

Planning your rough-in plumbing

Plumbing requires a lot of planning. You first need to make a list of all the fixtures that need to be connected to the water supply, and determine their precise location. Rough-in plumbing includes all water, drainage and vent piping, including the piping under the floor.

Legally, you can do rough plumbing work yourself, but you need to comply with plumbing codes and municipal standards dealing with such things as connections to the municipal water supply system, and materials used for drain pipes.

Plumbing Materials

Water systems can be plastic or copper pipe and fittings. The choice is yours.

PEX, a new arrival in plumbing materials, is used more and more in the manufacturing of supply pipe and features good durability, more flexibility, and can be connected without soldering.

The drainage network is made of ABS (acrylonitrile-butadiene-styrene plastic), or PVC pipe, a very rigid plastic which has replaced the cast iron pipe. Special glue is required to assemble this material.

The Plumbing Plan

Draw your plan from the list of the fixtures (toilets, showers, wash basins, sinks, outside taps, etc) and electrical appliances you think you may want to add in the near future.

The plumbing plan includes:

- water distribution system;
- drainage system;
- vent lines

Water Distribution System

Water is brought to your house under pressure through a ¾ in. or 1 in. pipe which is connected to the main shut-off. It splits into two separate pipes (one for hot water, one for cold water) coming out of the water heater. From that point on, these two lines run through the house, side by side, and connect to the various fixtures and appliances. On your plan, locate the water heater in the basement, as close as possible to the chimney. Keep in mind the water distribution system to the main fixtures and appliances for the kitchen and bathrooms in order to minimize the length of the required pipes.

Water heater shut off

Install a shut off at the inlet (cold water side) connection of the water heater so you can turn off the system in case of emergencies or for maintenance purposes.

Fixture shut offs

Install a shut-off designed to cut off the water supply only to the fixture to which it's attached (in case of an emergency or for maintenance or repair purposes). Toilets must have a shut off.

The DWV (Drainage, Waste and Vent) System

One main stack must run from the basement through to the attic. The minimum size must be 3 inches and increase to 4 inches before passing through the roof.

Main Cleanout

A main cleanout must be installed as soon as you enter the building.

The Vent Lines

The plumbing system could not do its job without air. Every trap requires a vent which in turn is connected to a network of other vents or may go separately and directly to the outdoors and must terminate through the roof. There are many different ways to vent fixture traps.

Vents balance the pressure in the pipes thus allowing P-traps to do their job. P-traps hold a small quantity of water in waste pipes which is used to stop sewer gases that would otherwise find their way back into the house. All sanitary fixtures are fitted with P-traps, except for toilets in which P-traps are integral.