DuPont™ TapTec™ HCRSS Na Ion Exchange Resin

Drinking Water-grade, Gel, Strong Acid Cation Exchange Resin for Domestic Softening

Description

TapTec™ HCRSS Na Ion Exchange Resin is a high-capacity, gel, strong acid cation exchange resin with excellent kinetics and good physical, chemical, and thermal stability. TapTec™ HCRSS Na can be used for domestic softening applications.

Key Application

- Domestic softening

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Gel
Type	Strong acid cation
Physical Form	White to amber, translucent, spherical beads
Density	
Shipping Weight	817 g/mL
Particle Density	1.3 g/mL

Chemical Properties	
Ionic Form as Shipped	Na^+
Total Exchange Capacity	≥ 1.90 eq/L
Water Retention Capacity	47 – 51%
Acidity Range	7.0 – 10.5
Stability	
Whole Uncracked Beads	≥ 90%
Swelling	$Ca^{2+} \rightarrow Na^+$: 5%
Particle Size §	
300 – 1200 µm	≥ 90%
< 300 µm	≤ 1%

§ For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 45-D00954-en).

Suggested Operating Conditions

Maximum Recommended Operating Temperature	120°C (248°F)
pH Range	0 – 14
Bed Depth, min.	800 mm (2.6 ft)
Flowrates	
Service	5 – 50 BV*/h (0.63 – 6.3 gpm/ft^3)
Backwash	See Figure 1
Regeneration	1 – 10 m/h (0.4 – 4 gpm/ft^2)
Displacement Rinse	1 – 10 m/h (0.4 – 4 gpm/ft^2)
Fast Rinse	5 – 50 BV/h (0.63 – 6.3 gpm/ft^3)
Total Rinse Requirement	3 – 6 BV
Regenerant	NaCl
Concentration	8 – 12%

* 1 BV (Bed Volume) = 1 m^3 solution per m^3 resin or 7.5 gal per ft^3 resin

Figure 1. Backwash Expansion
Temperature = 25°C (77°F)

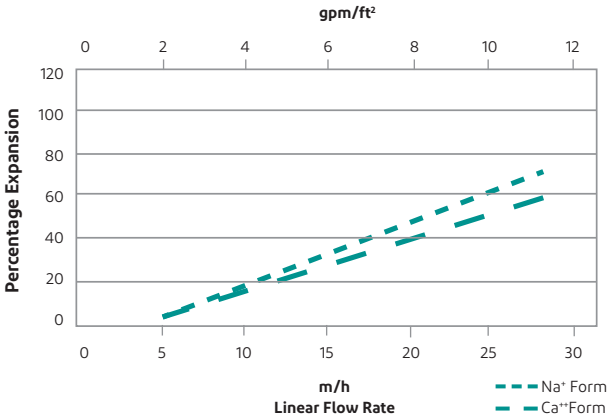
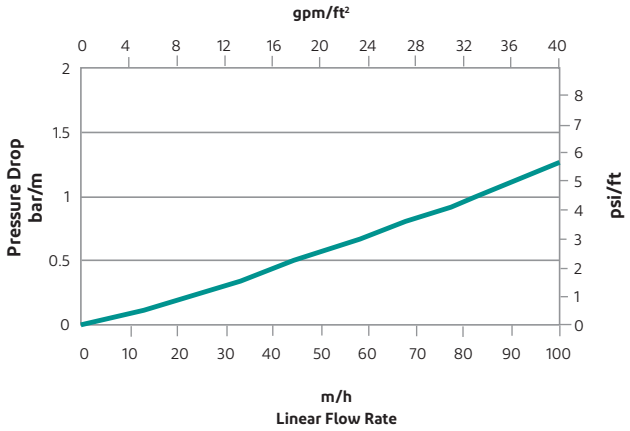


Figure 2. Pressure Drop
Temperature = 20°C (68°F)



For other temperatures use:
$F_T = F_{25°C}$ [1 + 0.008 (1.8$T_{°C}$ – 45)], where F = m/h
$F_T = F_{77°F}$ [1 + 0.008 ($T_{°F}$ – 77)], where F = gpm/ft^2

For other temperatures use:
$P_T = P_{20°C}$ / (0.026$T_{°C}$ + 0.48), where P = bar/m
$P_T = P_{68°F}$ / (0.014$T_{°F}$ + 0.05), where P = psi/ft

Important Information

WARNING: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violen exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

Have a question? Contact us at:
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Form No. 45-D00843-en, Rev.3
September 2025