SIR-1000

Grade: Standard

Chelating weak base anion resin, styrene/DVB macroporous, acid sulfate form

ResinTech SIR-1000 is a copper selective macroporous chelating weak base anion resin. Its unique functionality provides exceedingly high selectivity for copper as well as other transition metals in almost any aqueous solution, yet can be regenerated with acid and then neutralized with various alkaline salts prior to reuse. SIR-1000 is intended for use in trichrome plating baths and for solution mining applications.

FEATURES & BENEFITS

- Can Fully Restore Trichrome Plating Baths
- Selective For Metals
- Superior Physical Stability
- Macroporous Structure

APPLICATIONS

- Solution Mining
- Cartridge Applications
- Chelating
- Plating Baths Purification
- Potable Water
- Reactor Water
- Wastewater

PHYSICAL PROPERTIES

Polymer Matrix	Styrene/DVB
Polymer Type	Macroporous
Ionic Form (as shipped)	Acid sulfate (HSO_4)
Functional Group	Picolylamine
Physical Form	Spherical Beads
Uniformity Coefficient	1.60
Particle Size	16-50 US mesh (297-1190µm)
< 50 mesh (300 µm) %	< 1%
Minimum Sphericity (%)	95
Reversible Swelling	Acid Sulfate → SO_4 15 to 20%
Capacity (meq/mL)	0.80
Moisture Retention (%)	40 to 60
Shipping Weight	41 - 43 lbs/cu.ft. (657 - 689 g/L)
Color	Tan

SUGGESTED OPERATING CONDITIONS

Maximum Temperature	250°F (121°C)
Minimum Bed Depth	24 in. (61.0 cm)
Maximum Pressure Loss	20 psi (138 kPa)
Operating pH Range	0 to 12.0
Flow Rate	
Working Service	1-2 gpm/cu.ft. (8-16 BV/h)

RESINTECH® INC.
INNOVATIONS IN ION EXCHANGE

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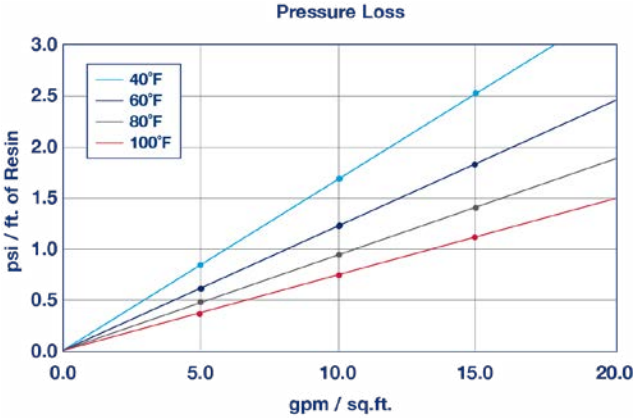
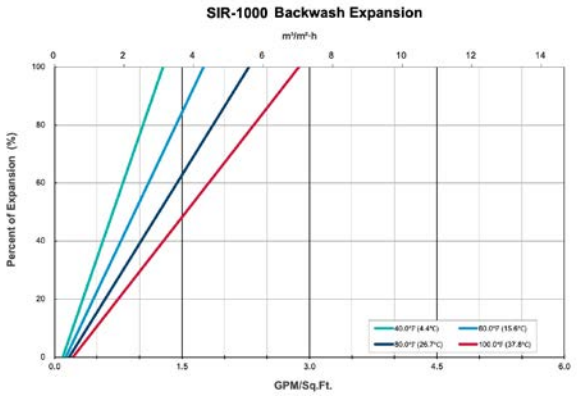
PRESSURE LOSS



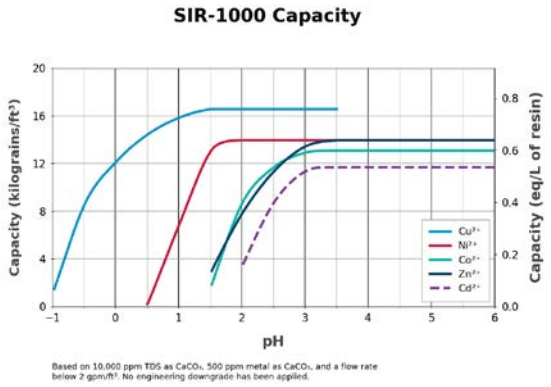
The graph above shows the expected pressure loss of ResinTech SIR-1000 per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH EXPANSION



The graph above shows the expansion characteristics of ResinTech SIR-1000 as a function of flow rate at various temperatures.

CAPACITY



Capacity and leakage data are based on the following: 2:1 Ca:Mg ratio, 500 ppm TDS as CaCO3, 0.2% hardness in the salt and 10% brine concentration applied co-currently through the resin over 30 minutes. No engineering downgrade has been applied.

SOLUTION MINING

Copper, nickel, cobalt, and other metals can be selectively extracted from liquors produced by heap leaching and other solution mining techniques using ResinTech **SIR-1000**. Loading depends on pH as well as metal concentrations, but in most cases the resin's operating capacity is more than half of the total capacity. Metals can be selectively eluted; thus separating them for further purification. For instance, copper will load at pH well below 1 and can be eluted from the resin with ammonia. The complex nature of most mining liquors precludes making textbook predictions of operating capacity and extraction efficiency, therefore bench scale testing is recommended.

TRICHROME BATHS

ResinTech **SIR-1000** is used to revitalize spent plating and chemical process solutions while the baths are still in service. This avoids the loss of production time and reduces operating cost of neutralization and disposal. **SIR-1000** is especially effective in treating chrome plating baths in this manner by removing copper, nickel and iron. For example, one or two cubic feet of **SIR-1000** can be used in a partial recycle mode to maintain a four thousand gallon chrome plating bath indefinitely. When the resin is exhausted it is removed temporarily, regenerated, and then placed back on line.

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PACKAGING

Standard

1 cu.ft. Bag | 7 cu.ft. Drum
200L Drum | 25L Bag

Metric

42 cu.ft. Supersack | 5 cu.ft. Drum
1000L Supersack | 140L Drum

Shipping Weight

41 - 43 lbs/cu.ft. (657 - 689 g/L)

MATERIAL SAFETY DATA SHEETS (MSDS)

Material Safety Data Sheets (MSDS) are available for all products on the ResinTech website. They contain important health and safety information that may be needed to protect your employees and customers from any known health and safety hazards associated with our products. We recommend that you secure and study the pertinent MSDS for our products and any other products being used.

These suggestions and data are based on information we believe to be reliable. They are offered in good faith. However we do not make any guarantee or warranty. We caution against using these products in an unsafe manner or in violation of any patents; further we assume no liability for the consequences of any such actions.

Safety Data Sheets (SDS) are available at resintech.com

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