

AmberLite™ IRC200 Na Ion Exchange Resin

Gaussian, Macroporous, Strong Acid Cation Exchange Resin for Industrial Softening Applications

Description

AmberLite™ IRC200 Na Ion Exchange Resin is a robust softening resin with a long-established track record of reliable performance in the industry. Its high degree of crosslinking provides exceptional stability, which gives it great resistance to chemical oxidation and to mechanical, thermal, or osmotic stress.



AmberLite™ IRC200 Na is recommended for hot process softeners, sodium-cycle or amine-cycle condensate treatment, and other systems involving appreciable oxidative potential or high temperatures.

Applications

- Industrial softening ideally when treating water with:
 - High oxidant level
 - High temperature on the cation resin
- Sodium-cycle or amine-cycle condensate treatment
- Hot process softening

System Designs

- Co-current

Historical Reference

AmberLite™ IRC200 Na Ion Exchange Resin has previously been sold as AmberLite™ 200C Na Ion Exchange Resin.

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Gray, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	Na ⁺
Total Exchange Capacity	≥ 1.8 eq/L (Na ⁺ form)
Water Retention Capacity	46.0 – 52.0% (Na ⁺ form)
Particle Size §	
Particle Diameter	600 – 800 µm
Uniformity Coefficient	≤ 1.6
< 300 µm	≤ 0.5%
> 1180 µm	≤ 3.0%
Stability	
Whole Uncracked Beads	≥ 98%
Swelling	Na ⁺ → H ⁺ ≤ 6%
Density	
Particle Density	1.24 g/mL
Shipping Weight	800 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 (Na ⁺ form)	5 – 150°C (41 – 302°F)
pH Range	
Service Cycle	1 – 14
Stable	0 – 14

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™ IRC200 Na Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ IRC200 Na 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)

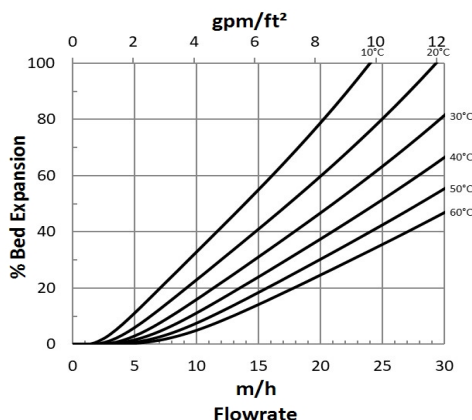
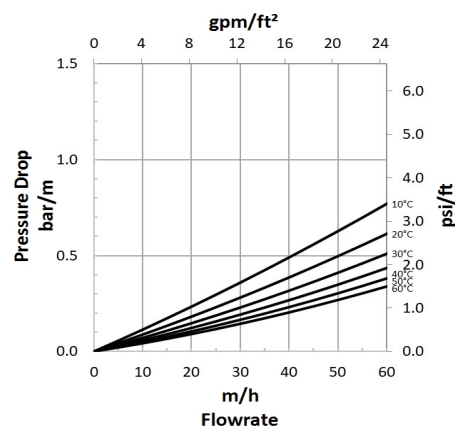


Figure 2: Pressure Drop

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.



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