RESINTECH INC.
INNOVATIONS IN ION EXCHANGE

SIR-700-HP

ANION EXCHANGE RESIN CHROMATE SELECTIVE

RESINTECH **SIR-700-HP** is a granular gel weak base anion resin with unique epoxy polyamine functionality. It utilizes a secondary mechanism for chromate removal that causes chromium to precipitate inside the resin matrix when the feed pH is slightly acidic. *RESINTECH SIR-700-HP* is intended for all chromate removal applications.

C US
NSF/ANSI-61 CERTIFIED FOR MATERIAL SAFETY

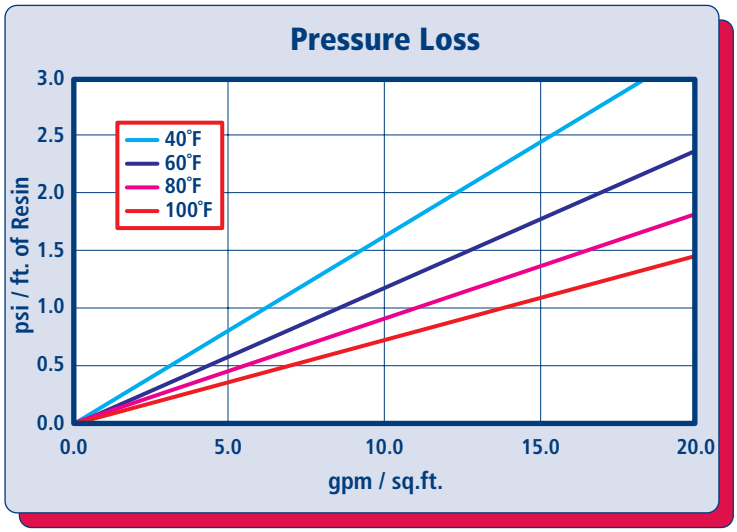
FEATURES & BENEFITS

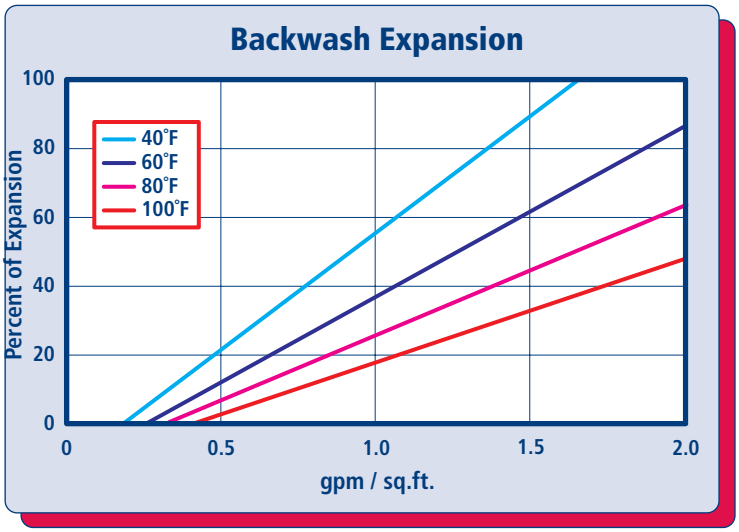
- **HIGHLY SELECTIVE FOR CHROMATE AND DICHROMATE**
  Secondary precipitation mechanism occurs within the resin during service, greatly enhancing chromate uptake, and resulting in large throughputs
- **INTENDED FOR SINGLE USE**
  High capacity media is designed for one-time use
- **CONTROLLED GRANULE SIZE**
  Large granules provide good physical strength and minimal fines provide low pressure loss
- **UNITED STATES PATENT**
  Method for removing chromium from water using weak base anion exchange resin at near-neutral pH. US Pat. 978,287,871
- **COMPLIES WITH US FDA REGULATIONS**
  Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

The media is ideally transferred via pressure or vacuum. Transfer via slurry is possible but not recommended as certain pumps may result in attrition of the media.

Prior to first use for potable water, resin should be backwashed for a minimum of 20 minutes, followed by 10 bed volumes of downflow rinse.

HYDRAULIC PROPERTIES





PRESSURE LOSSS

The graph above shows the expected pressure loss of *ResinTech SIR-700-HP* per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH

The graph above shows the expansion characteristics of *ResinTech SIR-700-HP* as a function of flow rate at various temperatures.

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RESINTECH® SIR-700-HP

PHYSICAL PROPERTIES

Polymer Structure	Epoxy polyamine
Polymer Type	Gel
Functional Group	Mixed amines
Physical Form	Granules
Ionic Form as shipped	Acid salt
Total Capacity	>2.1 meq/mL
Water Retention	52 to 58 percent
Approximate Shipping Weight	38 lbs./cu.ft.
Screen Size Distribution (U.S. mesh)	12 to 40
Maximum Fines Content (<50 mesh)	2 percent
Uniformity Coefficient	2 approx.
Resin Color	Amber to yellow

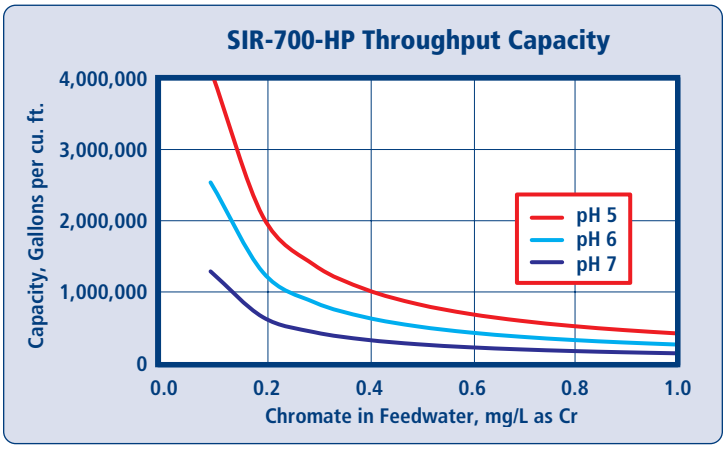
Note: Physical properties can be certified on a per lot basis, available upon request

SUGGESTED OPERATING CONDITIONS

Maximum continuous temperature	100˚F
Minimum bed depth	24 inches
Backwash expansion	25 to 50 percent
Maximum pressure loss	20 psi
Operating pH range	4 to 7 SU
Service flow rate	1 to 4 gpm/cu.ft.

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

APPLICATIONS



Capacity chart is based on waters with TDS less than 500 ppm and is for chromate alone, exclusive of other anions. Capacity shown is for the working bed in a worker polisher configuration. No engineering downgrade has been applied.

CHROMATE REMOVAL

ResinTech SIR-700-HP is a unique weak base anion exchanger with a secondary hybrid capture mechanism for chromate. Under neutral to slightly acidic conditions, chromate is first exchanged into the resin, then reduced to trivalent chrome which covalently bonds to the resin backbone. Throughput capacity is many times greater than that provided by the ion exchange groups alone, allowing very high loading and infrequent change-outs. Because the hexavalent chromate reduction step is both time and pH dependent, it is the rate controlling step. Operation at pH greater than 6 requires low flow rates, rest periods, or periodic soak steps at lower pH to allow the reduction step to catch up. Capacities in excess of 5 lbs of chrome (as Cr) per cu. ft. of media are routinely achieved with SIR-700-HP when operated at optimum pH and flow conditions. SIR-700-HP is not affected by common ions such as nitrate, sulfate, or chloride but can be damaged or fouled by high levels of suspended solids, iron, manganese, chlorine, etc.

SUGGESTED SYSTEM CONFIGURATION FOR SIR-700-HP