

DOWEX SBR-P

A High Efficiency, Strong Base Anion Exchange Resin for Water Demineralization Applications

Product	Туре	Matrix	Functional group
DOWEX* SBR-P	Type 1 strong base anion	Styrene-DVB, gel	Quaternary amine

Guaranteed Sales Specifications		Cl ⁻ form	
Total exchange capacity, min.	eq/l	1.3	
	kgr/ft³ as CaCO₃	28.4	
Bead size distribution range [†] 0.3 mm - 1.2 mm, min. (50 mesh - 16 mesh)	%	90	

Typical Physical and Chemical Properties		Cl⁻ form	
Water content	%	50 - 56	
Whole uncracked beads	%	90 - 100	
Total swelling (Cl⁻ → OH⁻)	%	20	
Particle density	g/ml	1.08	
Shipping weight	g/l lbs/ft³	690 43	

Recommended Operating Conditions				
Maximum operating temperature: OH ⁻ form CI ⁻ form	60°C (140°F) 100°C (212°F)			
pH range	0-14			
Bed depth, min.	800 mm (2.6 ft)			
Flow rates: Service/fast rinse Backwash Co-current regeneration/displacement rinse	5-50 m/h (2-20 gpm/ft²) See figure 1 1-10 m/h (0.4-4 gpm/ft²)			
Total rinse requirement	3-6 Bed volumes			
Regenerant: Type Temperature Load of organic matter, max.	2-5% NaOH Ambient or up to 50°C (122°F) for silica removal 3 g KMnO ₄ /I			

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

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DOWEX Ion Exchange Resins

For more information about DOWEX resins, call Dow Liquid Separations business:

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http://www.dow.com/liquidseps

Typical properties and applications:

DOWEX* SBR-P type 1 strong base anion resin has excellent kinetics, very good regeneration efficiency and physical and chemical stability. The porous bead is made by a special process giving enhanced

resistance to organics and fast equilibrium rates.

Mainly used for demineralization of water, extraction of heavy metals and the recovery of precious metals in the form of complex anions.

Packaging

25 liter bags or 5 cubic feet fiber drums.

Figure 1. Backwash Expansion Data

Temperature = 25° C (77° F)

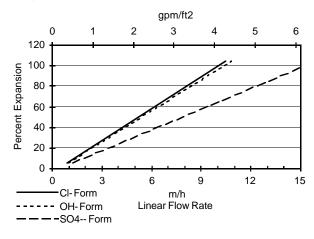
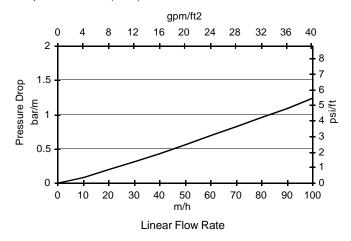


Figure 2. Pressure Drop Data

Temperature = 20° C (68° F)



For other temperatures use:

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

For other temperatures use:

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