

**4717.2570 RECIRCULATION EQUIPMENT.**

Subpart 1. **General.** Equipment which is part of the installation or alteration of a pool recirculation system must comply with Standard 50 "Circulation System Components for Swimming Pools, Spas or Hot Tubs" of the NSF International.

Subp. 2. **Recirculation system strainers.** The recirculation system must include a strainer to prevent debris such as hair and lint from reaching the pump and filters. The strainer must:

- A. be corrosion-resistant;
  - B. have openings not more than one-eighth inch;
  - C. provide a free flow area at least four times the area of the pump suction line;
- and
- D. be readily accessible for frequent cleaning.

Subp. 3. **Recirculation system piping.** Recirculation system piping must:

- A. carry the recirculation quantity of water required in part 4717.2650 at a velocity not exceeding six feet per second for suction piping, eight feet per second for discharge piping, and three feet per second for gravity flow piping;
  - B. be nontoxic and corrosion-resistant, and able to withstand operating pressures;
- and
- C. be identified by a label, color code, tag, or other distinguishing marking.

Subp. 4. **Rate-of-flow indicator.** A rate-of-flow indicator, reading in gallons per minute, must be installed and located, preferably on the pool return line, so the rate of recirculation and backwash rate are indicated. The indicator must be capable of reading flows measuring at least 1-1/2 times the design flow rate, be accurate within ten percent of the true flow, and be easy to read.

Subp. 5. **Pumps.** Pumps must provide the number of turnovers of pool water specified in part 4717.2560.

If the pump or suction piping is located above the overflow level of the pool, the pump must be self-priming. The pump or pumps must be capable of providing flow to backwash filters.

Under normal conditions, the pump or pumps must supply the recirculation rate of flow specified in part 4717.2560 at a dynamic head of at least 50 feet for pressure filters.

Subp. 6. **Heaters.** Pools equipped with heaters must have a fixed thermometer in the recirculation line to measure the temperature of the water returning to the pool.

Subp. 7. **Valves.** Valves must be provided on the main drain and skimmer lines to permit balancing the recirculation flow.

**Statutory Authority:** *MS s 144.05; 144.12; 144.123; 145A.02; 157.01*

**History:** *19 SR 1419; 19 SR 1637*

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