

**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 m³ solution per m³ resin or 7.5 gal per ft³ resin

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)

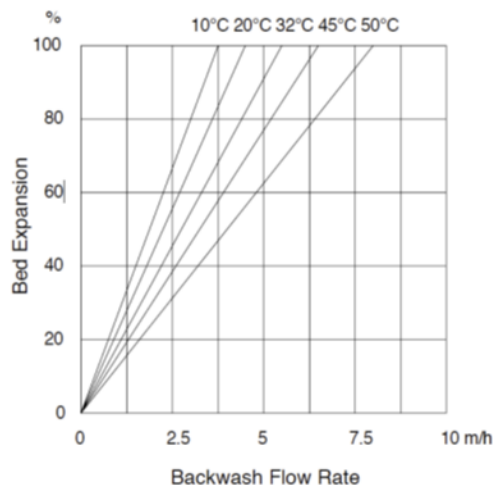
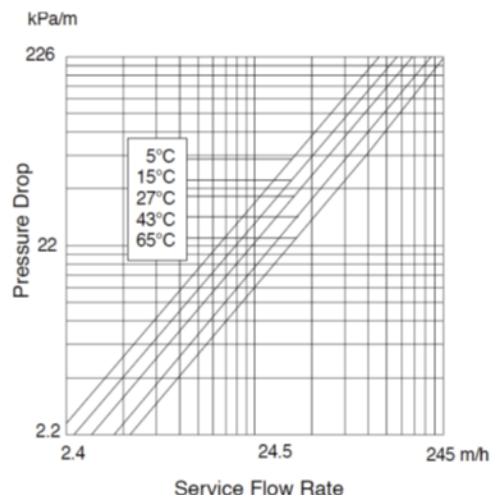


Figure 2: Pressure Drop

Temperature = 5 – 65°C (41 – 149°F)



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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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