# SIR-200

Grade: Standard

## Mercury selective, weak acid anion resin, styrenic/DVB macroporous, hydrogen form

ResinTech SIR-200 is a mercury selective hydrogen form macroporous weakly acidic cation resin. Its unique functionality makes it selective for mercury and other heavy metals as well as for noble metals when present as cations. SIR-200 is intended for mercury removal and the removal/recovery of various precious metals.

### FEATURES & BENEFITS

- Enhanced Selectivity For Divalent Mercury
- Effective Over Wide Ph Range
- Superior Physical Stability
- Controlled Particle Size

### APPLICATIONS

- Precious Metal Recovery
- Cartridge Applications
- Mercury Removal
- Plating Rinse Water

### PHYSICAL PROPERTIES

| | |
|---|---|
| Polymer Matrix | Styrene/DVB |
| Polymer Type | Macroporous |
| Ionic Form (as shipped) | Hydrogen ($H^+$) |
| Functional Group | Thiol |
| Physical Form | Spherical Beads |
| Uniformity Coefficient | 1.60 |
| Particle Size | 16-50 US mesh (297-1190µm) |
| < 50 mesh (300 µm) % | < 1% |
| Minimum Sphericity (%) | 95 |
| Moisture Retention (%) | 38 to 48 |
| Shipping Weight | 44 - 46 lbs/cu.ft. (705 - 737 g/L) |
| Color | White to Tan |

### SUGGESTED OPERATING CONDITIONS

| | |
|---|---|
| Maximum Temperature | 250°F (121°C) |
| Minimum Bed Depth | 36 in. (91.4 cm) |
| Maximum Pressure Loss | 25 psi (172 kPa) |
| Operating pH Range | 2.0 to 10.0 |
| Flow Rate | |
| Working Service | Depends on fluid viscosity. Contact ResinTech |



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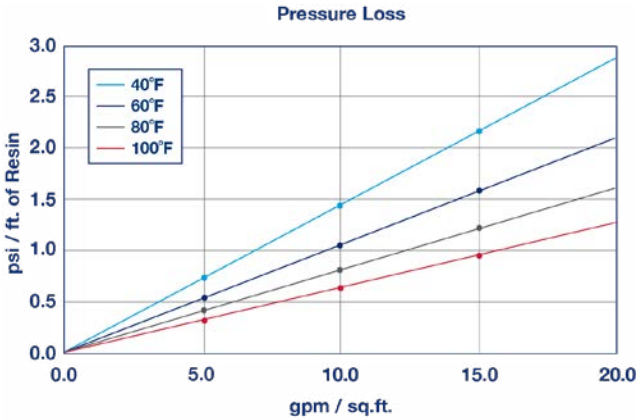
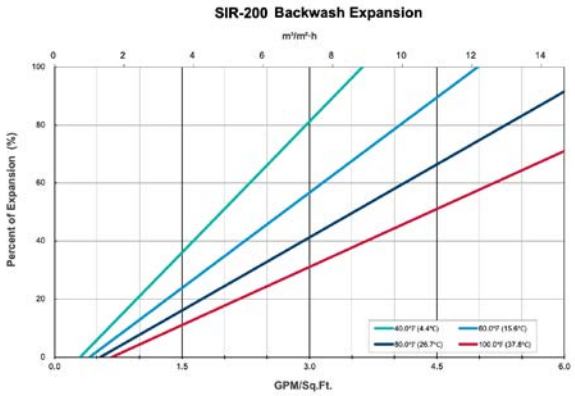
## PRESSURE LOSS



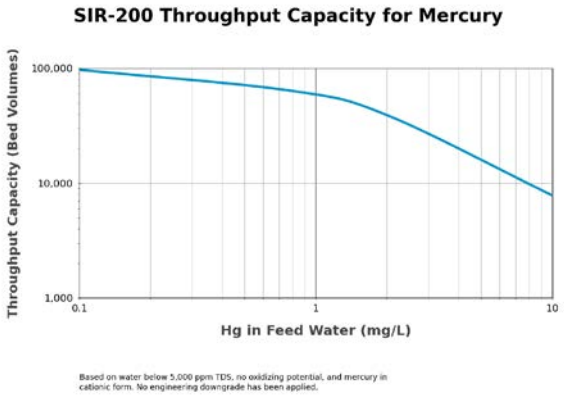

The graph above shows the expected pressure loss of ResinTech SIR-200 per foot of bed depth as a function of flow rate at various temperatures.

## BACKWASH EXPANSION




The graph above shows the expansion characteristics of ResinTech SIR-200 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.

## PRECIOUS METALS REMOVAL

Removal of precious metals by ResinTech **SIR-200** generally follows the solubility of that metal in the presence of the sulfide ion. Metals load according to their relative sulfide affinities. However, high concentrations of "tramp" metals also load and may prevent loading of more desirable metals. The order of selectivity of ResinTech **SIR-200** is shown in the following sequence:

Hg>Ag>Cu>Pb>Cd>Ni>Co>Fe>Ca>Na

**SIR-200**removes cationic forms of metals. Removal of anionic and zero valent forms of metals is uncertain. Chelating agents such as EDTA interfere with **SIR-200**'s performance. As pH increases, capacity decreases. For most heavy metals, there is a critical pH above which the metal is no longer present as a free cation. In most cases, the best-suited pH will be less than 7.0. The thiol groups contained in **SIR-200**become deactivated at pH greater than 10.



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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*

44 - 46 lbs/cu.ft. (705 - 737 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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