PRODUCT SPECIFICATION SHEET

SUPRA

SIR-150

CHELATING RESIN

BORATE REMOVAL
POLYSTYRENIC MACROPOROUS
FREE BASE FORM

ResinTech SIR-150 is a borate selective macroporous chelating weak base anion resin. Its unique functionality provides exceedingly high selectivity for boron in almost any aqueous solution, yet can be regenerated with acid and then neutralized with various alkaline salts prior to use. SIR-150 is intended for all borate removal applications including potable water, ultrapure water, and boron removal from concentrated brines.

APPLICATIONS

- Boron Removal - Potable Water
- Boron Removal - Brine
- Boron Removal - Ultrapure Water

TYPICAL PROPERTIES & PHYSICAL CHARACTERISTICS	
Polymer Matrix	Styrenic Macroporous
Ionic Form	Free Base
Functional Group	Methylglucamine
Physical Form	Spherical Beads
Particle Size	16 to 50 US Mesh (297 - 1190µm)
% < 50 mesh (300µm)	< 1%
Minimum Sphericity	95%
Uniformity Coefficient	1.6
Reversable Swelling	Free Base to Cl 15% to 20%
Temp Limit	170°F (77°C)
Capacity (meq/mL)	0.8
Moisture Retention	46% to 60%
Shipping Weight	38 - 40 lbs/ft³ (609 - 641 g/L)
Color	White 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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RESINTECH® INC.
INNOVATIONS IN ION EXCHANGE

CORPORATE HEADQUARTERS 1801 Federal Street Camden, NJ 08105 USA PHONE 856.768.9600 EMAIL info@resintech.com WEB resintech.com

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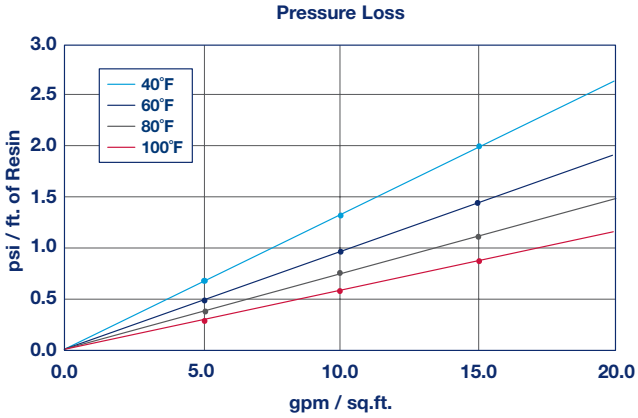

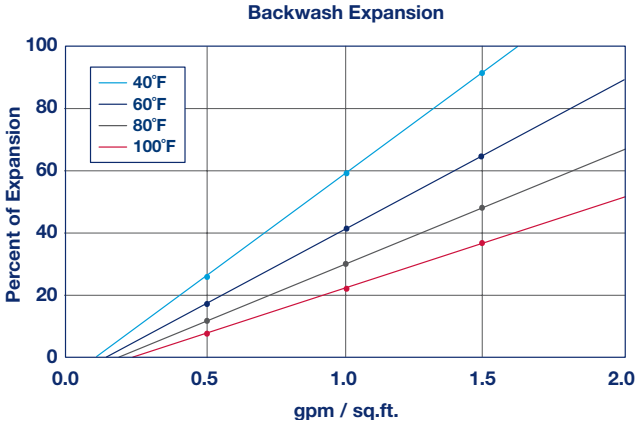

BORON REMOVAL FROM POTABLE WATER

ResinTech SIR-150 can be used to remove boron from potable waters of any type. SIR-150 selectivity for boron is so high that the concentration of common bulk ions such as chloride, sulfate, and bicarbonate are unimportant. SIR-150 is kinetically limited and cannot be operated at a high flow rate without experiencing increased leakage and decreased throughput capacity. Regeneration is accomplished with acid to strip the boron, followed by caustic to remove the acidity. The regenerated resin should be buffered into the potable water range to prevent possible pH excursions when first returned to service and also to prevent possible calcium carbonate scaling.

BORON REMOVAL FROM BRINE

ResinTech SIR-150 can be used to remove boron from almost any brine stream, even when the brine is fully saturated. The brine pH must not be lower than approximately 4 or the chelating exchange groups will be destabilized and might not work properly. Ion exchange in any concentrated salt solution is kinetically hindered by high TDS, therefore flow rates are necessarily low.

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	
Free Base form	170˚F
Minimum bed depth	24 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	20 psi
Operating pH range	4 to 10 SU
Regenerant Concentration	
Acid Strip	0.5 to 6 percent HCl
Caustic Neutralization	1 to 4 percent NaOH
Regenerant level	3 to 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 flow
Displacement volume	10 to 15 gallons/cu.ft.
Rinse flow rate	Same as service flow
Rinse volume	35 to 60 gallons/cu.ft.
Service flow rate	0.5 to 2 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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