Resin Fouling - Oil Fouled Softener Resins (Detergent Procedure)

Cation resins, strong acid or weak acid, may become fouled with fats, oils, proteins or nitrogenous matter to such an extent that both exchange capacity and exchange rate are lowered. These fouling materials may be present in surface water supplies, condensate and process liquids. They are generally not removed by the normal regeneration with brine.

A non-ionic detergent can be used to clean the resin. Always start this procedure with the resin in the exhausted or sodium form.

1. Backwash the resin bed at the regular flow rate for 10 minutes and drain to bed level.

2. Air-lance the bed for 30 minutes at 4 cubic feet of air per minute per cubic foot of resin.

3. Backwash at the regular flow rate for 20 minutes and drain to bed level.

4. Apply 10 gallons of 140°F brine solution (10 pounds of sodium chloride per 10 gallons solution required*) per cubic foot of resin. Drain to bed level in 30 minutes.

5. Apply 5 gallons of 140°F non ionic surfactant (a non-ionic detergent and also a non-ionic dispersant if one is available) per cubic foot of resin. Drain to bed level in 30 minutes and allow to soak for 3 to 4 hours.

6. Rinse downflow at two gallons per minutes per cubic foot of resin for one hour.

7. Backwash the resin bed at regular flow rate for 10 minutes.

8. Perform regular regeneration twice.

9. Rinse and return unit to service.

NOTE: Use softened or demineralized water for solution preparation. Hot solutions will increase the effectiveness of cleanup. Recirculation of the cleaning solution will also increase cleanup effectiveness. Powdered, non-scented detergents like Bold® or Tide® can be used.