

Resin Fouling - Aluminum Fouling of Softener Resin

Cation softening resins are very effective at removing aluminum from influent waters. The aluminum is not effectively eluted off the resin during a standard brine regenerating, so aluminum levels on the resin can accumulate over time.

Cation resins that have been fouled with aluminum can be cleaned by treating the cation resin with a hydrochloric acid solution. Typical softener equipment, however, (tanks, piping, etc.) cannot withstand exposure to hydrochloric acid. In these cases the acid treatment would have to be performed externally.

Use the following procedure:

1. Perform a standard brine regeneration.
2. Prepare a solution of 5 to 10 percent hydrochloric acid using a dosage of 5 pounds per cubic foot of resin.
3. Pass the solution through the resin bed at 0.5 to 1.0 gpm/cu.ft. Check the materials of construction first! They must be compatible with hydrochloric acid, otherwise the resin must be treated external to the softener vessel.
4. Rinse any residual acid out of the resin.
5. Perform a brine regeneration using double the amount of salt, or twice the brine solution contact time, to convert the resin back to the sodium form.

