

4658.4500 PLUMBING SYSTEMS; NEW CONSTRUCTION.

Subpart 1. **Installation.** All plumbing systems must be installed and tested according to this chapter and chapter 4714, the Minnesota Plumbing Code.

Subp. 2. **Area drainage.** Roofs, basements, tunnels, pits, shafts, areaways, courts, yards, and drives must be properly drained to eliminate intrusion of rain water or groundwater into the building. Floor drains in exterior areaways and similar installations must be provided with a running trap located inside the building to prevent freeze-up in the winter.

Subp. 3. **Pipe insulation.** Sufficient insulation must be provided for all water and steam piping to assure proper functioning of the systems, provide safety against burns, and to prevent undesirable condensation or heat transfer in areas for residents.

Subp. 4. **Hot water supply.** Circulating hot water must be provided in all hot water mains and in risers more than three stories high to assure hot water at the fixtures. The domestic hot water heating equipment must be installed, operated, and maintained according to chapter 4714, the Minnesota Plumbing Code. The domestic hot water heating equipment must have sufficient capacity and recovery to supply water at minimum temperatures at the point of use as follows:

- A. resident bedrooms and service areas, 105 degrees Fahrenheit, with a maximum temperature at the point of use of 115 degrees Fahrenheit;
- B. mechanical dishwashing, 180 degrees Fahrenheit;
- C. washers in the laundry, 160 degrees Fahrenheit; and
- D. mechanical sanitizing of nursing utensils, 180 degrees Fahrenheit.

If a thermostatically controlled mixing valve is used, it must be of the "fail-safe" type which prevents flow of hot water in case the cold water supply fails. Heaters must be insulated and provided with a thermometer.

Subp. 5. **Dishwashing machine.** The dishwashing machine must be of a commercial type equal to the standards established by NSF International Standard No. 3, and must be of a size that can accommodate food trays. The water supply line at the machine must be provided with a pressure-reducing valve, pressure gauge, and vacuum breaker. The rinse water flow pressure must be maintained between 15 and 25 pounds per square inch at the machine by the use of a pressure reducing valve. A pressure gauge must be installed immediately after the reducing valve. A recirculation system and pump must be provided if the final rinse water heater is located more than five feet from the dishwasher. The drain must be an indirect waste connection to a trapped floor drain, or it must be a trapped connection to a branch with a floor drain without a backwater valve in the horizontal branch.

Subp. 6. **Floor drains.** Floor drains must not be installed in areas for food storage. Floor drains must not be directly connected to ventilation equipment or air supply plenums.

Statutory Authority: *MS s 144A.04; 144A.08*

History: *21 SR 196; 40 SR 71*

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