



AMBERLITE™ IRA478RF CI Resin

Industrial Grade Strong Base Anion Exchange Resins

Description

AMBERLITE™ IRA478RF CI Resin is an acrylic gel type bifunctional anion exchange resin, with unique chemical and physical properties. It combines the high operating capacity normally associated with weakly basic acrylic anion exchange resins with quaternary ammonium, type 1, strong base functionality. This enables AMBERLITE IRA478RF CI Resin to achieve removal of all anions including the weakly dissociated ions like silica and carbon dioxide. Due to its crosslinked acrylic gel structure AMBERLITE IRA478RF CI Resin shows an outstanding resistance to organic fouling.

AMBERLITE IRA478RF CI Resin is recommended as the working anion exchange resin for demineralisation of water having more than 75% Free Mineral Acidity and up to 10% silica. Under these conditions AMBERLITE IRA478RF CI will give excellent operating capacity with low caustic regenerant consumption. The particle size distribution of AMBERLITE IRA478RF CI Resin has been specially selected to give optimum performance in floating and packed bed applications.

Typical Physical and Chemical Properties

Physical form		Translucent white spherical beads
Matrix		Crosslinked acrylic gel structure
Functional group		Quaternary ammonium/tertiary amine
Ionic form as shipped		Free Base and Chloride
Total volume capacity, min.	eq/L	≥1.15 (25.1 kgr/ft ³)
Particle size		
Harmonic mean diameter	mm	0.700–0.980
Uniformity coefficient		≤1.8
< 0.355 mm	%	1 max
Moisture retention capacity	%	57–65
Shipping density**	g/L	660 (41 lbs/ft ³)

Suggested Operating Conditions

Maximum operating temperature	35°C
Minimum bed depth	1000 mm (preferably > 1400 mm)
Service flow rate	5–40 BV*/h
Regeneration	
Regenerant	NaOH
Level	40–70 g/L
Concentration	2–4%
Minimum contact time	30 minutes
Slow rinse	2 BV at regeneration flow rate
Fast rinse	4–8 BV at service flow rate

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

Hydraulic Characteristics

AMBERLITE™ IRA478RF CI Resin gives a pressure drop of about 10 kPa/m bed depth per 10 m/h at 15°C (3.5 psi per 10 gpm/ft² at 60°F). A backwash flow rate of 7.5 m/h (3 gpm/ft²) gives a bed expansion of about 70% at 15°C 60°F.

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DOW™ Ion Exchange Resins For more information about DOW™ resins, call the Dow Water & Process Solutions business:

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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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