



AMBERLITE® IRI20 Na

Strong Acid Cation Exchanger

PRODUCT DATA SHEET

AMBERLITE IRI20 Na is a gel type strongly acidic cation exchange resin of the sulphonated polystyrene type. It is used for water softening (in Na⁺ form) as well as for water demineralization (in

H⁺ form) in co-flow regenerated units. Its principal characteristics are excellent physical, chemical and thermal stability, good ion exchange kinetics and high exchange capacity.

PROPERTIES

Matrix _____	Styrene divinylbenzene copolymer
Functional groups _____	Sulfonic Acid
Physical form _____	Amber beads
Ionic form, as shipped _____	Sodium
Total exchange capacity _____	2.0 meq/ml minimum (Na ⁺ form)
Moisture holding capacity _____	45 to 50% (Na ⁺ form)
Shipping weight _____	52 lbs/ft ³
Harmonic mean size _____	0.60 to 0.80 mm
Uniformity coefficient _____	1.9 maximum
Screen Grading (wet) _____	16 to 50 mesh (US Std Screens)
Screen Analysis _____	3 % maximum on 16 mesh (US Std Screens)
	2 % maximum thru 50 mesh (US Std Screens)
Maximum reversible swelling _____	Na ⁺ → H ⁺ : approximately 10%

Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

pH Range _____	0 to 14
Maximum Operating Temperature _____	250 °F
Minimum Bed Depth _____	24 inches
Service Flow Rate _____	2 gpm/ft ³
Regenerants (100 % basis) _____	HCl H₂SO₄ NaCl
Flow Rate (gpm/ft ³) _____	0.5 to 1.0 0.5 to 1.0 0.5 to 1.0
Concentration (%) _____	4 to 10 1 to 5 10
Level (lbs/ft ³) _____	2 to 8 5 to 10 5 to 25
Minimum Contact Time _____	20 minutes
Rinse Flow Rate _____	1 gpm/ft ³ initially, then 1.5 gal/ft ³
Rinse Requirements _____	25 to 75 gal/ft ³

PERFORMANCE

The operating capacity depends on several factors, such as the water analysis and the level of regeneration. The data to calculate the operating capacity and the ionic leakage with co-flow regeneration are given in the AMBERLITE IR120 Na Engineering Data Sheets.

LIMITS OF USE

AMBERLITE IR120 Na is suitable for industrial use. For other specific applications such as *pharmaceutical, food processing or potable water applications*, it is recommended that all potential users seek advice from Rohm and Haas Company in

order to determine the best resin choice and optimum operating conditions.

HYDRAULIC CHARACTERISTICS

Figure 1 shows the pressure drop data for AMBERLITE IR120 Na, 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. Figure 2 shows the bed expansion of AMBERLITE IR120 Na, as a function of backwash flow rate and water temperature.

Fig. 1 : Pressure Drop

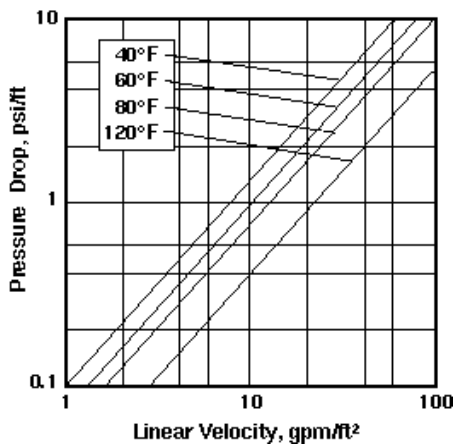
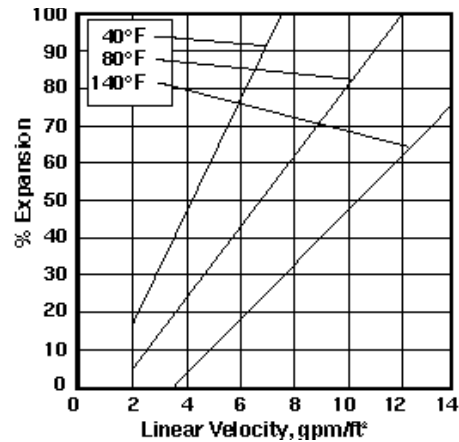


Fig. 2 : Bed Expansion



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Ion exchange resins and polymeric adsorbents, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application. Except where specifically otherwise stated, Rohm and Haas Company does not recommend its ion exchange resins or polymeric adsorbents, as supplied, as being suitable or appropriately pure for any particular use. Consult your Rohm and Haas technical representative for further information. Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid buildup of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.

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