

SUPRA

SIR-600

SELECTIVE EXCHANGER

**AMMONIA & CESIUM SELECTIVE
ZEOLITE CRYSTALLINE
SODIUM / POTASSIUM FORM**

ResinTech SIR-600 is a sodium/potassium form granular naturally occurring aluminosilicate zeolite. It is an inorganic cation exchanger that can also capture certain ions by molecular sieving. SIR-600 is intended for the removal of radioactive cesium from wastewaters that contain moderate levels of sodium and potassium, and for the removal of ammonia from water.

APPLICATIONS

- Ammonia Removal
- Cesium Removal

TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS	
Polymer Matrix	Zeolite Crystalline
Ionic Form	Sodium / Potassium
Functional Group	Aluminosilicate
Physical Form	Irregular Granules
Particle Size	16 to 50 US Mesh (297 - 1190 µm)
% < 50 mesh (300µm)	< 1%
Uniformity Coefficient	1.6
Temp Limit	212°F (100°C)
Capacity (meq/mL)	0.6
Moisture Retention	0% to 10%
Shipping Weight	59 - 61 lbs/ft ³ (945 - 977 g/L)
Color	Light green to Tan
Regenerability	Yes

PACKAGING OPTIONS

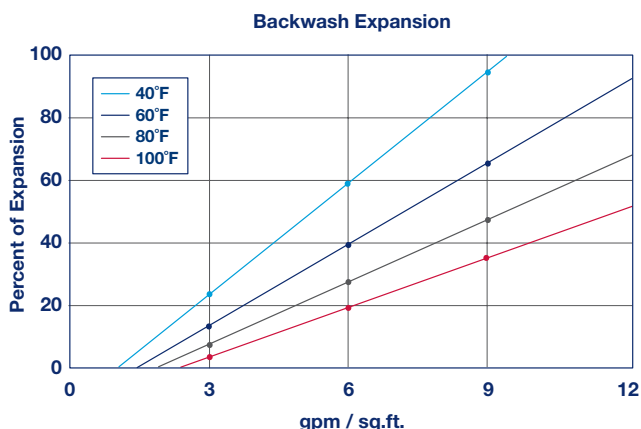
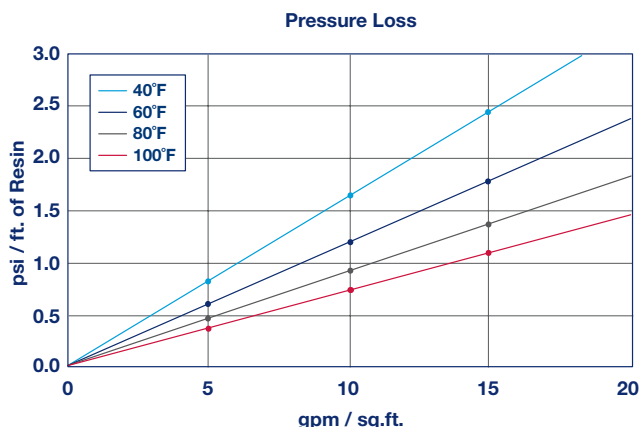
- 500 ml samples
- 1 ft³ bags
- 1 ft³ boxes
- 1 ft³ drums
- 7 ft³ drums
- 42 ft³ supersacks

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AMMONIA REMOVAL

ResinTech SIR-600 has high affinity for ammonia compared to sodium and moderate affinity compared to potassium. SIR-600 can be used to remove modest concentrations of ammonia from waters with TDS in the potable water range (less than 500 ppm TDS). Regeneration is accomplished with sodium chloride brine in a fashion similar to a water softener. Because the affinity for ammonia is quite large compared to sodium, the regeneration dose required to remove the ammonia from the media is substantial, generally in the range of 20 to 40 lbs per cu. ft.

CESIUM REMOVAL

ResinTech SIR-600 has very high selectivity for cesium over sodium and divalent ions, such as calcium and magnesium. Relative affinity for cesium over common ions found in potable water supplies is typically more than 100 to 1. Cesium is not effectively eluted from SIR-600 by regeneration with brine. Cesium laden SIR-600 is easily stabilized for safe disposal due to its inorganic crystalline structure.

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	212°F
Sodium form	121°F
Minimum bed depth	36 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	25 psi
Operating pH range	6 to 10 SU
Regenerant Concentration	
Salt cycle	5 to 10 percent NaCl
Regenerant level	>10 lbs./cu.ft.
Regenerant flow rate	0.25 to 1.0 gpm/cu.ft.
Regenerant contact time	>30 minutes
Displacement flow rate	Same as dilution water
Displacement volume	10 to 20 gallons/cu.ft.
Rinse flow rate	Same as service flow
Rinse volume	35 to 60 gallons/cu.ft.
Service flow rate	1 to 5 gpm/cu.ft.

Note: These guidelines describe average low risk operating conditions. They are not intended to be absolute minimums or maximums. For operation outside these guidelines, contact ResinTech Technical Support

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ResinTech, Inc.®

