

Municipal water mains, which run several feet below the street level, are typically four to 12 inches in diameter. Smaller supply pipes, anywhere from half to one inch, run from the water main to the dwelling. The distribution of drinking water throughout the house is typically distributed by half inch pipe made of either copper, plastic, galvanized steel or lead. The homeowner is responsible for the supply pipe from the water main to the dwelling.

## GALVANIZED PIPING

Galvanized piping – steel pipe coated with zinc to resist corrosion, has a dull silver or gray color and is threaded to other joints or appliances. Although not commonly used as supply pipe from the main to the residence, there may be some in existence. The diameter of the pipe should be at least one and a quarter inch in diameter. In these situations the galvanized supply piping is connected to copper distribution piping. The connection between galvanized pipe and copper pipe should have a **dielectric coupler** (brass connector) to prevent electrolysis or galvanic action that corrodes the pipe. In older homes, galvanized piping may still be used for distribution. It was used exclusively up until about 1950.

### **PROBLEMS ASSOCIATED WITH GALVANIZED PIPING:**

- IT LEAKS AT THE JOINT CONNECTIONS BECAUSE IT IS THINNER AT THE THREADED CONNECTIONS
- AS THE PIPE WEARS, RUST ACCUMULATES ON THE INSIDE RESULTING IN RESTRICTED WATER FLOW
- WATER MAY APPEAR BROWNISH, DUE TO A BUILD-UP OF RUST INSIDE THE PIPE (THIS WILL CLEAR UP AFTER FLOWING WATER FOR A FEW SECONDS)
- GALVANIZED PIPE CORRODES MORE QUICKLY WHEN IT COMES IN DIRECT CONTACT WITH COPPER; DIELECTRIC COUPLERS ARE SPECIAL CONNECTORS TO PREVENT GALVANIC ACTION OR ELECTROLYSIS
- IT IS SUBJECT TO FRACTURES MORE SO THAN COPPER
- IT HAS A LIMITED SERVICE LIFE AND SHOULD BE REPLACED

Though much of the corrosion occurs with horizontal piping, the homeowner should consider replacing all the outdated piping in the dwelling, not only what is easily accessible in the basement.

## LEAD PIPING

Lead pipe is softer than galvanized pipe. It produces a duller sound and when scratched it reveals a silver-gray color. Given its softness, lead pipe is not threaded together. Instead, the piping has wiped lead joints that appear as a spherical bulge in the pipe.

Up until the 1950's, lead pipe was used as the supply line from the water main to the house – and is still in use. Many old lead supply lines are connected to a galvanized nipple or steel pipe that is in contact with the soil. This pipe will corrode on the exterior and rust on the inside. This section of pipe will have to be replaced once leaks occur. *It is difficult for an inspector to determine the condition of the supply pipe.*

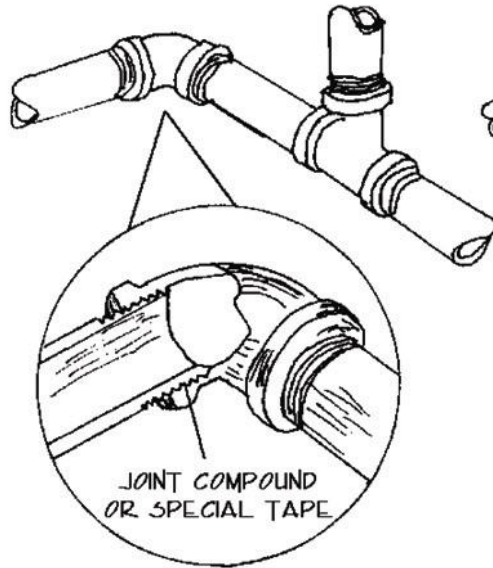
Lead was also used as a component in solder for copper pipes. Lead-based solder has been banned since the 1980's. Most solder used today is either lead-free or 95/5 (the solder consists of 95% tin and 5% lead) Solder containing lead is not as great a concern as lead pipes themselves. With age, a build-up of oxides, sulfates, minerals, etc. in the pipe surface reduces the risk of contamination.

