

Knowledge domain: Plumbing
Unit: Connections
Skill: Threaded Pipe Connectors

Tools and Parts Required:

- 1) Variety of female & male pipe connectors
- 2) Teflon tape (optional)

Introduction

Pipe connectors (or pipe fittings) are used to connect straight pipes together. Pipe connectors allow various pipe configurations. Pipe connectors can be steel, copper, plastic, or PVC. Pipe connectors should be the same material as the straight pipe.

Example

Pipe connectors come in various shapes and sizes:

Straight Pipe



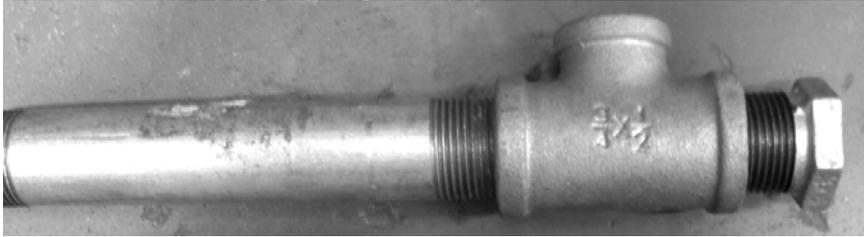
T-Shaped connectors attach 3 pipes together at one joint.



Elbow connectors allow a 90 degree bend in the pipeline. Pipes are connected at both ends.

Pipe ends close off pipes.

Below is an example of a straight pipe, a T-shaped connector and a pipe end. (Pipes are not screwed tightly together).



Identification and Diagnosis

Pipe connectors are categorized by attachment method and “gender.”

Attachment Method:

- Pipe connectors attach to pipes in two ways - either by threads or by slip fit.
- Threaded pipes screw together to connect.
- Slip fit pipes have sleeves that slip into one another. There are no threads.

Gender:

- A male connector is designed to fit into a larger diameter female connector.
- Male connectors:
 - A male threaded connector has threads on its exterior. The male connector screws into the female threaded connector
 - A male slip fit slips into a slightly larger female sleeve.
- Female connectors:
 - A female threaded connector has internal threading. The female connector screws on to the male threaded connector.
 - A female slip fit receives a narrower male slip fit.

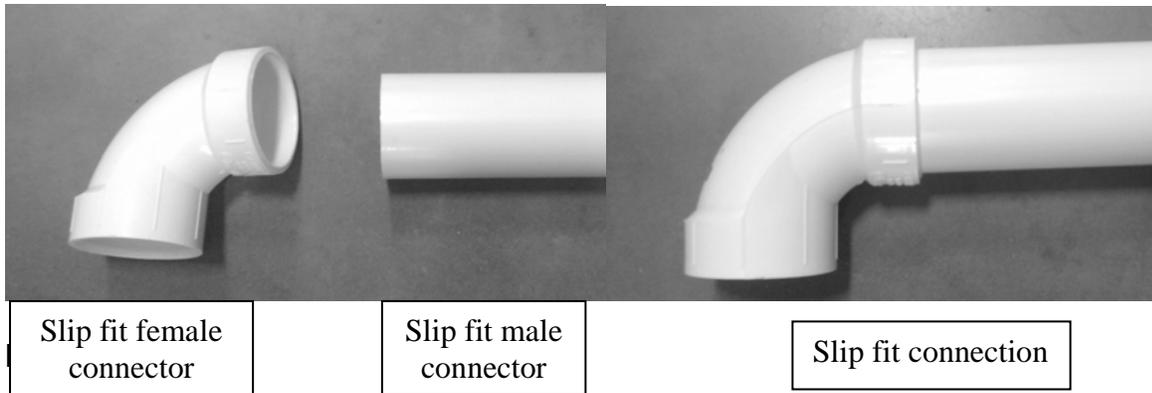
Threaded/Slip	Thread Location	Connects To
Threaded Female	Interior	Threaded Male
Threaded Male	Exterior	Threaded Female
Slip Fit Female	No Threads	Slip Fit Male
Slip Fit Male	No Threads	Slip Fit Female



Threaded female connector (interior threads)

Threaded male connector (external threads)

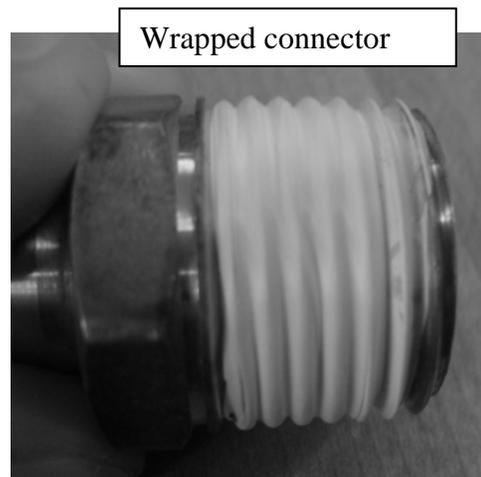
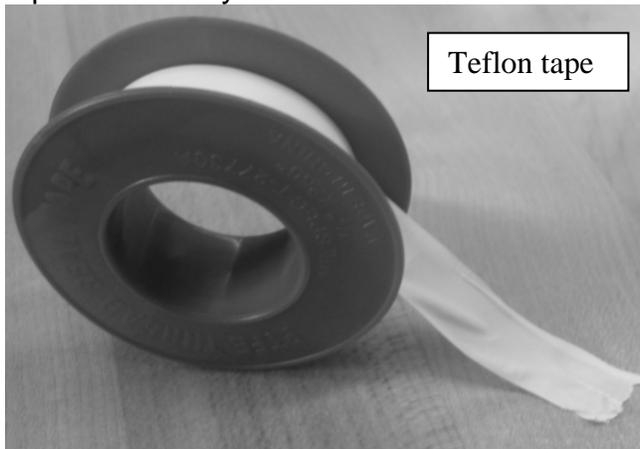
Threaded connection



When replacing a pipe connector:

- Use the same material.
- Use the same diameter pipe connector.
- Use the same attachment method (threaded or slip fit).
- Use the same gender of pipe connector.

Sealers are used with pipe connectors to provide a tight, leak-proof fit. Teflon tape forms a good seal between threads. Wrap Teflon tape tightly around the male threads 2-3 times. Wrap Teflon tape in the direction of the threads starting from the end. The tape should only cover the threads.



Exercise

Your instructor will give you male and female pipe connectors of various sizes and material. Practice matching up complimentary male and female pipe connectors. Practice using Teflon tape to wrap the threads.

Your instructor must verify your work before you continue.

Preventative Maintenance and Calibration

Always calibrate every medical device before returning it to use.