DOWEX HCR-S/S

A High Capacity Cation Exchange Resin for Domestic Applications

Product	Type	Matrix	Functional group
DOWEX* HCR-S/S	Strong acid cation	Styrene-DVB gel	Sulfonic acid

Guaranteed Sales Specifications		Na^+ form
Total exchange capacity, min.	eq/l	1.9
	kgr/ft^3 as $CaCO_3$	41.5
Bead size distribution range†		
0.3 - 1.2 mm, min.	%	90
<0.3 mm, max.	%	1
Whole uncracked beads, min.	%	90
Color throw, as packaged, max.	APHA	20
Acidity range	pH	7.0 - 9.5

Typical Physical and Chemical Properties		Na^+ form
Water content	%	48 - 52
Total swelling ($Ca^+ \rightarrow Na^+$)	%	5
Particle density	g/ml	1.30
Shipping weight	g/l	800
	lbs/ft^3	50

Recommended Operating Conditions	
Maximum operating temperature	120°C (250°F)
pH range	0-14
Bed depth, min.	800 mm (2.6 ft)
Flow rates:	
Service/fast rinse	5-50 m/h (2-20 gpm/ft^2)
Backwash	See Figure 1
Co-current regeneration/displacement rinse	1-10 m/h (0.4-4 gpm/ft^2)
Total rinse requirement	3-6 Bed volumes
Regenerant	8-12% NaCl

†For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775/CH 171-476-E).

*Trademark of The Dow Chemical Company

Typical properties and applications:

DOWEX HCR-S/S cation exchange resin is a high capacity resin with excellent kinetics and good physical, chemical, and thermal stability. DOWEX HCR-S/S is used for domestic applications in the co-current mode of regeneration. For counter-current regeneration, DOWEX HCR-S/S CR is available.

Packaging

25 liter bags or 1 cubic foot bags.

Figure 1. Backwash Expansion Data

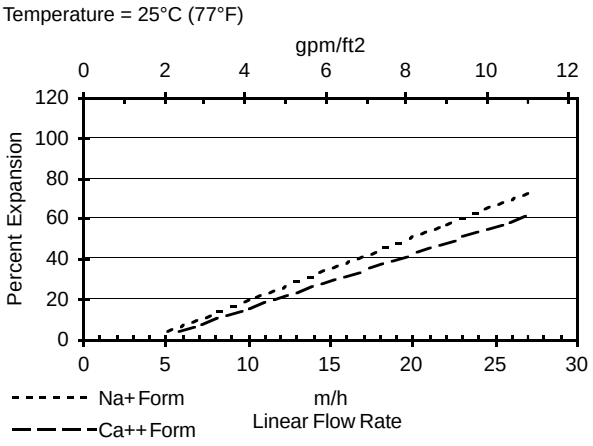
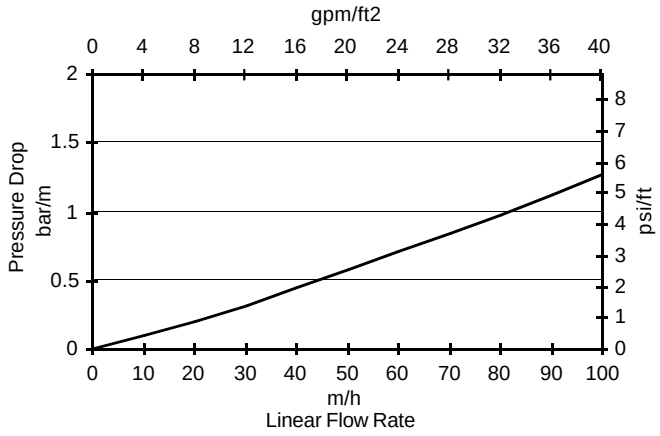


Figure 2. Pressure Drop Data



For other temperatures use:

$F_T = F_{77°F}$ [1+ 0.008 ($T_{°F}$ -77)], where F ≡ gpm/ft^2
$F_T = F_{25°C}$ [1+ 0.008 (1.8$T_{°C}$ - 45)], where F ≡ m/h

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

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 violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

Published April 2002.

Form No. 177-01664-402XQRP
CH 171-117-E-402R