PRODUCT DATA SHEET

Purolite™ Shallow Shell™ SSTC104

Polyacrylic Porous, Weak Acid Cation Resin, Hydrogen form, Shallow Shell™ Technology*

PRINCIPAL APPLICATIONS

- Dealkalization
- Deionization
- Softening
- Softening - Aqueous organic solutions

ADVANTAGES

- SST shorter diffusion path benefits:
- Highest regeneration efficiency
- Very low leakage
- Highly resistant to iron fouling
- Lower rinse volumes
- Lower operating costs
- Excellent physical/chemical stability

SYSTEMS

- Coflow regenerated systems
- Counterflow regenerated systems
- Potable water treatment

REGULATORY APPROVALS

- Certified by the WQA to NSF/ANSI-61 Standard

TYPICAL PACKAGING

- 1 ft³ Sack
- 25 L Sack
- 5 ft³ Drum (Fiber)
- 1 m³ Supersack
- 42 ft³ Supersack

** SST™ is a registered trademark of Ecolab*

TYPICAL PHYSICAL & CHEMICAL CHARACTERISTICS:

Polymer Structure	Porous crosslinked polyacrylic acid
Appearance	Spherical Beads
Functional Group	Carboxylic Acid
Ionic Form	H^+ form
Dry Weight Capacity (min.)	5.5 eq/kg (H^+ form)
Moisture Retention	36 - 44 % (H^+ form)
Particle Size Range	300 - 1600 µm
< 300 µm (max.)	1 %
Reversible Swelling, $H^+ \rightarrow Ca^{2+}$ (max.)	20 %
Reversible Swelling, $H^+ \rightarrow Ca^{2+}$ (operating)	7 %
Reversible Swelling, $H^+ \rightarrow Na^+$ (max.)	50 %
Specific Gravity	1.17
Shipping Weight (approx.)	710 - 760 g/L (44.4 - 47.5 lb/ft³)
Temperature Limit	120 °C (248.0 °F)

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Hydraulic Characteristics

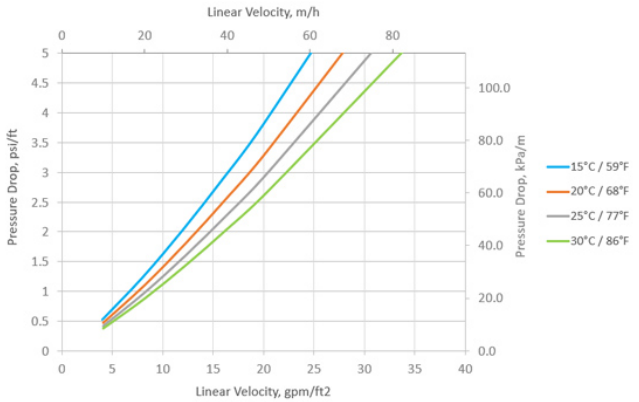
PRESSURE DROP

The pressure drop across a bed of ion exchange resin depends on the particle size distribution, bed depth, and voids volume of the exchange material, as well as on the flow rate and viscosity of the influent solution. Factors affecting any of these parameters—such as the presence of particulate matter filtered out by the bed, abnormal compressibility of the resin, or the incomplete classification of the bed—will have an adverse effect, and result in an increased head loss. Depending on the quality of the influent water, the application and the design of the plant, service flow rates may vary from 10 to 40 BV/h.

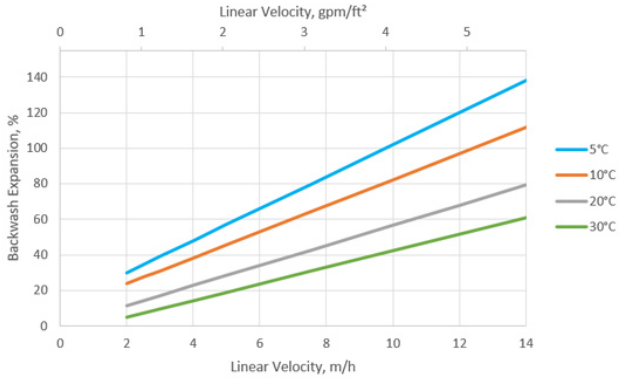
BACKWASH

During up-flow backwash, the resin bed should be expanded in volume between 50 and 70% for at least 10 to 15 minutes. This operation will free particulate matter, clear the bed of bubbles and voids, and reclassify the resin particles ensuring minimum resistance to flow. When first putting into service, approximately 30 minutes of expansion is usually sufficient to properly classify the bed. It is important to note that bed expansion increases with flow rate and decreases with influent fluid temperature. Caution must be taken to avoid loss of resin through the top of the vessel by over expansion of the bed.

PRESSURE DROP ACROSS RESIN BED



BACKWASH EXPANSION OF RESIN BED



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Ecolab is a global developer, manufacturer, and supplier of Purolite™ Resins including ion exchange, catalyst adsorbent and advanced polymers that make the world cleaner and healthier.

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We're ready to solve your process challenges.

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