SPECIALTY RESIN

PROSELECT™ SILICA

ProSelect Silica (P/N ER20003) — If you've run into silica problems in the past, you know how hard it is to take care of them. Now, we've formulated the perfect resin to work hand-in-hand with our ProSoft™ Premium softening resin for the purpose of silica removal. ProSelect Silica is also the perfect choice for mixed-bed demineralizers when 100% ion and organic removal is required. At SWT, we respond to your needs.

FEATURES

- Complies with USDA & FDA regulations (paragraph 21 CFR173.25) for potable water applications *
- Uniform particle size, low pressure drop
- Superior physical stability
- Organic fouling resistance high operating capacity
- Certified to NSF/ANSI Standard 61

* For potable water applications, the resin must be properly pre-treated, usually by multiple exhaustion and regeneration cycles, to insure compliance with extractable levels.

Physical Properties

Polymer Structure	Styrene crosslinked with DVB
Functional Group	R-N-$(CH_3)^3$ $+X^-$
Ionic Form, as shipped	Chloride or Hydroxide
Physical Form	Tough, spherical beads
Screen Size Distribution	16 to 50 nominal
+16 mesh (U.S. Std.)	5% maximum
–50 mesh (U.S. Std.)	1% maximum
pH Range	0 to 14
Sphericity	93% minimum
Uniformity Coefficient	1.6 approximate
Water Retention	
Chloride Form	51 to 60%
Hydroxide Form	65 to 70%
Solubility	Insoluble
Approximate Shipping Weight	
Chloride Form	43 lb/cu.ft.
Hydroxide Form	41 lb/cu.ft.
Swelling Cl– to OH– Form	25 to 30% approximate
Total Capacity	
Chloride Form	1.25 meq/ml min
Hydroxide Form	1.0 meq/ml min

Suggested Operating Conditions

Maximum Temperature	
Chloride Form	170°F (77°C)
Hydroxide Form	140°F (60°C)
Minimum Bed Depth	24 inches
Backwash Rate (see next page)	
50% Bed Expansion @ 60°F	1.7 gpm/sq.ft.
Regenerant Concentration †	2 to 6% NaOH
Regenerant Flow Rate	0.25 to 1.0 gpm/cu.ft.
Regenerant Contact Time	60 minutes minimum
Regenerant Level	4 to 10 lb/cu.ft.
Displacement Rinse Rate	Same as Regenerant Flow Rate
Displacement Rinse Volume	10 to 15 gal/cu.ft
Fast Rinse Rate	Same as Service Flow Rate
Fast Rinse Volume	35 to 60 gal/cu.ft.
Service Flow Rate	2 to 4 gpm/cu.ft.
Pressure Drop	See next page

Operating Capacity

The operating capacity of ProSelect Silica for acid removal at various regeneration levels when treating an influent with a concentration of 500 ppm, as $CaCO_3$, is shown in the table below.

Pounds NaOH/cu.ft.	Capacity, Kilograins/cu.ft.				
	HCl	H_2SO_4	H_2SiO_3	H_2CO_3	H_3PO_4
4	11.5	14.0	12.6	18.6	16.1
6	13.5	16.3	14.8	19.8	17.8
8	15.2	18.3	16.7	21.6	19.2
10	16.8	20.0	19.8	22.2	20.5

† **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.

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MEMBER Water Quality ASSOCIATION
FORM 1167
EFFECTIVE
SEPTEMBER 2006

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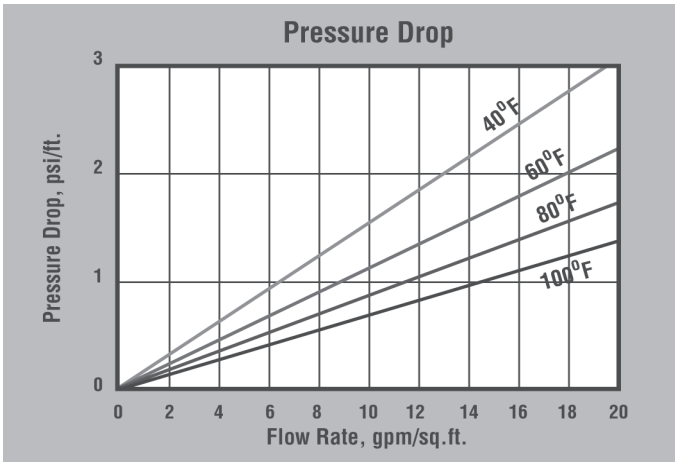

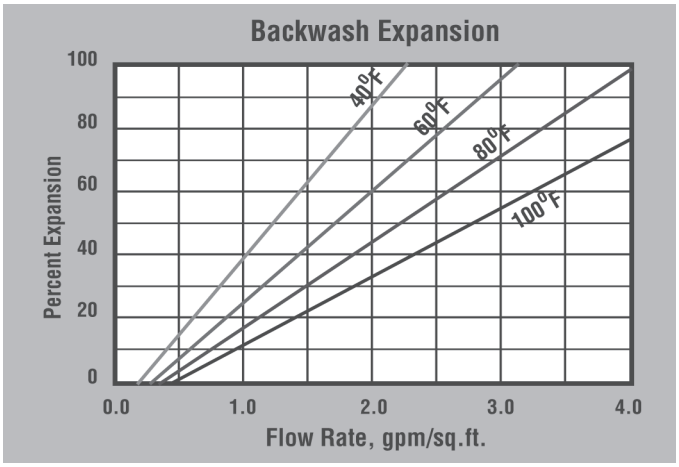

PRESSURE DROP — The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various temperatures.

BACKWASH — After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 75 percent. This will remove any foreign matter and reclassify the bed. The graph above shows the expansion characteristics of ProSelect Silica in the chloride form.

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