

DuPont™ AmberLite™ HPR8300 H Ion Exchange Resin

Acrylic, Macroporous, Weak Acid Cation Exchange Resin for Industrial
 Demineralization, Softening, and Dealkalization Applications

Key Features

- High performance resin
- Excellent operating capacity and rinse characteristics
- Improved operating capacity versus other weak acid cation resins currently available
- Total hardness removal even in high salinity waters
- Compatible with all system technologies and bed configurations

Key Applications

- Demineralization, ideally when treating water with high oxidant level (among WAC resins) and total hardness to alkalinity ratio > 0.8
- Industrial softening
- High-salinity softening (operated in the Na-form) including refinement of lithium-enriched brines
- Dealkalization
- Reverse osmosis pretreatment
- Compatible with all system technologies and bed configurations: co-current, counter-current/hold-down, layered beds, packed beds

Typical Properties

Physical Properties	
Copolymer	Crosslinked acrylic
Matrix	Macroporous
Type	Weak acid cation
Functional Group	Carboxylic Acid
Physical Form	Off-white, opaque, spherical beads

Chemical Properties	
Ionic Form as Shipped	H ⁺
Total Exchange Capacity	≥ 4.7 eq/L (H ⁺ form)
Water Retention Capacity	40.0–50.0% (H ⁺ form)
Swelling	H ⁺ → Na ⁺ : 45%

Stability	
Whole Uncracked Beads	≥ 95%
Swelling	H ⁺ → Na ⁺ : 60%

Density	
Shipping Weight	740 g/L
Particle Density	1.21 g/mL

Particle Size §	
Particle Diameter	550 ± 50µm
Uniformity Coefficient	≤ 1.2

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

Suggested Operating Conditions

pH Range	
Maximum Recommended Operating Temperature	H ⁺ form: 5–120°C (41–248°F) Na ⁺ form: 5–120°C (41–248°F)
Operating pH Range	Service Cycle: 6–14 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.

* 1 BV (Bed Volume) = 1 m³ resin or 7.5 gal per ft³ resin

Hydraulic Characteristics

Estimated bed expansion of DuPont™ AmberLite™ HPR8300 H resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for DuPont™ AmberLite™ HPR8300 H resin 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)

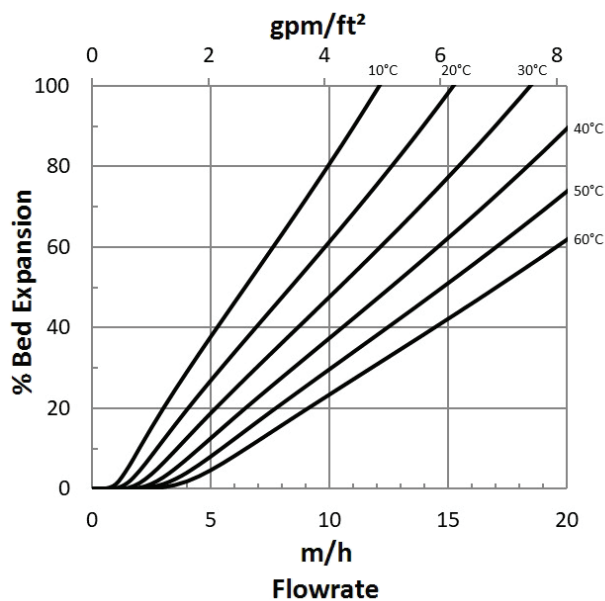
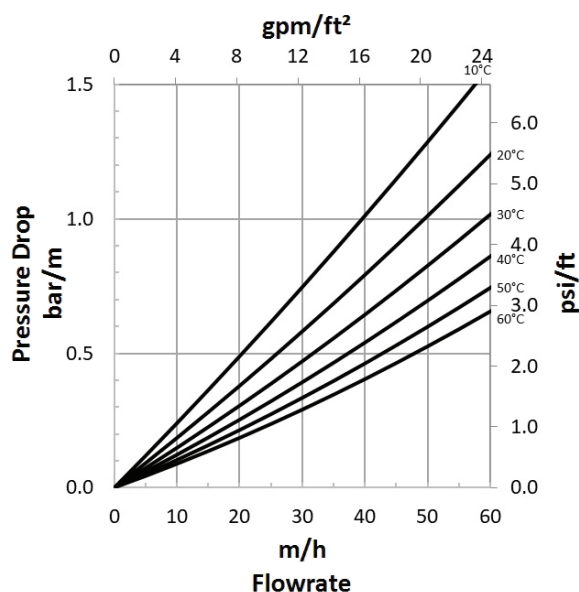


Figure 2: Pressure Drop

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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