



Product Data Sheet

AmberLite™ PWA10 Ion Exchange Resin

Drinking Water-grade, Uniform Particle Size Resin for Selective Boron Removal

Description

AmberLite™ PWA10 Ion Exchange Resin is a unique drinking water-grade ion exchange resin designed for the removal of boron from drinking water. The resin can be regenerated using a two-step process consisting of a regeneration step to displace the boron followed by a conversion step.

AmberLite™ PWA10 has been shown to be nearly universal in its high selectivity for boron. Salts, including bases, do not interfere significantly. The concentration of boric acid or the salt background in the water also has little effect upon the selectivity. This high selectivity for boron and low risk of interference makes AmberLite™ PWA10 highly suitable for removal of boron from water derived from desalination.

Applications

- Selective boron removal

Typical Properties

Physical Properties

Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Weak base anion
Functional Group	N-Methylglucamine
Physical Form	Cream, opaque, spherical beads

Chemical Properties

Ionic Form as Shipped	Free base (FB)
Total Exchange Capacity	≥ 0.7 eq/L
Water Retention Capacity	48 – 54%

Particle Size §

Particle Diameter	525 ± 75 µm
Uniformity Coefficient	≤ 1.2
< 300 µm	≤ 0.1%
> 1180 µm	≤ 5.0%

Density

Shipping Weight	700 g/L
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§ For additional particle size information, please refer to the [Particle Size Distribution Cross Reference Chart](#) (Form No. 45-D00954-en).

Suggested Operating Conditions

Maximum Operating Temperature	40°C (104°F)
pH Range	
Service Cycle	5 – 8
Stable	0 – 14

Hydraulic Characteristics

Estimated bed expansion of AmberLite™ PWA10 Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1a and Figure 1b.

Estimated pressure drop for AmberLite™ PWA10 as a function of service flowrate and temperature is shown in Figure 2a and Figure 2b. These pressure drop expectations are valid at the start of the service run with clean water.

Figure 1a: Backwash Expansion

Temperature = 10 – 60°C

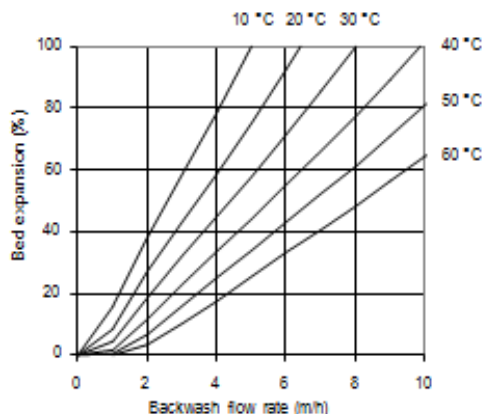


Figure 1b: Backwash Expansion

Temperature = 40 – 140°F

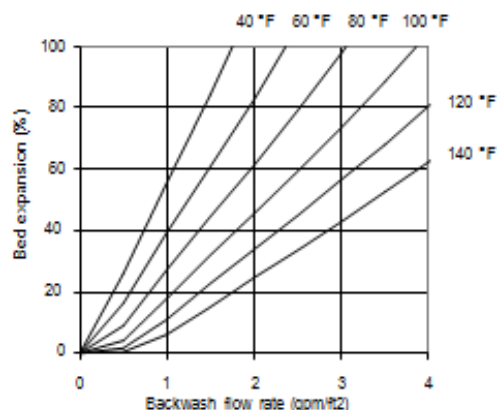


Figure 2a: Pressure Drop

Temperature = 10 – 60°C

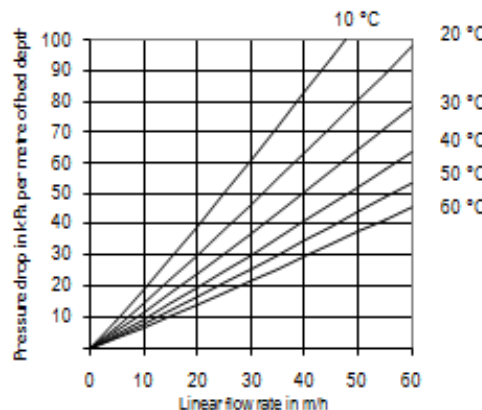
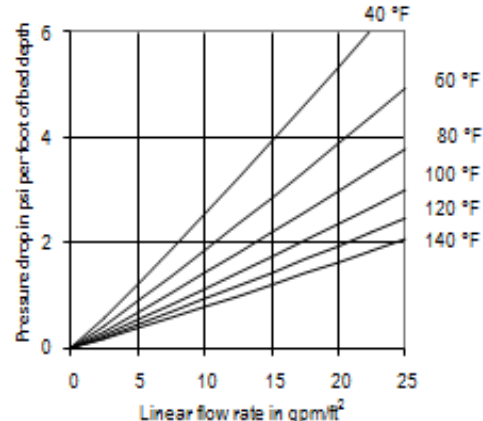


Figure 2b: Pressure Drop

Temperature = 40 – 140°F



Conditioning and Limits of Use

AmberLite™ PWA10 Ion Exchange Resin is suitable for use in potable water applications¹ after an initial commissioning soak in water for 24 h followed by a rinse of 5 bed volumes (35 gal/ft³) of potable water at ambient temperature.

The operating capacity of AmberLite™ PWA10 resin depends on the operating conditions.

1. Please confirm the regulatory approval in your specific country of use.

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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.

Regulatory Note

This product may be subject to drinking water application restrictions in some countries; please check the application status before use and sale.

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