connect. The fitting simply needs to be pushed onto the pipe (full insertion is required). These fittings seal with an O-Ring similarly to Propress.



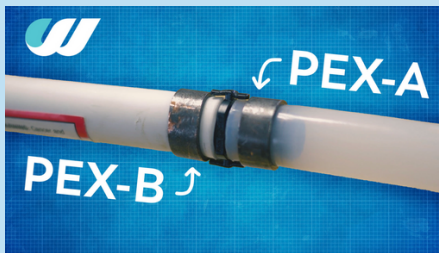
These fittings can be used to connect Quest, PEX, CPVC, and Copper most commonly but can connect anything that is CTS (Copper Tube Size)



PEX Water Supply Connections:



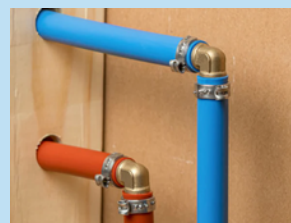
PEX can be connected a variety of ways. The most common would be plastic or brass insert fittings with copper crimp rings around the outside of the pipe.



There are copper crimps and stainless steel clamps. Each use a special tool to connect. PEX A has another special tool for expanding the pipe so the fittings can be inserted



There are different fittings for PEX B and PEX A. NOTE: PEX B fittings can be used on PEX A but not vice versa.



PVC FITTINGS

MOST COMMON FITTING TYPES:

STANDARD 90



STREET 90



LONG SWEEP 90



STANDARD 45



STREET 45



STANDARD 22



STREET 22



SANITARY TEE



COUPLING



WYE



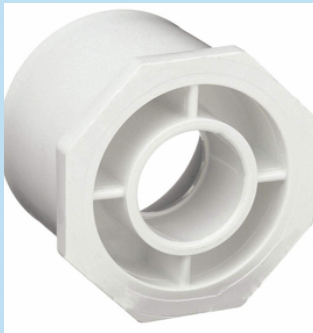
MALE THREADED
ADAPTER



FEMALE THREADED
ADPATER



BUSHING



TRAP



REDUCER COUPLING



CLEANOUT CAP



PEX FITTINGS

MOST COMMON FITTING TYPES:

90



COUPLING



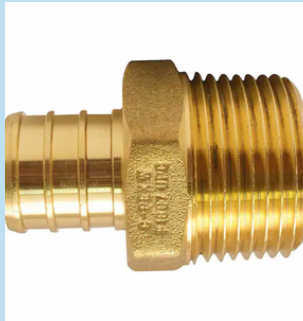
TEE



REDUCER COUPLING



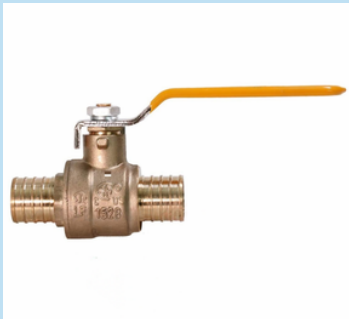
MALE THREADED
ADAPTER



FEMALE THREADED
ADAPTER



BALL VALVE



CAP



EXTRAS

Copper pex rings are used to connect pex fittings by using a special crimping tool.

Crimp Ring



Crimping Tool



Tees come in a lot of varieties so remembering how to describe/refer to them can be challenging.

Here's a little cheat sheet:

Top Last



For example the above is a:
3/4" by 3/4" by 1/2" Tee

FERNCOS/NO- HUBS/SHEER BANDS

Ferncos and No-Hub Bands are two different rubber coupling styles that we frequently use in drain applications.

Ferncos



Ferncos are useful particularly because of the flexibility they afford since they don't require glue to make a seal. They also can seal to a variety of pipe materials which makes them ideal in joining different pipe varieties.

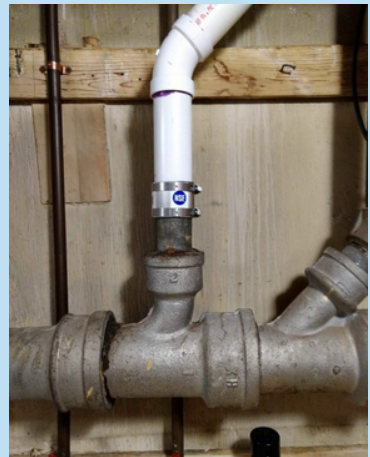


No-Hub Bands



Like Ferncos, No-Hub Bands can be installed as a coupling to connect two differing pipe varieties.

No-Hub Bands are very similar to Ferncos with a built in shear band. They are very solid and can be installed on horizontal pipe which makes them very versatile.



Sheer Bands



Sheer bands are used when Ferncos are installed in a horizontal application to give extra stability.

These examples show why sheer bands are necessary in many instances.



BARB FITTINGS

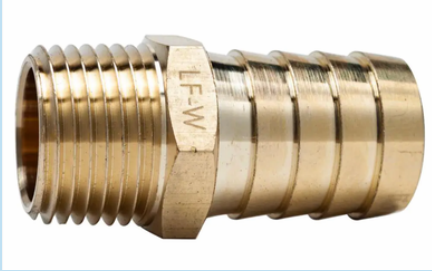
Barb fittings are used in water supply systems and are most commonly used for underground applications. The most common sizes we use are 3/4" and 1" and can be brass, plastic, or stainless steel. We would only use brass or stainless steel.



Barb fittings are installed and secured by inserting them into poly pipe and tightening the hose clamps around the outside of the pipe.



Threaded Male
Adapter



90

Threaded Female
Adapter



Coupling



Tee



Threaded 90



STANDARD METAL FITTINGS

These fittings come in many shapes and styles. Below are the most commonly used ones. To keep things simple, all the examples will be brass. These fittings could be brass, stainless steel, galvanized, or black iron.

90



COUPLING



TEE



REDUCING COUPLING



STREET 90



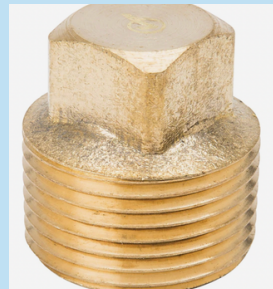
UNION



BUSHING



PLUG



CAP



NIPPLES



STREAMLINE PLUMBING

GUIDE 2