DOWEX 88 MB

Ion Exchange Resin for Mixed Bed Sweetener Applications

Product	Type	Matrix	Functional group
DOWEX™ 88 MB	Strong acid cation	Styrene-DVB, macroporous	Sulfonate

Typical Physical and Chemical Properties

Ionic form as produced		Na^+
Total exchange capacity, min.	eq/L	1.8
Water content	%	42 - 48
Bead size distribution Range < 500 µm (through 35 mesh)	%	< 5
Total swelling ($Na^+ \rightarrow H^+$)	%	5
Whole uncracked beads, min.	%	95
Particle density, approx.	g/mL	1.2
Shipping weight, approx.	g/L lbs/ft³	800 50

Recommended Operating Conditions

- Maximum operating temperature (H^+ form) — 93°C (200°F)
- pH range — 0 - 14
- Bed depth, min. — 91 cm (3 ft)
- Flow rates:
  - Service — 3 - 5 bed volumes/hour
  - Backwash — See Figure 1
  - Regeneration time — 30 - 45 min.
  - Displacement rinse — 30 - 45 min.
  - Fast rinse (if applicable) — 2 - 10 bed volumes/hour
- Total rinse requirement — 3 - 6 bed volumes
- Regenerant:
  - Concentration — 7% HCl
  - Level, 100% basis† — 6 - 7 lbs/ft³
96 - 112 kg/m³
  - Temperature, max. — 93°C (200°F)

† Regeneration level may be lower for counter-current regeneration systems.

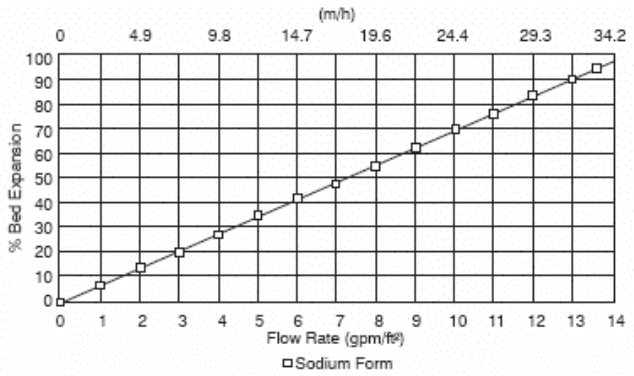
Typical Properties and Applications

DOWEX 88 MB resin is a macroporous strong acid cation resin for use in mixed bed polishing in sweetener applications. This macroporous matrix provides excellent mechanical strength and good operating capacity. DOWEX 88 MB resin can best be used in a mixed bed polisher together with DOWEX 22 ion exchange resin.

Packaging

25 liter bags, 5 cubic feet fiber drums or 1 cubic meter super sacks.

Figure 1. Backwash Expansion Data

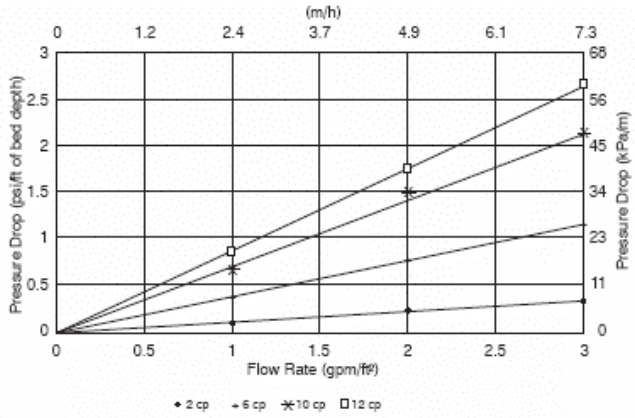


For other temperatures use:

$F_T = F_{77°F}$ [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:

$P_T = P_{25°C}$ / (0.026 $T_{°C}$ + 0.48), where P ≡ bar/m

$P_T = P_{77°F}$ / (0.014 $T_{°F}$ + 0.05), where P ≡ psi/ft

DOWEX Ion Exchange Resins

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.

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