



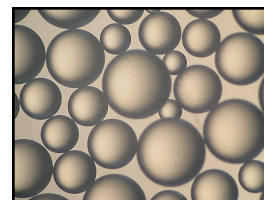
## Product Data Sheet

### AmberLite™ IRA402 Cl Ion Exchange Resin

Gaussian, Gel, Strong Base Anion Exchange Resin for Industrial Demineralization Applications

#### Description

AmberLite™ IRA402 Cl Ion Exchange Resin is a general-purpose demineralization resin with a long-established track record of reliable performance in the industry. This industry-staple resin is designed to provide excellent balance of properties for capacity, strength, silica selectivity, and a long lifetime for co-flow regenerated systems in variety of industrial water treatment applications.



#### Applications

- Demineralization
  - Ideally when treating water with:
    - High percentage of silica
  - When the treatment goal is:
    - Removal of strong and weak acids
    - Lowest silica leakage

#### System Designs

- Co-current

#### Typical Properties

|                            |                                         |
|----------------------------|-----------------------------------------|
| <b>Physical Properties</b> |                                         |
| Copolymer                  | Styrene-divinylbenzene                  |
| Matrix                     | Gel                                     |
| Type                       | Strong base anion, Type I               |
| Functional Group           | Trimethylammonium                       |
| Physical Form              | Amber, translucent, spherical beads     |
| <b>Chemical Properties</b> |                                         |
| Ionic Form as Shipped      | Cl <sup>-</sup>                         |
| Total Exchange Capacity    | ≥ 1.20 eq/L (Cl <sup>-</sup> form)      |
| Water Retention Capacity   | 49.0 – 59.0% (Cl <sup>-</sup> form)     |
| <b>Particle Size</b> §     |                                         |
| Particle Diameter          | 600 – 750 µm                            |
| Uniformity Coefficient     | ≤ 1.80                                  |
| < 300 µm                   | ≤ 1.0%                                  |
| > 1180 µm                  | ≤ 5.0%                                  |
| <b>Stability</b>           |                                         |
| Whole Uncracked Beads      | ≥ 90%                                   |
| Swelling                   | Cl <sup>-</sup> → OH <sup>-</sup> ≤ 20% |
| <b>Density</b>             |                                         |
| Particle Density           | 1.07 g/mL                               |
| Shipping Weight            | 670 g/L                                 |

§ For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 45-D00954-en).

## Suggested Operating Conditions

|                        |                        |
|------------------------|------------------------|
| Temperature Range      |                        |
| OH <sup>-</sup> form ‡ | 5 – 60°C (41 – 140°F)  |
| Cl <sup>-</sup> form   | 5 – 100°C (41 – 212°F) |
| pH Range               |                        |
| Service Cycle          | 1 – 14                 |
| Stable                 | 0 – 14                 |

‡ Operating at elevated temperatures, for example above 60 – 70°C (140 – 158°F), may impact resin life. Contact our technical representative for details.

For additional information regarding recommended minimum bed depth, operating conditions, and regeneration conditions for [separate beds](#) (Form No. 45-D01131-en) in water treatment, please refer to our Tech Fact.

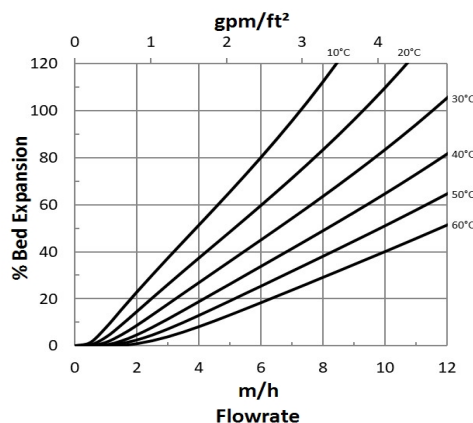
## Hydraulic Characteristics

Estimated bed expansion of AmberLite™ IRA402 Cl Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ IRA402 Cl as a function of service flowrate and temperature is shown in Figure 2. These pressure drop expectations are valid at the start of the service run with clean water and a well-classified bed.

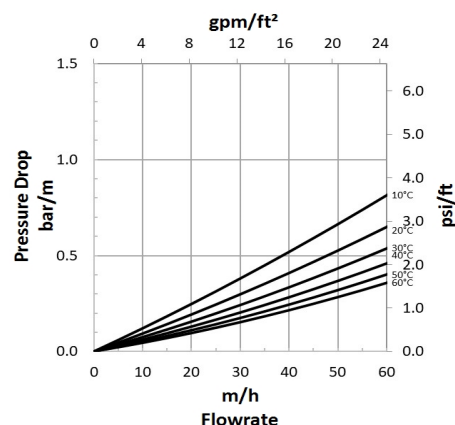
**Figure 1: Backwash Expansion**

Temperature = 10 – 60°C (50 – 140°F)



**Figure 2: Pressure Drop**

Temperature = 10 – 60°C (50 – 140°F)



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Please be aware of the following:

- **WARNING:** Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

Have a question? Contact us at:

[www.dupont.com/water/contact-us](http://www.dupont.com/water/contact-us)

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