PROSOFT™ HIGH POROSITY

ProSoft High Porosity is the most chemically resistant softening resin we offer. It is manufactured for minimal pressure drops and where high iron content requires constant bed cleaning with solvents. ProSoft High Porosity is also a favorite in chemical processing applications.

FEATURES

- Macroporous structure greatly increases life in applications where resin degradation due to thermal and oxidative effects is anticipated

- Uniform particle size, low pressure drop

- Superior chemical and physical stability

- Conforms to paragraph 21CFR173.25 of the Food Additives Regulations of the US FDA

- Certified to NSF/ANSI Standard 61 *

* NSF/ANSI-61 compliance requires conditioning with a minimum 20 bed volume rinse prior to first use.

Physical Properties

Polymer Structure	Styrene/DVB
Polymer Type	Macroporous
Functional Group	Sulfonic Acid
Physical Form	Spherical beads
Resin Color	Tan
Ionic Form, as shipped	Sodium or Hydrogen
Total Capacity	
Sodium Form	> 1.65 meq/mL
Hydrogen Form	> 1.6 meq/mL
Water Retention	
Sodium Form	45 to 55%
Hydrogen Form	50 to 60%
Swelling, Na to H	3 to 5%
Screen Size Distribution	16 to 50 (US mesh)
Maximum Fines Content	1% (< 50 mesh)
Minimum Sphericity	95%
Uniformity Coefficient	1.6 approx.
Approximate Shipping Weight	
Sodium Form	50 lb/cu.ft.
Hydrogen Form	48 lb/cu.ft.

Part Number

Sodium Form	ER10009
Hydrogen Form	ER10010

Suggested Operating Conditions

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Maximum Temperature	
Sodium Form	300°F (149°C)
Hydrogen Form	280°F (138°C)
Minimum Bed Depth	24 inches
Backwash Expansion	25 to 50%
Maximum Pressure Loss	25 psi
Operating pH Range	0 to 14
Regenerant Concentration	
Salt Cycle	10 to 15% NaCl
Hydrogen Cycle	5 to 10% HCl
Hydrogen Cycle	1 to 8% H_2SO_4
Regenerant Level	4 to 15 lb/cu.ft.
Regenerant Flow Rate	0.5 to 1.5 gpm/cu.ft.
Regenerant Contact Time	> 20 minutes
Displacement Flow Rate	Same as dilution water
Displacement Volume	10 to 15 gal/cu.ft
Rinse Flow Rate	Same as service flow
Rinse Volume	35 to 60 gal/cu.ft.
Service Flow Rate	1 to 10 gpm/cu.ft.

† **CAUTION: DO NOT MIX ION EXCHANGE RESINS WITH STRONG OXIDIZING AGENTS**. Nitric acid and other strong oxidizing agents can cause explosive reactions when mixed with organic materials such as ion exchange resins.

