



1-11-16

## Water Softening Best Practices Guidelines

The following best practices guidelines are steps that can be taken by water treatment professionals, whenever practicable, as part of an effort to reduce chloride contributions to wastewater treated by the Madison Metropolitan Sewerage District (MMSD):

1. Evaluate existing softening units during service calls, make adjustments as necessary to more efficiently use salt and verify the hardness settings are in line with the actual hardness tested on site. Review the historical softened water use, and family size and use that data to set softener as efficiently as possible.
2. Provide the consumer with educational material developed by MMSD and/or water treatment representatives regarding the benefits of upgrading to a more efficient softening system.
3. Setting residential and commercial applications to the same softening criteria
4. Residential softening:
  - a. Following Wisconsin plumbing code's alternative sizing criteria for residential installations.
  - b. Using a typical rate of 40 gallons of water consumed per person per day and the actual number of household residents, or by using the actual flow rates based on the history obtained from an existing softener.
5. Using a minimum softening efficiency for new softening equipment of 4000 grains per pound of salt.
6. Using a maximum regeneration water usage of 2.5 gallons of water per 1000 grains of hardness provided.
7. Sizing a regeneration frequency of no less than 3 days at 4000 grains/lb of salt.
8. The replacement of existing water softening systems or installation of new water softening systems within the Madison Metropolitan Sewerage District service area should be consistent with requirements in Wisconsin Administrative Code Comm 82.40(8)(j), which states that *ion exchange water softeners used primarily for water hardness reduction that, during regeneration, discharge a brine solution shall be of a demand initiated regeneration type equipped with a water meter or a sensor unless a wastewater treatment system downstream of the water softener specifically documents the reduction of chlorides.*

MMSD may modify these best practices guidelines from time to time as new information becomes available.

May 14, 2015