DOWEX™ 22

Ion Exchange Resin for Sweetener Applications

Product	Type	Matrix	Functional group
DOWEX™ 22	Strong base anion, Type II	Styrene-DVB, macroporous	Quaternary amine, Dimethylethanol amine

Typical Physical and Chemical Properties		Cl⁻ form
Total exchange capacity, min.	eq/L	1.2
Water content	%	48 - 56
Bead size distribution		
> 1,200 μm (16 mesh)	%	< 2
< 300 μm (50 mesh)	%	< 1
Total swelling (Cl⁻ → OH⁻)	%	12
Whole uncracked beads, min.	%	98
Particle density, approx.	g/mL	1.1
Shipping weight**, approx.	g/L	670
	lbs/ft³	42

Recommended Operating Conditions

- Maximum operating temperature (OH⁻)   46°C (115°F)
- pH range   0 - 14
- Bed depth, min.:   910 mm (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

Regenerants	NaOH†	Na$_2$CO$_3$
Concentration (%)	4	7
Level, 100% basis		
lbs/ft³	4 - 5	5 - 6
kg/m³	64 - 80	80 - 96
Temperature, max.	46°C (115°F)	46°C (115°F)

† Recommended

****As per the backwashed and settled density of the resin, determined by ASTM D-2187

Typical Properties and Applications

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

Packaging

25 liter bags or 5 cubic foot fiber drums
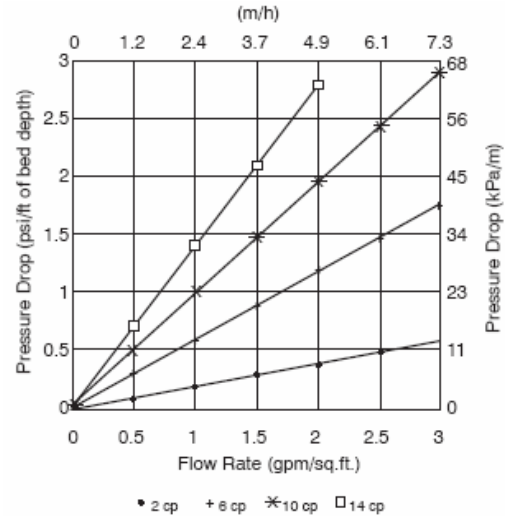
Figure 1. Backwash Expansion Data
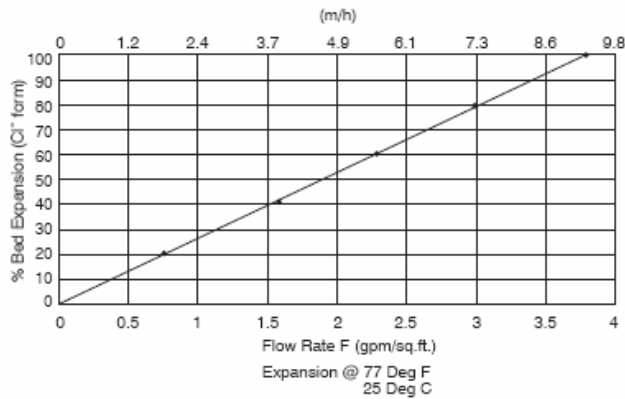
For other temperatures use:

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

Figure 2. Pressure Drop Data

For other temperatures use:

$P_T = P_{20°C} / (0.026 T_{°C} + 0.48)$, where $P \equiv bar/m$
$P_T = P_{68°F} / (0.014 T_{°F} + 0.05)$, where $P \equiv psi/ft$