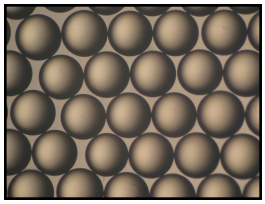
Product Data Sheet

DuPont™ AmberLite™ HPR1100 Na Ion Exchange Resin

Uniform Particle Size, Gel, Strong Acid Cation Exchange Resin for Industrial Softening Applications

Description



DuPont™ AmberLite™ HPR1100 Na Ion Exchange Resin is a high-quality resin for use in industrial softening applications when high performance and cost-effective operation is required. The chemical properties and particle size of the resin have been optimized to help yield excellent operating capacity and rinse characteristics, while reducing chemical regenerant and rinse water usage.

AmberLite™ HPR1100 Na is compatible with all system technologies. It is available for demineralization applications when the sodium-form is preferred by the user.

Applications

- Industrial softening
- Demineralization (when the sodium-form is preferred by the user)

System Designs

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

Historical Reference

AmberLite™ HPR1100 Na Ion Exchange Resin has previously been sold as DOWEX MARATHON™ C Na Ion Exchange Resin.

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Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Gel
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Amber, translucent, spherical beads
Chemical Properties	
Ionic Form as Shipped	Na^+
Total Exchange Capacity	≥ 2.0 eq/L (Na^+ form)
Water Retention Capacity	42.0 – 48.0% (Na^+ form)
Particle Size [§]	
Particle Diameter	585 ± 50 µm
Uniformity Coefficient	≤ 1.10
< 300 µm	≤ 0.5%
> 850 µm	≤ 5.0%
Stability	
Whole Uncracked Beads	≥ 95%
Swelling	$Ca^{2+} \rightarrow Na^+$: 5% $Na^+ \rightarrow H^+$: 8%
Density	
Particle Density	1.29 g/mL
Shipping Weight	850 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.

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Hydraulic Characteristics

Estimated bed expansion of DuPont™ AmberLite™ HPR1100 Na Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ HPR1100 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.

Figure 1: Backwash Expansion

Temperature = 10 – 60°C (50 – 140°F)

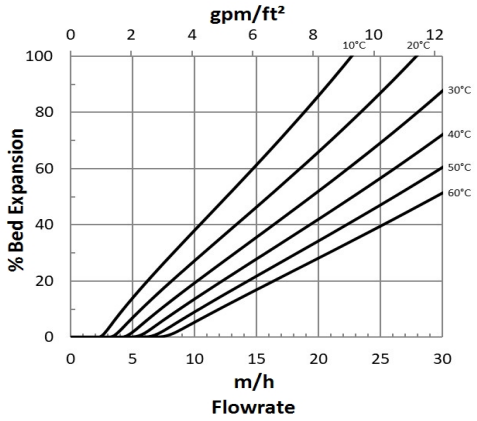
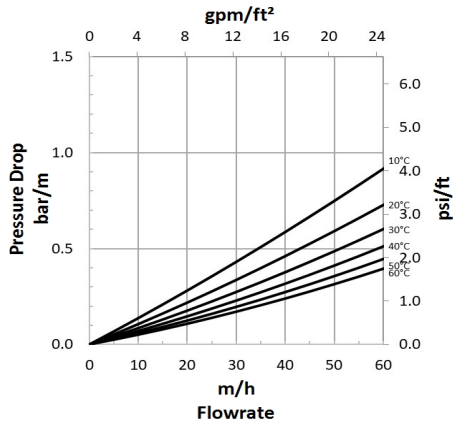


Figure 2: Pressure Drop

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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Have a question? Contact us at:

www.dupont.com/water/contact-us

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