AMBERLITE™ IRA96SB Resin
Industrial Grade Weak Base Anion Exchanger

For Industrial Water treatment

Description

AMBERLITE™ IRA96SB Resin is a macroreticular weak base anion exchange resin. Its very stable structure and limited reversible swelling make it very resistant to osmotic shock. The high degree of porosity of this resin provides efficient adsorption of large organic molecules and their desorption during regeneration, thus allowing excellent protection against organic fouling. AMBERLITE IRA96SB Resin is intended primarily for the removal of strong acids from water following a strongly acidic cation exchange resin, and it provides excellent protection against organic fouling for the strong base anion exchange resin placed in the same vessel. The particle size distribution of AMBERLITE IRA96SB Resin has been specifically selected to give optimum performance in stratified bed applications combined with AMBERJET 4500 Cl or AMBERLITE IRA458RF Cl Resins.

Typical Physical and Chemical Properties

Physical form		Tan opaque spherical beads
Matrix		Styrene divinylbenzene copolymer
Functional group		Tertiary amine
Ionic form as shipped		Free base (FB) form
Total volume capacity	eq/L kgr/ft^3 as $CaCO_3$	≥1.25
Moisture retention capacity	%	57–63
Particle size†		
Uniformity coefficient		≤1.60
Harmonic mean diameter	mm	0.440–0.590
< 0.300 mm	%	1.0 max
Reversible swelling (FB → Cl^-)	%	≤ 15
Shipping density**	g/L lbs/ft^3	670 42

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

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

Suggested Operating Conditions

Maximum operating temperature	100°C
Bed depth, min.	700 mm
Flow rates:	
Service flow rate	5–40 BV*/h
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4–8 BV at service flow rate
Regeneration	
Regenerant	**NaOH**
Level	120% of ionic load
Concentration	2–4%
Minimum contact time	30 minutes

*1 BV (Bed Volume) = 1 m3 solution per m3 resin or 7.5 gals per ft3 resin

Performance

Operating capacity

The operating capacity of AMBERLITE™ IRA96SB Resin, when used to deionise water, depends on a number of factors:

- Ionic load,
- CO_2 content,
- SO_4/FMA ratio,
- Water temperature.

Organic matter

Thanks to its high porosity, AMBERLITE IRA96SB Resin can adsorb reversibly organic molecules from solution. It is therefore very useful to protect strongly basic resins from irreversible fouling.

Physical stability

The tough, durable structure of AMBERLITE IRA96SB Resin associated with the limited reversible volume change in service offers excellent resistance to attrition from osmotic or physical stress. In addition, the resin has outstanding resistance to oxidation.

Packaging

7 cubic foot drum

Hydraulic Characteristics

Figure 1 shows the bed expansion of AMBERLITE™ IRA96SB Resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IRA96SB Resin as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed. These data are valid for water treatment and have to be corrected according to the solution to be treated.

Figure 1: Bed Expansion

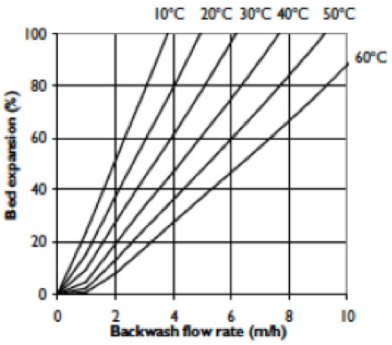
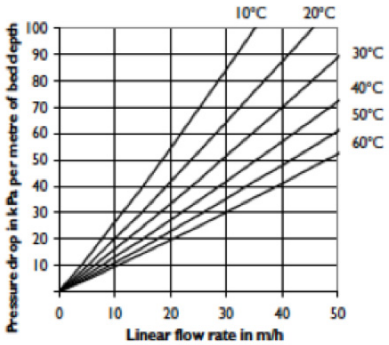


Figure 2: Pressure Drop



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DOW™ Ion Exchange Resins
For more information about DOW™ resins, call the Dow Water & Process Solutions business:
North America: 1-800-447-4369
Latin America: (+55) 11-5188-9222
Europe: (+32) 3-450-2240
Pacific: +60 3 7958 3392
Japan: +813 5460 2100
China: +86 21 2301 1000
http://www.dowwaterandprocess.com

 Form No. 177-02223-0411, Rev. 0