### **STEPS TO MINIMIZE CONTAMINATION OF LEAD WITH LEAD PIPES:**

- RUN WATER THREE TO FIVE MINUTES BEFORE DRINKING IT
- NEVER USE HOT WATER FOR DRINKING OR COOKING (HOT WATER LEACHES LEAD FROM THE PIPE OR SOLDER)
- HAVE THE WATER ANALYZED FOR LEAD CONTENT
- IT IS A HEALTH RISK AND SHOULD BE REPLACED

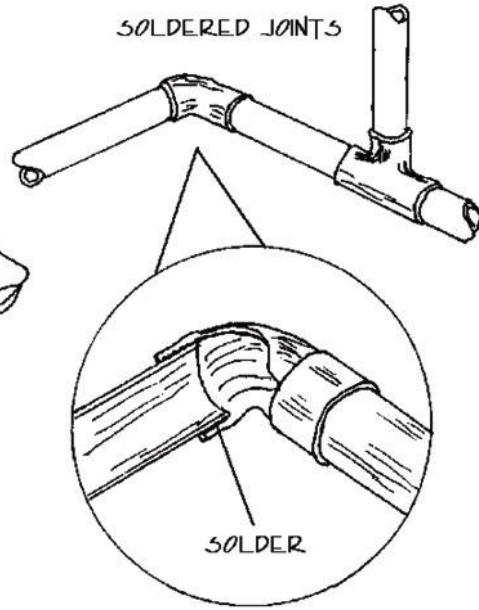
For further information contact your local public utilities office or a licensed plumber.

THREADED JOINTS



GALVANIZED PIPE

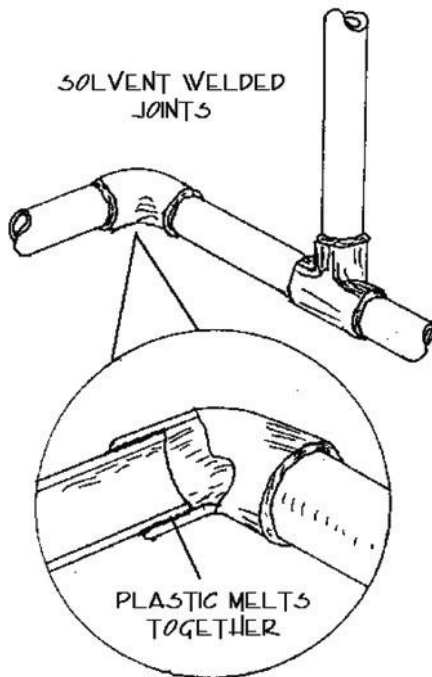
SOLDERED JOINTS



COPPER PIPE

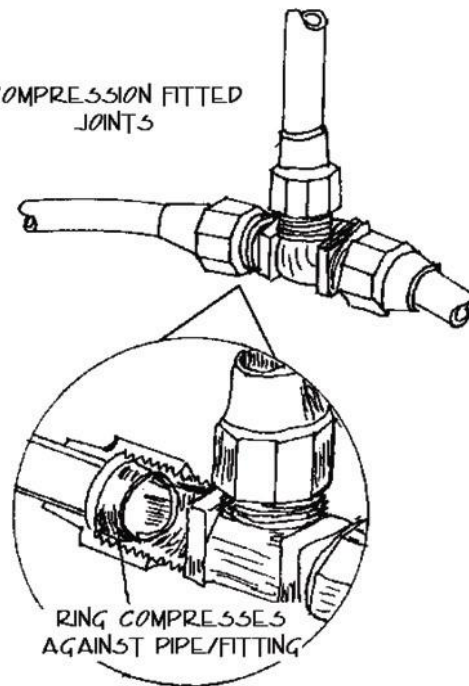
## METAL WATER distribution pipes

SOLVENT WELDED JOINTS



CPVC PLASTIC PIPE

COMPRESSION FITTED JOINTS



POLY-B (PB) PLASTIC PIPE

## Plastic water distribution pipes