

Mixed Bed Exchange Resin

Purolite MB500 is a resin mixture for direct purification of water of the highest quality. It is suitable for use in regenerable or non-regenerable cartridges or in large ion exchange units. Passage of water at recommended flow rates through the resin, as supplied, can achieve almost complete reduction of total dissolved solids. The residuals produce average conductivity values of less than 0.1  $\mu\text{S}/\text{cm}$  for a major portion of the service run. If there is a use for water of slightly lower quality for some purposes, the run can often be extended to offer an extra throughput depending upon the concentration of bicarbonates in the feed water. Generally water with a conductivity between 1-50  $\mu\text{S}/\text{cm}$  is obtained for a useful period where bicarbonate content in the inlet water is quite high. It should be noted that at the end of the run, when the bed is exhausted, water of low pH (less than 4) can be produced. Equivalent volumes of pure water may be obtained after regeneration but only if sufficient regenerant quantities are employed to achieve the percentage conversion levels close to those of the "as supplied" resin. Generally acceptable capacity and quality is obtained economically at lower regeneration levels. Note : Purolite MB500 is delivered in sealed, airtight packaging. Exposure to the atmosphere even for less than one hour can produce a noticeable difference in treated water quality when the purest water quality obtainable is required. Exposure for long periods can result in carbonation of the anion resin which results in substantial loss of performance. Hence once packaging is opened, resin should be used directly, and any unused resin returned to containers and sealed.

**Basic Features:**

Application	Demineralization - High Purity Silica Free
Polymer Structure	Gel/Macroporous polystyrene crosslinked with divinylbenzene
Appearance	Spherical beads
Functional Group	Sulphonic Acid and Type 1 Quaternary Ammonium
Ionic form as shipped	$\text{H}^+ / \text{OH}^-$

**Typical Physical and Chemical Characteristics:**

Cation Component	Gel Strong Acid Cation	
Anion Component	Macroporous Strong Base Anion	
Cation / Anion Ratio	40 / 60 %	
Total Capacity (min.)	$\text{Na}^+$	1.90 eq/l
Total Capacity (min.)	$\text{Na}^+$	41.50 kGr/ft <sup>3</sup>
Total Capacity (min.)	$\text{Cl}^-$	1.15 eq/l
Total Capacity (min.)	$\text{Cl}^-$	25.10 kGr/ft <sup>3</sup>
Moisture Content	65 %	
Mean Size Typical	0.60-0.85 mm	
Uniformity Coefficient (max.)	1.70	
Shipping Weight (approx.)	700-735 g/l	

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Shipping Weight (approx.)		43.7-45.9 lbs/ft <sup>3</sup>
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

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