



AMBERLITE® IR120 Na

Industrial Grade Strong Acid Cation Exchanger

PRODUCT DATA SHEET

AMBERLITE IR120 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 demineralisation (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	Sulphonates
Physical form	Amber beads
Ionic form as shipped	Na ⁺
Total exchange capacity ^[1]	≥ 2.0 eq/L (Na ⁺ form)
Moisture holding capacity ^[1]	45 to 50 % (Na ⁺ form)
Shipping weight	840 g/L
Specific gravity	1.26 to 1.30 (Na ⁺ form)
Particle size	
Uniformity coefficient	≤ 1.9
Harmonic mean size	600 to 800 µm
Fine contents ^[1]	< 0.300 mm : 2 % max
Maximum reversible swelling	Na ⁺ → H ⁺ : 11 %
Chemical resistance	Insoluble in dilute solutions of acids or bases and common solvents

^[1] Contractual value
Test methods available upon request.

SUGGESTED OPERATING CONDITIONS

Minimum bed depth	700 mm
Service flow rate	5 to 40 BV*/h
Regenerant	HCl H ₂ SO ₄ NaCl
Level (g/L)	50 to 150 60 to 240 80 to 250
Concentration (%)	5 to 8 0.7 to 6 10
Flow rate (BV/h)	2 to 5 2 to 20 2 to 8
Minimum contact time	30 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	2 to 4BV at service flow rate

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin

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 Engineering Data Sheets : EDS 0262 A, EDS 0264 A and EDS 0265 A.

LIMITS OF USE

AMBERLITE IR120 Na is suitable for industrial uses. 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 in order to determine the best resin choice and optimum operating conditions.

HYDRAULIC CHARACTERISTICS

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

Figure 2 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 a clear water and a correctly classified bed.

Figure 1: Bed Expansion

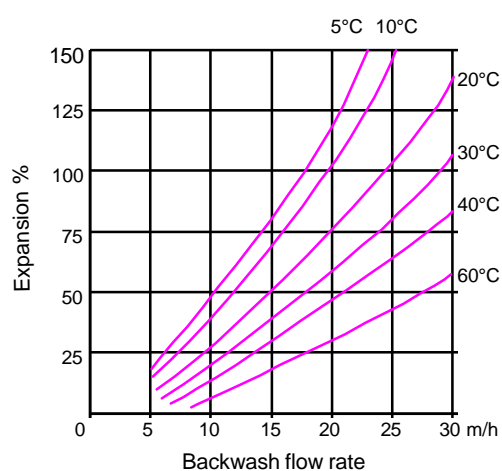
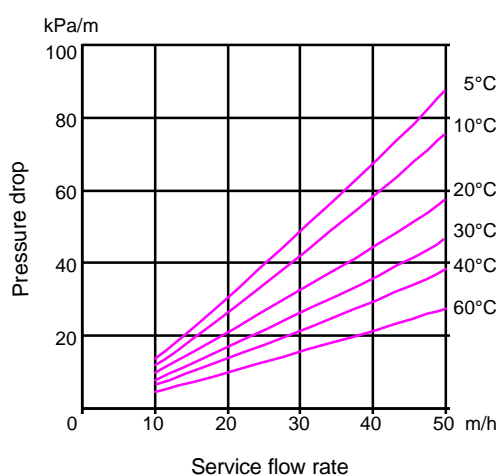


Figure 2: Pressure Drop



All our products are produced in ISO 9002 certified manufacturing facilities.

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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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