

AmberLite™ HPR9200 Cl Ion Exchange Resin

Uniform Particle Size, Macroporous, Strong Base Anion Exchange Resin for Industrial Demineralization Applications

Description

AmberLite™ HPR9200 Cl Ion Exchange Resin is a robust, high-quality resin for use in industrial demineralization applications when a combination of exceptional physical stability, simple and reliable operation, and long resin life is required.

AmberLite™ HPR9200 Cl has exceptional physical stability, excellent resistance to osmotic shock, and very good organic fouling resistance. It is well-suited for use in demineralization of high organic waters.



AmberLite™ HPR9200 Cl is compatible with all system technologies; it has the flexibility to be used in lead single or in mixed bed polishers. In mixed bed applications, the light color of this anion resin is designed to allow easy visual distinction from the dark-colored cation resin following backwash separation.

Resin Pairings

Recommended pairing:

- AmberLite™ HPR1300 H Ion Exchange Resin (gel)
- AmberLite™ HPR2800 H Ion Exchange Resin (macroporous)

Applications

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

System Designs

Compatible with all system technologies:

- Co-current
- Counter-current / Hold-down
- Packed beds
- Mixed beds

Historical Reference

AmberLite™ HPR9200 Cl Ion Exchange Resin has previously been sold as DOWEX MARATHON™ MSA Ion Exchange Resin.

Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong base anion, Type I
Functional Group	Trimethylammonium
Physical Form	White, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	Cl ⁻
Total Exchange Capacity	≥ 1.1 eq/L (Cl ⁻ form)
Water Retention Capacity	56.0 – 66.0% (Cl ⁻ form)
Particle Size §	
Particle Diameter	640 ± 50 µm
Uniformity Coefficient	≤ 1.1
< 300 µm	≤ 0.3%
> 850 µm	≤ 1.0%
Stability	
Whole Uncracked Beads	≥ 95%
Swelling	Cl ⁻ → OH ⁻ : 15%
Density	
Particle Density	1.06 g/mL
Shipping Weight	675 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 ⁻ form ‡	5 – 60°C (41 – 140°F)
Cl ⁻ 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 [mixed beds](#) (Form No. 45-D01127-en) or [separate beds](#) (Form No. 45-D01131-en) in water treatment, please refer to our Tech Facts.

Hydraulic Characteristics

Estimated bed expansion of AmberLite™ HPR9200 Cl Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ HPR9200 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.

Figure 1: Backwash Expansion

Temperature = 10 – 60°C (50 – 140°F)

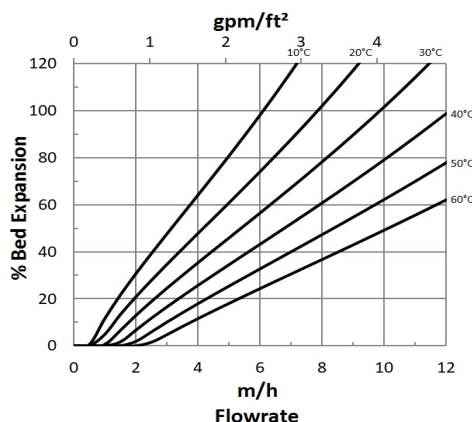
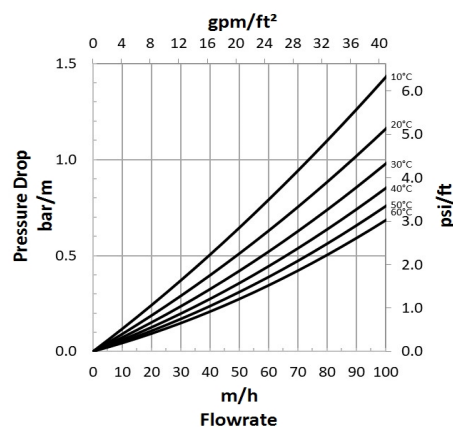


Figure 2: Pressure Drop

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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