



Product Data Sheet

AMBERLITE™ FPA52RF Ion Exchange Resin

Food-grade, Reduced-Fines, Macroporous, Weak Base Anion Exchange Resin

Description

AMBERLITE™ FPA52RF Ion Exchange Resin is a high-capacity, polystyrene, weak base anion exchanger. It has an outstanding mechanical and osmotic stability, making it suitable for the treatment of solutions with relatively high dissolved solids, such as demineralization of food solutions such as gelatin, citrus juices, sugar juices, sucrose, glucose, lactose, and others.

AMBERLITE™ FPA52RF is highly efficient for the uptake of strong acids (e.g., HCl and H₂SO₄) when following a strong acid cation exchanger in the H-form. Its macroporous structure facilitates excellent adsorption and desorption of organic matter.

RF-grade AMBERLITE™ FPA52RF has reduced fines, which improves system pressure drop and lowers resin losses during backwash.

Applications

- Sweetener deashing
- Juice demineralization
- Gelatin demineralization
- Juice deacidification

Typical Properties

Physical Properties

Copolymer	Styrene-divinylbenzene
Matrix	Macroporous
Type	Weak base anion
Functional Group	Secondary amine (≥ 80%)
Physical Form	Off-white, opaque, spherical beads

Chemical Properties

Ionic Form as Shipped	Free base (FB)
Total Exchange Capacity	≥ 1.60 eq/L
Water Retention Capacity	40 – 50%

Particle Size §

Particle Diameter	600 – 800 µm
Uniformity Coefficient	≤ 1.5
< 300 µm	≤ 0.2%

Stability

Swelling	FB → HCl ≤ 25%
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Density

Particle Density	1.035 – 1.065 g/mL
Shipping Weight	660 g/L

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

Suggested Operating Conditions

Maximum Operating Temperature (FB-form)		90°C (194°F)		
Flowrates				
Service	2 – 8 BV*/h			
Backwash	See Figure 1			
Slow Rinse	Regeneration flowrate for 2 BV			
Fast Rinse (if applicable)	Service flowrate for 4 – 8 BV			
Contact Time				
Regeneration	≥ 30 – 45 minutes			
Regenerant	NaOH	Na ₂ CO ₃	NH ₃	
Concentration	2 – 6%	5 – 8%	2 – 3%	
Level	40 – 80 kg/m ³ (2.5 – 5 lb/ft ³)	60 – 130 kg/m ³ (3.8 – 8.1 lb/ft ³)	40 – 80 kg/m ³ (2.5 – 5 lb/ft ³)	

* 1 BV (Bed Volume) = 1 m³ solution per m³ resin or 7.5 gal per ft³ resin

Hydraulic Characteristics

Estimated bed expansion of AMBERLITE™ FPA52RF Ion Exchange Resin as a function of backwash flowrate and temperature is shown in Figure 1.

Estimated pressure drop for AMBERLITE™ FPA52RF 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 and a well-classified bed.

Figure 1: Backwash Expansion

Temperature = 10 – 60°C (50 – 140°F)

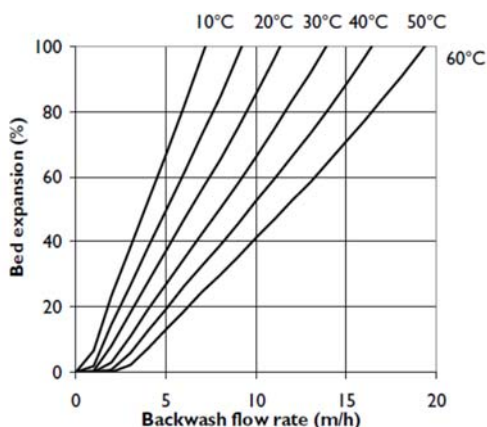
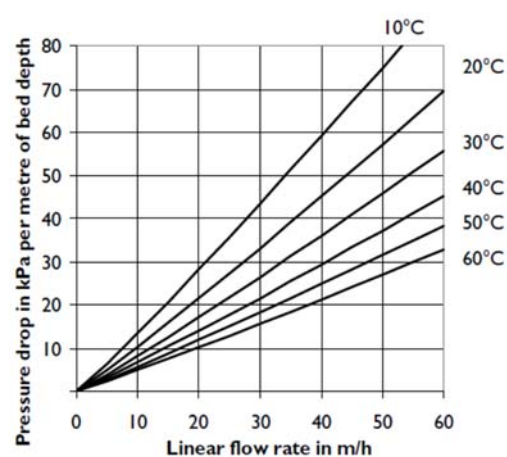


Figure 2: Pressure Drop

Temperature = 10 – 60°C (50 – 140°F)



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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.

Have a question? Contact us at:

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