

**PRODUCT DATA SHEET**

# **AMBERLITE™ IRA402 Cl** **Industrial Grade Strong Base Anion Exchanger**

AMBERLITE IRA402 Cl resin is a type 1 strongly basic, clear gel, anion exchange resin. It has a crosslinked polystyrene structure that is designed to give an optimum balance of capacity and regeneration efficiency in water treatment applications. It is widely used in co-flow regenerated systems and can also be used in conventional counterflow systems such as those using air or water holddown.

In demineralisation applications AMBERLITE IRA402 Cl resin can remove both strong and weak acids including silica. These characteristics make AMBERLITE IRA402 Cl an excellent general purpose anion exchange resin for a wide variety of water treatment applications.

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**PROPERTIES**


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|------------------------------------------------|------------------------------------------|
| Physical form _____                            | Pale yellow translucent spherical beads  |
| Matrix _____                                   | Styrene divinylbenzene copolymer         |
| Functional group _____                         | Trimethyl ammonium                       |
| Ionic form as shipped _____                    | Chloride                                 |
| Total exchange capacity <sup>[1]</sup> _____   | ≥ 1.20 eq/L (Cl <sup>-</sup> form)       |
| Moisture holding capacity <sup>[1]</sup> _____ | 49 to 60 % (Cl <sup>-</sup> form)        |
| Shipping weight _____                          | 670 g/L                                  |
| Particle size                                  |                                          |
| Uniformity coefficient <sup>[1]</sup> _____    | ≤ 1.6                                    |
| Harmonic mean size <sup>[1]</sup> _____        | 0.600 to 0.750 mm                        |
| < 0.300 mm <sup>[1]</sup> _____                | 1.0 % max                                |
| Reversible swelling _____                      | Cl <sup>-</sup> → OH <sup>-</sup> ≤ 30 % |

<sup>[1]</sup> Contractual value

Test methods are available on request.

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**SUGGESTED OPERATING CONDITIONS**


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|                                     |                                |
|-------------------------------------|--------------------------------|
| Maximum operating temperature _____ | 60°C                           |
| Minimum bed depth _____             | 700 mm                         |
| Service flow rate _____             | 8 to 40 BV*/h                  |
| Regeneration                        |                                |
| Regenerant _____                    | NaOH                           |
| Level _____                         | 60 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 m<sup>3</sup> solution per m<sup>3</sup> resin

## LIMITS OF USE

AMBERLITE IRA402 Cl resin is suitable for industrial uses. For all 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 IRA402 Cl resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IRA402 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.

Fig. 1 : Bed Expansion

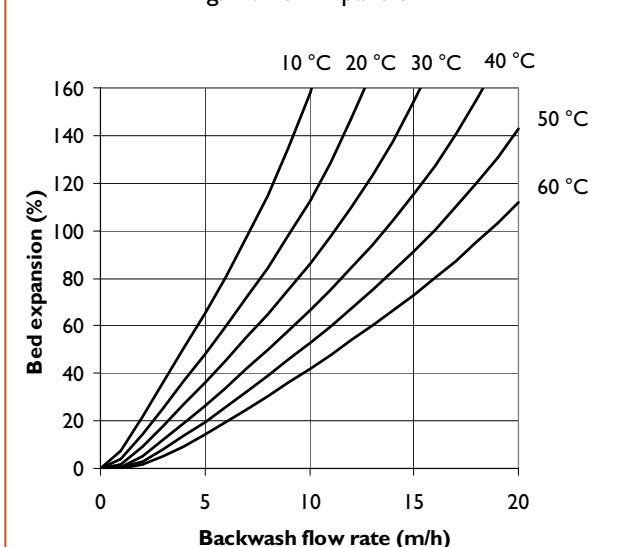
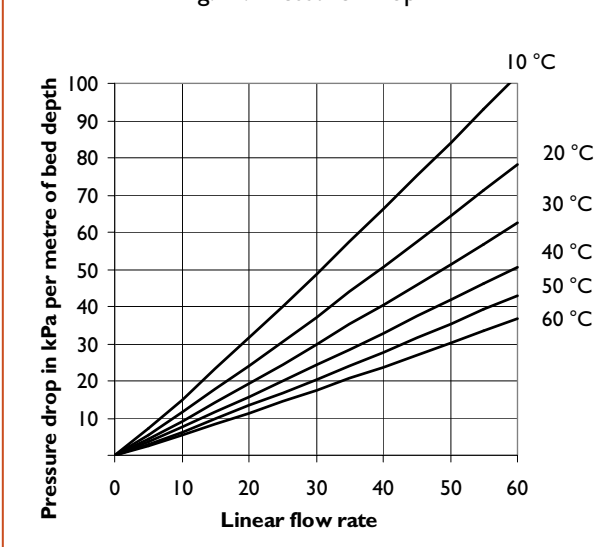


Fig. 2 : Pressure Drop



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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