Note: These suggestions and data are based on information we believe to be reliable. However, we do not make any guarantee or warranty. We caution against using these products in any unsafe manner or in violation of any patents. Further, we assume no liability for the consequences of any such actions.
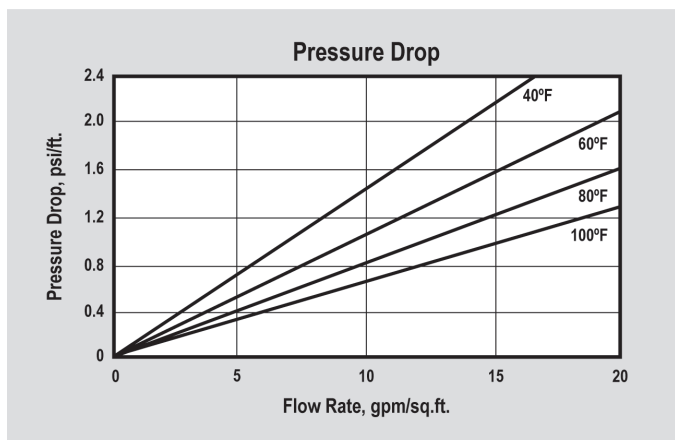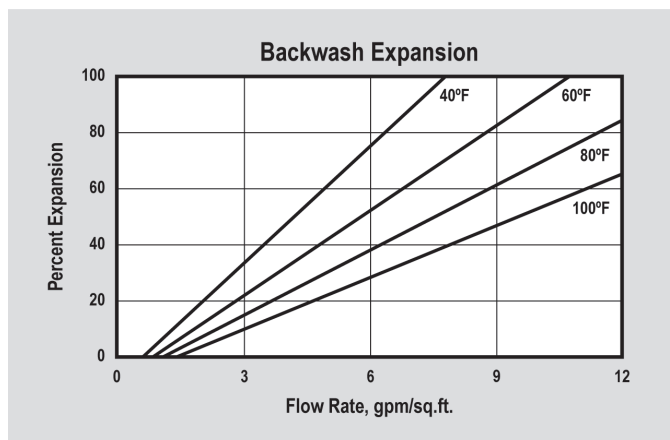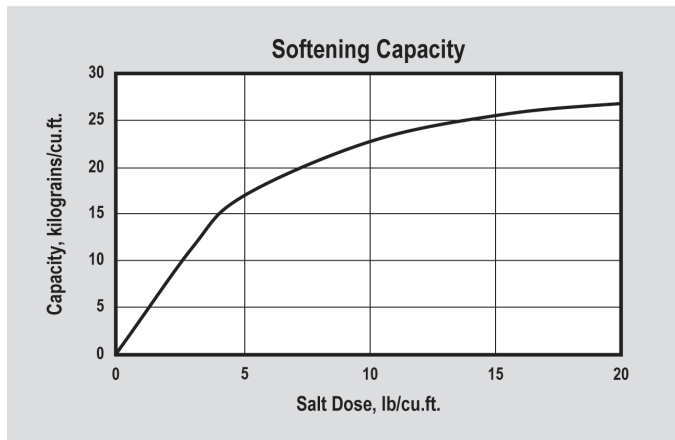
Pressure Drop

PRESSURE DROP — *The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.*

Backwash Expansion

BACKWASH — *The graph above shows the expansion characteristics as a function of flow rate at various temperatures.*

APPLICATIONS

Softening

Softening Capacity

SOFTENING CAPACITY — *Capacity is based on 2:1 Ca:Mg ratio, 500 ppm TDS as $CaCO_3$, 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.*

Radwaste

ProSoft High Porosity is ideally suited for radwaste applications. The high crosslinking content gives it improved resistance to chemical damage caused by ionizing radiation. Structural integrity is maintained up to approximately 1×10^9 rads exposure.

Demineralization

ProSoft High Porosity (Hydrogen Form) can be used as the cation component in demineralization configurations where a hydrogen form cation resin is coupled with a hydroxide form anion resin. ER10010 is ideal for high flow rate polishers and where high resistance to mechanical, thermal, and oxidative stresses is required.

Operating Capacity
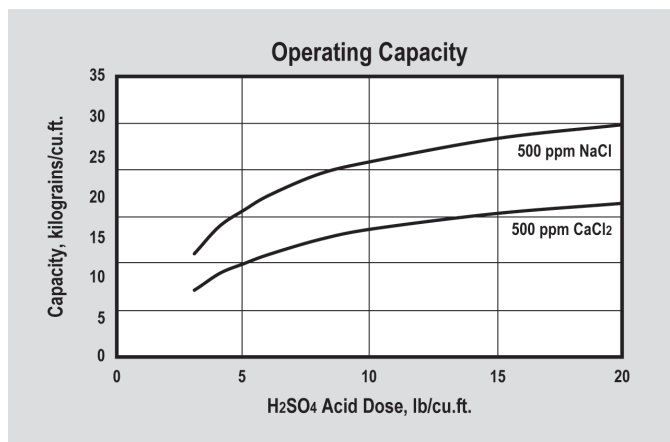
OPERATING CAPACITY — *Capacity is based on 500 ppm of stated salt (as $CaCO_3$) with 0% alkalinity, 36 inch bed depth, flow rate of 2 to 4 gpm per cu.ft., and a minimum of 30 minutes chemical injection time. Sulfuric acid concentration must be stepwise when calcium concentration exceeds 20% of total cations. No engineering downgrade has been applied.*