



DOWEX™ 66 Ion Exchange Resin for Sweetener Applications

Product	Type	Matrix	Functional group
DOWEX™ 66	Weak base anion	Styrene-DVB, macroporous	Tertiary amine

Typical Physical and Chemical Properties		FB (free base) form
Total exchange capacity, min.	eq/L	1.6
Weak base capacity, min.	eq/L	1.35
Water content	%	40 - 46
Bead size distribution		
Range	µm	300 - 1,200
> 1,200 µm (16 mesh)	%	< 2
< 300 µm (50 mesh)	%	< 3
Total swelling (FB → HCl)	%	20
Particle density, approx.	g/mL	1.04
Shipping weight**, approx.	g/L	640
	lbs/ft ³	40

Recommended Operating Conditions

- Maximum operating temperature (OH⁻) 60°C (140°F)
- pH range 0 - 7
- Bed depth, min.: 910 mm (3 ft)
- Flow rates:
 - Service 2 - 4 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 4 - 6 bed volumes

Regenerants	NaOH [†]	Na ₂ CO ₃	NH ₄ OH
Concentration (%)	4	5	5
Level, 100% basis ^{††}			
lbs/ft ³	5 - 6	7 - 8	5 - 6
kg/m ³	80 - 96	112 - 128	80 - 96
Temperature, max.	60°C (140°F)	60°C (140°F)	60°C (140°F)

[†] Recommended

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

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

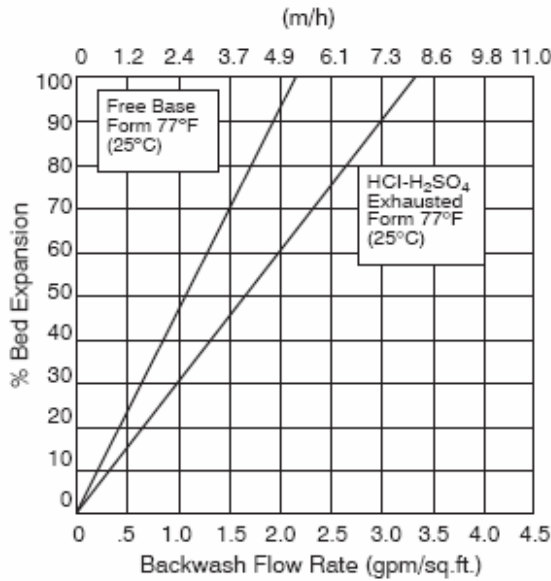
Typical Properties and Applications

DOWEX™ 66 resin is a macroporous weak base anion resin for use in the deashing (demineralization) applications. The unique resin matrix provides high operating capacity and excellent mechanical strength.

Packaging

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

Figure 1. Backwash Expansion Data

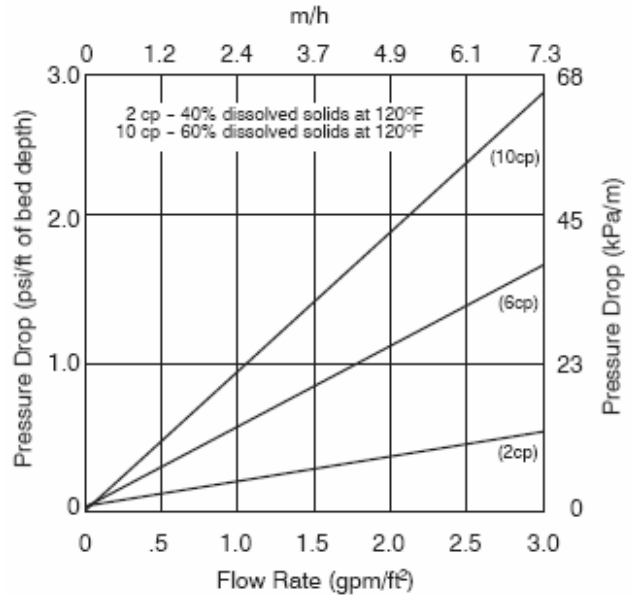


For other temperatures use:

$$F_T = F_{77°F} [1 + 0.008 (T_F - 77)], \text{ where } F \equiv \text{gpm/ft}^2$$

$$F_T = F_{25°C} [1 + 0.008 (1.8T_C - 45)], \text{ where } F \equiv \text{m/h}$$

Figure 2. Pressure Drop Data



For other temperatures use:

$$P_T = P_{20°C} / (0.026 T_C + 0.48), \text{ where } P \equiv \text{bar/m}$$

$$P_T = P_{68°F} / (0.014 T_F + 0.05), \text{ where } P \equiv \text{psi/ft}$$

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.

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