Product Data Sheet

AmberLite™ XAD™7HP Polymeric Adsorbent

Macroporous, Adsorbent Resin

Description

AmberLite™ XAD™7HP Polymeric Adsorbent is a macroporous, non-ionic, aliphatic acrylic resin that is supplied as white insoluble beads. Its macroporous structure (containing both a continuous polymer phase and a continuous pore phase), high surface area, and aliphatic nature provides its adsorptive properties. Due to its aliphatic nature, AmberLite™ XAD™7HP can adsorb non-polar compounds from aqueous systems and can also adsorb polar compounds from non-polar solvents.

AmberLite™ XAD™7HP has excellent physical resistance and thermal stability.

Typical Properties

Physical Properties	
Matrix	Macroporous, crosslinked aliphatic polymer
Type	Adsorbent
Functional Group	None
Physical Form	White, translucent, spherical beads
Nitrogen BET	
Surface Area	~500 m^2/g
Average Pore Diameter	~550 Å
Total Pore Volume	~0.5 mL/mL
Chemical Properties	
Ionic Form as Shipped	Not applicable
Total Exchange Capacity	Not applicable
Water Retention Capacity	61 – 69%
Particle Size [§]	
Particle Diameter	430 – 690 µm
< 300 µm	≤ 7.0%
> 1180 µm	≤ 8.0%
Density	
Particle Density	1.06 – 1.08 g/mL
Shipping Weight	710 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

Maximum Operating Temperature	100°C (212°F)
pH Range (Stable)	0 – 14
Bed Depth, min.	750 mm (2.5 ft)
Flowrates	
Loading	2 – 16 BV*/h
Elution/Desorption	1 – 4 BV/h
Regeneration	1 – 4 BV/h
Rinse	2 – 16 BV/h

[*] 1 BV (Bed Volume) = 1 m^3 solution per m^3 resin or 7.5 gal per ft^3 resin

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Hydraulic Characteristics

Estimated bed expansion of AmberLite™ XAD™7HP Polymeric Adsorbent as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AmberLite™ XAD™7HP as a function of service flowrate and water temperature is shown in Figure 2. These pressure drop expectations are valid at the start of the service run with clean feed and a well-classified bed.

Figure 1: Backwash Expansion

Temperature = 10 – 50°C (50 – 122°F)

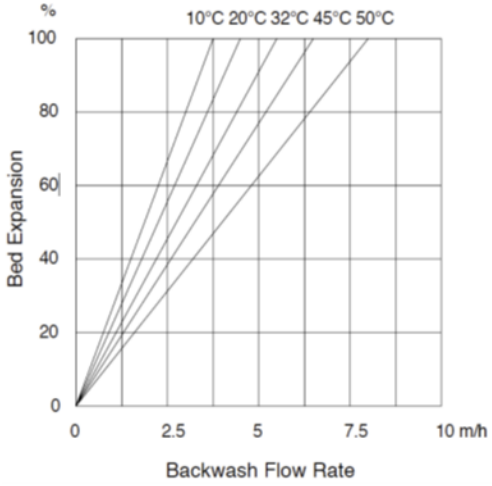
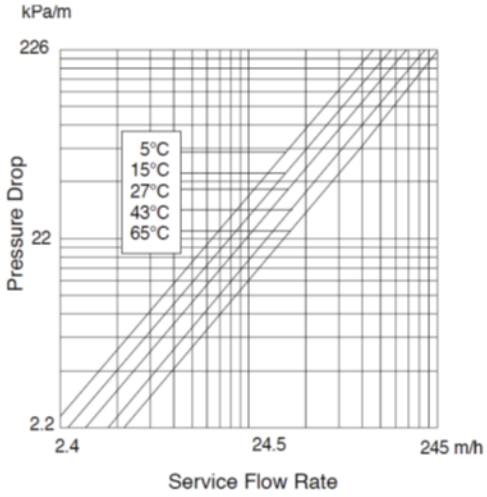


Figure 2: Pressure Drop

Temperature = 5 – 65°C (41 – 149°F)



Product Stewardship

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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.

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