



DOWEX™ SBR-C

A High Capacity Strong Base Anion Exchange Resin for Mixed Bed Demineralization and Condensate Polishing Applications

Product	Type	Matrix	Functional group
DOWEX™ SBR-C	Type I strong base anion	Styrene-DVB, gel	Quaternary amine

Guaranteed Sales Specifications		Cl ⁻ form	OH ⁻ form			
Total exchange capacity, min.	eq/L kg/ft ³ as CaCO ₃	1.4 30.6	1.1 24.0			
Water content	%	43 - 48	50 - 60			
Bead size distribution†						
> 1,200 µm, max. (16 mesh)	%	2	5			
> 840 µm, max. (20 mesh)	%	20	—			
< 350 µm, max. (45 mesh)	%	1	1			
Whole uncracked beads, min.	%	95	95			
Crush strength						
Average, min.	g/bead	350	350			
> 200 g/bead, min.	%	95	95			
Ionic conversions (OH ⁻ form)						
OH ⁻ 93% min.	Cl ⁻ 3% max.		CO ₃ ⁻ 7% max.			
Trace metals, ppm dry resin, max. (OH ⁻ form)						
Na	Fe	Cu	Al	Mg	Ca	Heavy metals (as Pb)
50	50	10	50	50	50	10

Typical Physical and Chemical Properties		Cl ⁻ form	OH ⁻ form
Total swelling (Cl ⁻ → OH ⁻)	%	15	15
Particle density	g/mL	1.10	1.08
Shipping weight	g/L lbs/ft ³	672 42	655 41

Recommended Operating Conditions

- Maximum operating temperature:
OH⁻ form 60°C (140°F)
Cl⁻ form 100°C (212°F)
- pH range 0 - 14
- Bed depth, min. 450 mm (1.5 ft)
- Flow rates:
Service/fast rinse 5 - 50 m/h (2 - 20 gpm/ft²)
Service/condensate polishing 40 - 150 m/h (16 - 60 gpm/ft²)
Backwash See figure 1
Co-current regeneration/displacement rinse 1 - 10 m/h (0.4 - 4 gpm /ft²)
- Total rinse requirement 2 - 5 Bed volumes
- Regenerant:
Type 4 - 8% NaOH
Temperature Ambient or up to 50°C (122°F) for silica removal

† For additional particle size information, please refer to Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

Typical properties and applications

DOWEX™ SBR-C strong base anion exchange resin has extremely high capacity, very good kinetics, excellent physical and chemical stability and resistance to osmotic shock.

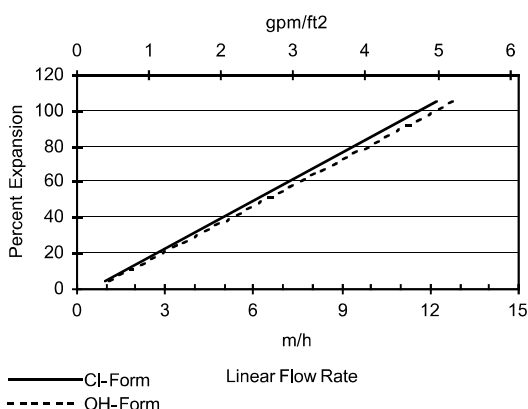
The resin is specially graded to give good separation after backwash when used in conjunction with DOWEX HCR-W2 or DOWEX HGR-W2 cation exchange resins in condensate polishing mixed beds.

Packaging

25 liter bags or 5 cubic feet fiber drums

Figure 1. Backwash Expansion Data

Temperature = 25° C (77° F)



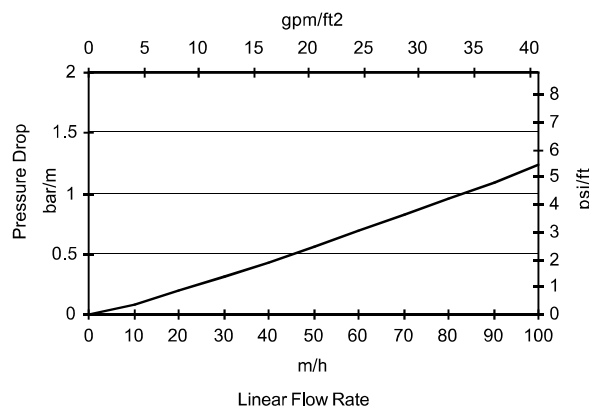
For other temperatures use:

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

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

Figure 2. Pressure Drop Data

Temperature = 20° C (68° F)



For other temperatures use:

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

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

DOWEX™ Ion Exchange Resins

For more information about DOWEX resins, call the Dow Water Solutions business:

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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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