



Product Data Sheet

DuPont™ AmberLite™ HPR6700 Ion Exchange Resin

Acrylic, Gel, Weak Base Anion Exchange Resin for Industrial Demineralization Applications

Description

DuPont™ AmberLite™ HPR6700 Ion Exchange Resin is a high-quality resin for use in industrial demineralization applications when high performance and cost-effective operation is required. The chemical properties and particle size of the resin have been balanced to combine a high operating capacity with low pressure drop, while reducing chemical regenerant and water usage.

Weak base anion resins are well-suited for use with strong base anion resins to improve overall efficiency and throughput of a demineralization system. Acrylic weak base anion resins effectively remove mineral acids as well as carbon dioxide and organics, reducing the ionic load on the strong base anion resin and also protecting it from organic fouling. The weak base anion resin increases a system's overall capacity to remove organics.

AmberLite™ HPR6700 has exceptional physical stability and organic fouling resistance. The hydrophilic acrylic structure provides unique chemical and physical properties enabling the resin to be operated under continuous high load of natural organic compounds when temperatures do not consistently exceed 35°C (95°F).

Applications

- Demineralization, ideally when treating water with:
 - High organic fouling potential
 - High percentage of mineral acidity (FMA)
 - Relatively high remaining carbon dioxide content
 - System layouts without a degasifier

System Designs

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

Historical Reference

AmberLite™ HPR6700 Ion Exchange Resin has previously been sold as AmberLite™ IRA67RF Ion Exchange Resin.

Typical Properties

Physical Properties	
Copolymer	Crosslinked acrylic
Matrix	Gel
Type	Weak base anion
Functional Group	Tertiary amine
Physical Form	White, translucent, spherical beads
Chemical Properties	
Ionic Form as Shipped	Free base (FB)
Total Exchange Capacity	≥ 1.60 eq/L (FB form)
Water Retention Capacity	56.0 – 62.0% (FB form)
Particle Size ^{§ ‡}	
Particle Diameter	700 – 900 µm
Uniformity Coefficient	≤ 1.70
< 300 µm	≤ 0.2%
> 1180 µm	≤ 15.0%
Stability	
Whole Uncracked Beads	≥ 95%
Swelling	FB → Cl ⁻ ≤ 20%
Density	
Particle Density	1.07 g/mL
Shipping Weight	660 g/L

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

[‡] Particle size distribution is tailored for packed bed operation.

Suggested Operating Conditions

Temperature Range (FB form)	5 – 40°C (41 – 104°F)
pH Range	
Service Cycle	0 – 6
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 DuPont™ AmberLite™ HPR6700 Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ HPR6700 as a function of service flowrate and temperature is shown in Figure 2. These pressure drop estimates 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)

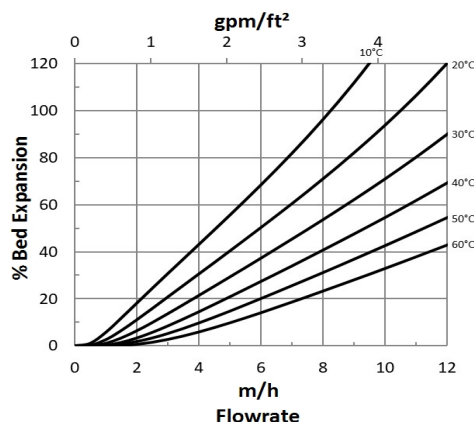
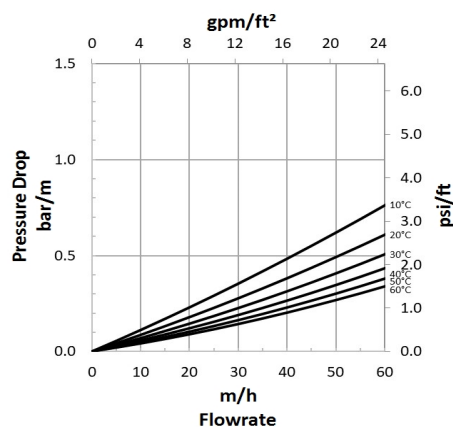


Figure 2: Pressure Drop

Temperature = 10 – 60°C (50 – 140°F)



Product Stewardship

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

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

All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries. Please note that physical properties may vary depending on certain conditions and while operating conditions stated in this document are intended to lengthen product lifespan and/or improve product performance, it will ultimately depend on actual circumstances and is in no event a guarantee of achieving any specific results. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. No freedom from infringement of any patent or trademark owned by DuPont or others is to be inferred.

© 2023 DuPont. DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, SM or ® are owned by affiliates of DuPont de Nemours Inc., unless otherwise noted.

