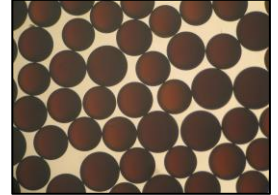


**AMBERLITE™ HPR2800 H Ion Exchange Resin**

Uniform Particle Size, Macroporous, Strong Acid Cation Exchange Resin for Condensate Polishing for the Power Industry and Industrial Demineralization Applications

Description

AMBERLITE™ HPR2800 H Ion Exchange Resin is a high-quality resin for use in condensate polishing beds at fossil-fired electric generating stations, process condensate, and industrial demineralization applications when a combination of exceptional physical stability, simple and reliable operation, and long resin life is required.



AMBERLITE HPR2800 H is compatible with all system technologies and bed configurations. In mixed bed applications, the dark color of this cation resin is designed to allow easy visual distinction from the light-colored anion resin following backwash separation. For maximum resistance to surface fouling, this macroporous cation resin should be paired with a macroporous anion resin such as AMBERLITE™ HPR900 OH Ion Exchange Resin or AMBERLITE™ HPR9000 OH Ion Exchange Resin.

AMBERLITE™ HPR8300 H Ion Exchange Resin is the weak acid cation resin best paired with AMBERLITE HPR2800 H for optimal performance in new and retrofitted layered beds.

AMBERLITE HPR2800 H is compliant with the China National Standard specifications for fossil power condensate polishing applications, including the China Strong Osmotic Ball Mill test.

Resin Pairings

Recommended pairing in condensate polishing:

- AMBERLITE™ HPR900 OH Ion Exchange Resin (macroporous)

Recommended pairing in industrial demineralization applications:

- AMBERLITE™ HPR8300 H Ion Exchange Resin (macroporous) – for layered bed
- AMBERLITE™ HPR9000 OH Ion Exchange Resin (macroporous) – for mixed bed
- AMBERLITE™ HPR900 OH Ion Exchange Resin (macroporous) – for mixed bed

Additional options in condensate polishing:

- AMBERLITE™ HPR9000 OH Ion Exchange Resin (macroporous)
- AMBERLITE™ HPR9000 SO₄ Ion Exchange Resin (macroporous)
- AMBERLITE™ HPR900 SO₄ Ion Exchange Resin (macroporous)

Additional pairing in industrial demineralization applications:

- AMBERLITE™ HPR9200 Cl Ion Exchange Resin (macroporous) – for mixed bed

Applications

- Systems requiring exceptionally high osmotic stability
- Condensate polishing
- Demineralization, ideally when treating water with:
 - High oxidant level
 - High temperature on the cation resin
- Mixed bed polishing

System Designs

Compatible with all system technologies and bed configurations

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

Historical Reference

AMBERLITE™ HPR2800 H Ion Exchange Resin has previously been sold as AMBERJET™ 2800 H Ion Exchange Resin.

Typical Physical and Chemical Properties**

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Dark brown, opaque, spherical beads
Chemical Properties	
Ionic Form as Shipped	H ⁺
Total Exchange Capacity	≥ 1.70 eq/L (H ⁺ form)
Water Retention Capacity	52.0 – 58.0% (H ⁺ form)
Ionic Conversion	
H ⁺	≥ 99%
Particle Size	
Particle Diameter §	800 ± 100 µm
Uniformity Coefficient	≤ 1.20
< 300 µm	≤ 0.2%
< 500 µm	≤ 1.0%
> 1180 µm	≤ 1.0%
Stability	
Whole Uncracked Beads	≥ 95%
Strong Osmotic Ball Mill Test	≥ 90%
Swelling	Na ⁺ → H ⁺ : 7%
Density	
Particle Density	1.19 g/mL
Shipping Weight	755 g/L

§ For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 177-01775).

Suggested Operating Conditions**

Temperature Range (H ⁺ form)	5 – 150°C (41 – 302°F)
pH Range (Stable)	0 – 14

For additional information regarding recommended minimum bed depth, operating conditions, and regeneration conditions for [mixed beds](#) (Form No. 177-03705) or [separate beds](#) (Form No. 177-03729) in water treatment, please refer to our Tech Facts.

Hydraulic Characteristics

Estimated bed expansion of AMBERLITE™ HPR2800 H Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AMBERLITE HPR2800 H 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)

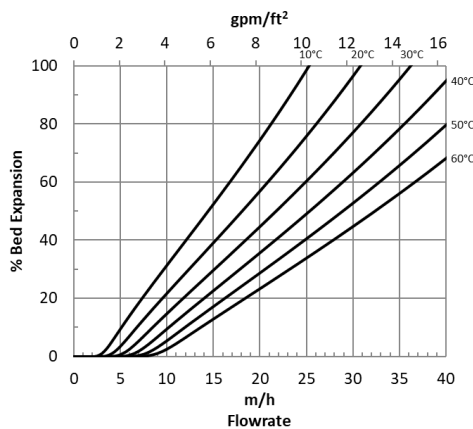
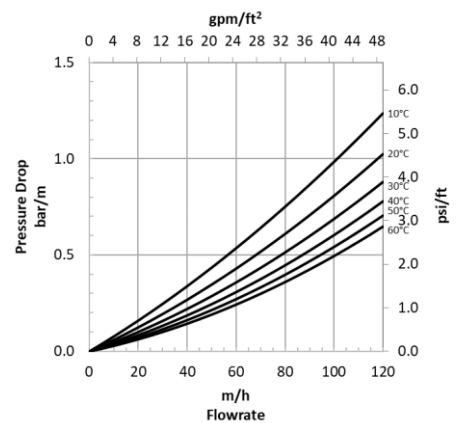


Figure 2: Pressure Drop

Temperature = 10 – 60°C (50 – 140°F)



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Dow 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 Dow products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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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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