PUROLITE

NRW-400

Nuclear Grade Strong Base Type-I Gel Anion Resin

(HIGHLY REGENERATED, HIGH PURITY RESIN WITH LOW CHLORIDE CONTENT)

Technical Data

PRODUCT DESCRIPTION

Purolite NRW-400 is an ultrapure version of the anion exchanger of type **Purolite A-400 OH**. It has been specially developed for processes using mixed bed and counter-flow regeneration techniques; the derived mixed bed material, **Purolite NRW-37**, which is a 40 : 60 (cation : anion, by volume) mixture, is used for many nuclear and ultra-pure water applications where either regenerable or non-regenerable modes may be appropriate, to provide treated solutions of ultra-high purity. Where regeneration is employed, it may not be possible to achieve the level of treated water purity obtained for the as supplied resin. In the as supplied (highly regenerated) state, its advantages lie in the areas of high operating capacity and also high selectivity for mineral anions, such as chloride, even as the molar fraction loaded increases.

Typical Chemical and Physical Characteristics

Polymer Matrix	Gel polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Whole Bead Count	90% min
Functional Group	$RCH_2N(CH_3)_3^+$
Ionic Form - as shipped (% Conversion)	Hydroxide - OH^- (95% min)
	Carbonate - CO_3^{2-} (5% max)
Total Capacity (OH^- Form)	1.0 eq/l min
Moisture Retention (Cl^- Form)	48-54%
Bead Size Range (microns)	+1200 <2 %. -420 <2%. wet
Bead Size Range (U.S. Standard Screen)	16-40 mesh. wet
Reversible Swelling (OH^- ® Cl^-)	-20% max
Specific Gravity (OH^- Form)	1.06
Shipping Weight (OH^- Form)	655-690 kg/m^3 (41-43 lb/ft^3)
Temperature Limit (regenerable mode, OH^- Form)	60°C (140°F)
(non-regenerable, OH^- Form)	100°C (212°F)
pH Limits	None
Total Residual Chloride	500 mg/dry kg max
Metals Content (ppm dry weight)	
Na + K	20 max
Fe	100 max
Other Heavy Metals	40 max