



BASIC PLUMBING

Building Inspections

- All fixtures must be trapped and vented separately. A vent pipe cannot be run horizontal until it is six inches above the spill line of the fixture it serves. The spill line is the top of the fixture where the water would overflow to the floor.
- A trap arm is the pipe between the trap and its vent/drain connection. The trap arm of a fixture may have one long turn 90 degree fitting, or two 45 degree fittings before the vent. The maximum lengths of trap arms are 42" for 1 1/2" pipe and 60" for 2" pipe, 72" for a toilet.
- Between the trap and the vent for the fixture you cannot wye, or tee off to add another fixture. This must be tied on after the vent into the drain line separately with its own vent.
- ABS pipe (black) and PVC pipe (white) cannot be glued together. You may use an approved transition coupling. It must have a smooth stainless steel shroud when used above ground.
- When using PVC (white pipe) you must use a purple primer before gluing the joints.
- Supports for plastic piping are every 4 feet. Support for pex tubing is every 32 inches.
- Drainage pipes must be connected with a wye fitting not a tee on a horizontal to horizontal drain pipe. A Tee fitting may be used when going from horizontal position to a vertical downward position or on its back as a vent only.
- All drainage fittings must be of the long turn or 45 degree style unless going from horizontal to vertical position then a tee or medium turn 90 degree fitting may be used.
- Air Test of Plumbing: An air test of 5 psi must be done at time of inspection on the new drains and vent piping. The air test must hold for 15 minutes. To do this you must cap off all openings of the new plumbing system and put an air gauge on one of the pipe openings (usually the sink drain). In lieu of an air test you can block off all openings and fill system with water at the highest point possible. If choosing to do the water tests please make sure to not spill water as that would appear to be a leak and fail the test.
- A 1/2 inch water line will do a bathroom consisting of a shower, toilet, lav. A bathroom with a tub, toilet, and lav will require 3/4 inch cold line. So if you are adding a new bathroom the water supply must be teed off from a minimum 3/4 inch water line. Shower valves must be anti-scald, pressure balanced for new or replacement (most 2 handle tub/shower valves do not meet code).
- All plastic pipe and copper pipe must be protected with a nail protection plate when the pipe is within 1" of the nailing surface of a stud, or top or bottom plate it passes through.
- Minimum drain size: Toilet 3". Shower, bathtub, washing machine, kitchen sink 2". Lav, bar sink, 1 1/2"
- Minimum vent size: Toilet 2", shower, bathtub, washing machine, laundry tub, lav, or bar sink 1 1/2"
- Water Heaters: must have 3/4 inch shut off on cold side inlet (no other tee's between water heater and shut off valve). Relief drain must be piped to a maximum of 18 inches from floor, and not be reduced from the 3/4 inch outlet. Unions are required on water lines to water heater within 12 inches.
- Gas piping: Use an approved gas valve (if old and all brass handle replace with new). Must have union between gas valve and fixture. Gas valve must be within 6 feet of appliance and in same room. The sediment trap needs to be minimum 3 inches.
- Water hammer arresters are required on quick acting valves. Examples are dishwashing machine, washing machine, ice makers.
- Each horizontal drainage pipe shall be provided with a clean-out. (*MN plumbing code 707.4*)
- The entire plumbing code is available online at *Minnesota Department of Labor (DOLI)*



