

Nuclear Grade Mixed Bed Exchange Resin

Purolite nuclear resins are processed to the most exacting specifications. They are specially purified to ensure high percentage conversion to their regenerated form, and are offered in closely controlled particle size ranges. All products in the Purolite range have whole perfect beads typically over 95%. They meet the specifications required by major engineering companies throughout the world. Purolite's nuclear products are used in the production of ultra pure water, preparation of condensate, radiation waste treatment and in the manufacture and purification of pharmaceutical products. Mixed bed resins are frequently used in polishers following other types of water treatment. The high product quality ensures that it is possible to achieve treated water of the highest purity - conductivity 0.055  $\mu\text{S cm}^{-1}$  or resistivity 18.3 Meg Ohm.. The component resins of Purolite NRW37, Purolite NRW400 (strong base type 1 anion exchanger) and Purolite NRW100 (strong acid cation exchanger) are combined in the ratio which for general types of water to be treated yields the optimum exchangeable capacity. Other ratios are available on request. Purolite mixed bed resins can be used for both regenerable or non-regenerable (cartridge) systems.

**Basic Features:**

Application	Demineralization & Decontamination of Secondary Cooling Circuits
Polymer Structure	Gel polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Sulphonic Acid and Type 1 Quaternary Ammonium
Ionic form as shipped	H <sup>+</sup> / OH <sup>-</sup>

**Typical Physical and Chemical Characteristics:**

Cation Component		Gel strong acid cation
Anion Component		Gel strong base anion
Cation / Anion Ratio		40/60 %
Total Capacity (min.)	H <sup>+</sup>	1.80 eq/l
Total Capacity (min.)	H <sup>+</sup>	39.30 kGr/ft <sup>3</sup>
Total Capacity (min.)	OH <sup>-</sup>	1.00 eq/l
Total Capacity (min.)	OH <sup>-</sup>	21.80 kGr/ft <sup>3</sup>
Moisture Content		65 %
Mean Size Typical		0.65-0.90 mm
Uniformity Coefficient (max.)		1.70
Shipping Weight (approx.)		705-740 g/l
Shipping Weight (approx.)		44.1-46.3 lbs/ft <sup>3</sup>

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Temp Limit	Non-Regenerable Bed	100 °C
Temp Limit	Non-Regenerable Bed	212 °F
Temp Limit	Regenerable Bed	60 °C
Temp Limit	Regenerable Bed	140 °F
pH Limits		0-14
Cationic Form (min.)		99.90 %
Anionic Form(min.)	OH <sup>-</sup>	95 %
Anionic Form(max.)	CO <sub>3</sub> <sup>-</sup>	5 %
Anionic Form(max.)	Cl <sup>-</sup>	0.10 %
Anionic Form(max.)	SO <sub>4</sub> <sup>-</sup>	0.30 %
Impurities Sodium (max.)		30 ppm
Impurities Iron (max.)		80 ppm
Impurities Heavy Metals		40 ppm

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