

PRODUCT DATA SHEET

AMBERLITE™ IRA458 Cl
Industrial Grade Strong Base Anion Exchanger

AMBERLITE IRA458 Cl resin is an acrylic gel type strongly basic anion exchange resin, with unique chemical and physical properties. It combines high operating capacity with low silica leakage values.

The flexible acrylic structure of AMBERLITE IRA458 Cl resin allows for effective adsorption and desorption of naturally occurring organic molecules, such as humic and fulvic acids, that are present in many water supplies.

PROPERTIES

Physical form _____	Translucent white spherical beads
Matrix _____	Crosslinked acrylic gel structure
Functional group _____	Quaternary ammonium
Ionic form as shipped _____	Chloride
Total exchange capacity ^[1] _____	≥ 1.25 eq/L (Cl ⁻ form)
Moisture holding capacity ^[1] _____	57 to 64 % (Cl ⁻ form)
Shipping weight _____	720 g/L
Particle size	
Uniformity coefficient ^[1] _____	≤ 1.90
Harmonic mean size ^[1] _____	0.600 to 0.900 mm
< 0.300 mm ^[1] _____	2.0 % max
Reversible swelling _____	Cl ⁻ → OH ⁻ ≤ 20 %

^[1] Contractual value
 Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____	35°C
Minimum bed depth _____	700 mm
Service flow rate _____	5 to 40 BV*/h
Regeneration	
Regenerant _____	NaOH
Level _____	50 to 150 g/L
Concentration _____	2 to 4 %
Minimum contact time _____	30 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	4 to 8 BV at service flow rate

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

APPLICATIONS

AMBERLITE IRA458 Cl resin is designed to be used in co-flow regeneration units. It is recommended as the working anion exchange resin, or in combination with AMBERLITE IRA96 resin for demineralisation of water having up to 30 % silica when low caustic regenerant consumption and good resistance to organic fouling are primarily required.

PERFORMANCE

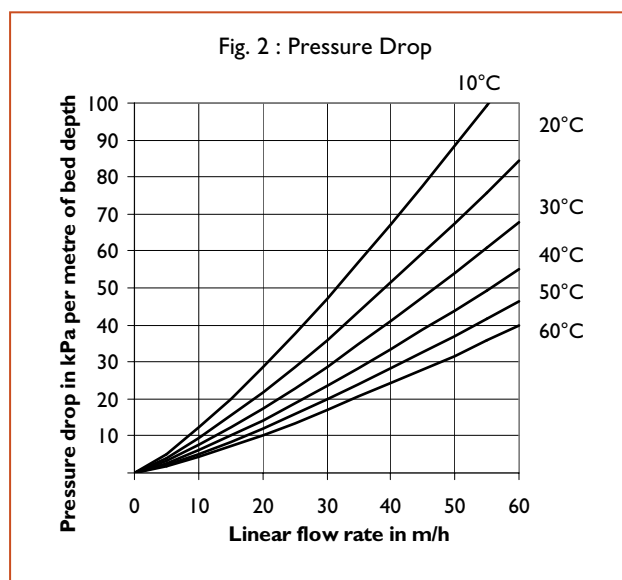
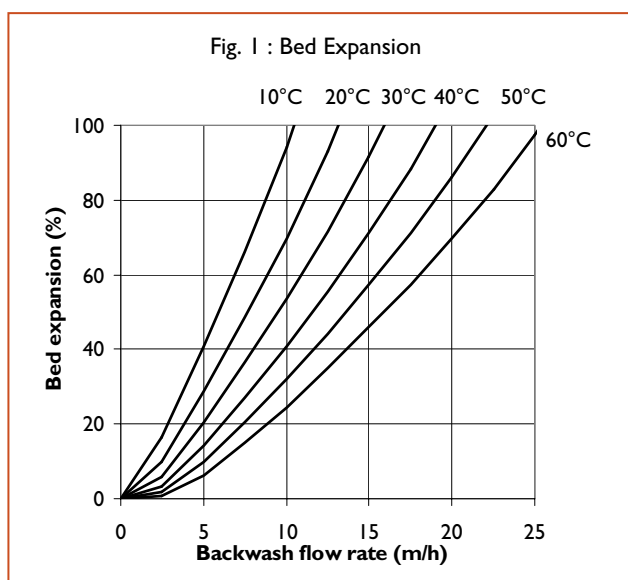
The engineering data sheet EDS 0273 A provides information to calculate the operating capacity and silica leakage of AMBERLITE IRA458 Cl resin used in water treatment.

LIMITS OF USE

AMBERLITE IRA458 Cl resin 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 IRA458 Cl resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IRA458 Cl 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.



All our products are produced in ISO 9001 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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