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†		
300 - 1,200 µm, min.	%	90
< 300 µm, 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 Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

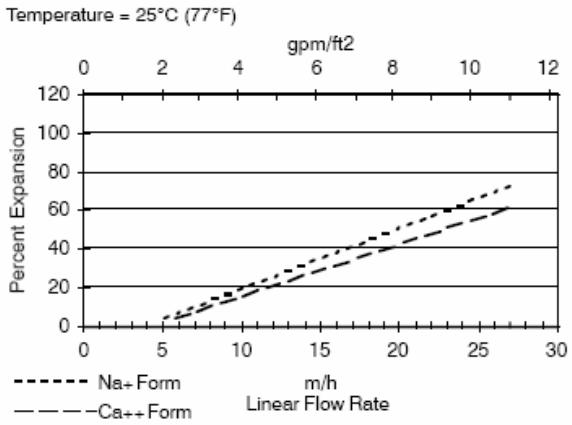
Typical Properties and Applications

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

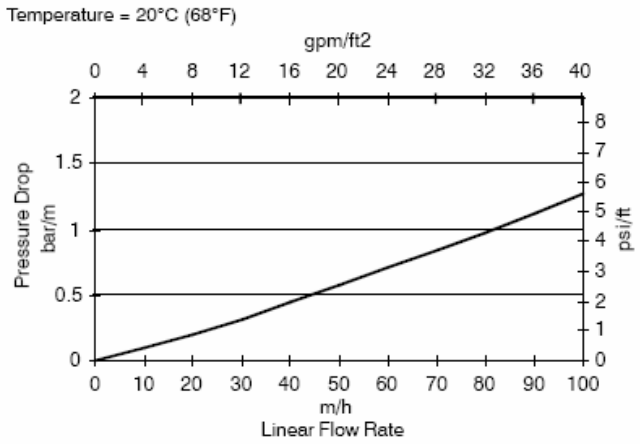
Figure 1. Backwash Expansion Data



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

Figure 2. Pressure Drop Data



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

DOWEX Ion Exchange Resins
For more information about DOWEX resins, call the Dow Liquid Separations business:

North America:	1-800-447-4369
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Japan:	+813 5460 2100
China:	+86 21 2301 9000

http://www.dowex.com

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.

Form No. 177-01664-0506