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UP6350

Polishing Mixed Bed Resin for High Purity Applications

AKUALITE UP6350 resin is a fully regenerated mixed bed of cation and anion exchange resins intended for use in high purity water systems after reverse osmosis. In properly designed ultrapure water systems, AKUALITE UP6350 resin will deliver 18 Megohm quality water with total organic carbon levels well below 5 ppb on its first operating cycle as a polishing mixed bed. This mixed bed product is particularly suitable for use in the polishing of high purity water for specialty electronics applications such as the manufacturing of disk drives, display devices, CD-ROMs, discrete semiconductor devices, lower density IC chips, or in the back-end chip dicing and mounting operations. Because of its high level of regeneration AKUALITE UP6350 resin is also suited for any general purpose mixed bed applications for the economical production of high purity water. The component resins of AKUALITE UP6350 resin are uniform particle size resins, and their size was selected to provide excellent first cycle mixed bed performance, while at the same time allowing for future separation and regeneration of the resins. The resins are mixed to give a stoichiometric equivalent of cation and anion exchange capacity, and the resin mixture exhibits no clumping. The uniform particle size of the resins maximizes kinetic performance in the service cycle of the mixed bed, while still allowing for later separation and regeneration. All these characteristics are essential to produce high purity water with a minimum volume of rinsing.

BASIC RESIN PROPERTIES

For high purity regenerated mixed beds, UPW performance is much more significant than basic resin properties. It is still important to know that the resins used in the application are of the highest quality. The typical properties of the resins used in AKUALITE UP6350 resin are shown below.

These values are listed to show that both the cation and anion resins used to make AKUALITE UP6350 resin meet the standards for high capacity, uniform particle size ion exchange resins.

	Cation H^+	***Anion OH^-***
Total exchange capacity, eq/L	≥ 1.80	≥ 1.00
Moisture holding capacity, %	44.0 - 54.0	54.0 - 66.0
Particle size		
Uniformity coefficient _____	≤ 1.20	≤ 1.25
Harmonic mean size_____	0.58 to 0.68 mm	0.58 to 0.68 mm
H form % of sites _____ OH	≥ 99	-
form % of sites _____ Cl	-	≥ 95.0
form, % of sites _____ CO_3	-	≤ 0.5
form % of sites _____ SO_4	-	≤ 5.0
form % of sites _____	-	≤

SUGGESTED OPERATING CONDITIONS

(Product may be operated successfully outside these conditions, but results may not be optimum)

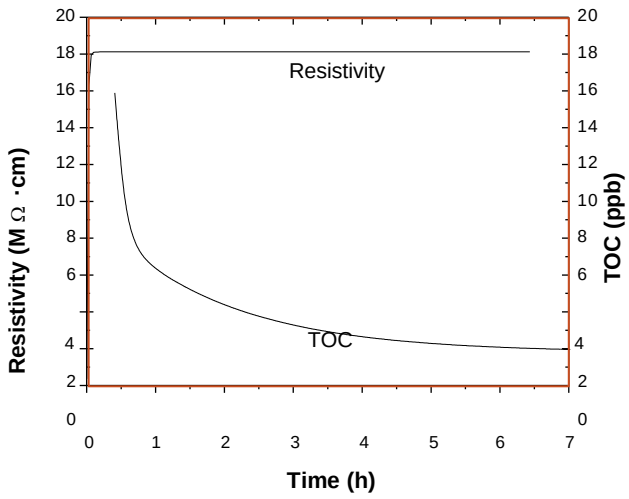
Feed water temperature	15 to 25℃	(60 to 77℉)
Minimum bed depth	Service	900 mm (3 feet)
flow rate (working mixed bed)	Service	20 to 30 BV*/h
flow rate (polishing mixed bed)		30 to 40 BV/h
Recommended *influent* water quality for polishing mixed bed application		
Inlet Resistivity	Inlet	> 16 MΩcm
Silica	Inlet	< 5 ppb
Total Organic Carbon		< 20 ppb

** 1 BV (Bed Volume) = 1 m^3 solution per m^3 resin (1BV/h = 0.125 gpm/ft^3)*

QUALITY ASSURANCE:

AKUALITE UP6350 resin is tested for resistivity, total organic carbon, and kinetic performance and will meet stringent UPW performance requirements on these most critical parameters. AWS will fully support the quality and performance of AKUALITE UP6350 resin in UPW applications in order to assure full customer satisfaction with the product as delivered. Typical TOC and resistivity curves based on our quality control procedure for AKUALITE UP6350 resin are shown below.

Resistivity and TOC Rinse Performance



All our products are manufactured in ISO 9001 certified facilities.