AMBERLITE™ IRA458RF Cl
Industrial Grade Strong Base Anion Exchanger

AMBERLITE IRA458RF Cl resin is an acrylic gel type strongly basic anion exchange resin, with unique chemical and physical properties. It combines high operating capacity with low silica leakage values. The flexible acrylic structure of AMBERLITE IRA458RF Cl resin allows for effective adsorption and desorption of naturally occurring organic molecules, such as humic and fulvic acids, that are present in many water supplies. The particle size distribution of AMBERLITE IRA458RF Cl resin has been specially selected to give optimum performance in floating bed and packed bed applications. (RF means reverse flow).

PROPERTIES

Physical form_______________________________ Translucent white spherical beads
Matrix_____________________________________ Crosslinked acrylic gel structure
Functional group ___________________________ Quaternary ammonium
Ionic form as shipped ______________________ Chloride
Total exchange capacity $[1]___________________ \geq 1.25$ eq/L (Cl\textsuperscript{-} form)
Moisture holding capacity $[1]_________________ 57$ to $64\%$ (Cl\textsuperscript{-} form)
Shipping weight ____________________________ 720 g/L
Particle size
  Uniformity coefficient $[1]____________________ \leq 1.8$
  Harmonic mean size $[1]____________________ 0.700$ to $1.000$ mm
  $< 0.355$ mm $[1]_________________________ 0.5\%$ max
Reversible swelling __________________________ Cl\textsuperscript{-} $\rightarrow$ OH\textsuperscript{-} \leq 20\%

$[1]$ Contractual value
Test methods are available on request.

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____________ 35°C
Minimum bed depth __________________________ 1000 mm (preferably > 1400 mm)
Service flow rate __________________________ 5 to 40 BV*/h
Regeneration
  Regenerant _______________________________ NaOH
  Level____________________________________ 30 to 80 g/L
  Concentration ____________________________ 2 to 4\%
  Minimum contact time_____________________ 30 minutes
  Slow rinse _______________________________ 2 BV at regeneration flow rate
  Fast rinse _______________________________ 4 to 8 BV at service flow rate

* 1 BV (Bed Volume) = 1 m\textsuperscript{3} solution per m\textsuperscript{3} resin
PERFORMANCE

The engineering data sheet EDS 0184 A provides information to calculate the operating capacity and silica leakage of AMBERLITE IRA458RF Cl resin used in water treatment.

LIMITS OF USE

AMBERLITE IRA458RF Cl resin is suitable for industrial uses. For all other specific applications such as pharmaceutical, food processing or potable water applications, it is recommended that all potential users seek advice from Rohm and Haas in order to determine the best resin choice and optimum operating conditions.

HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of AMBERLITE IRA458RF Cl resin as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for AMBERLITE IRA458RF Cl resin, as a function of service flow rate and water temperature. Pressure drop data are valid at the start of the service run with clear water and a correctly classified bed.