

ANION EXCHANGE RESIN TOKEM-840

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Strong base anion exchange resin (gel type) with uniform particle range composition. It possesses uniformity range of less than 1.1. High monodispersity and the absence of small fraction contributes to significantly decreased pressure drop across the bed height. This enables high flow rates enhancing regeneration effectiveness and reducing reagent and rinsing water requirements. Increased regeneration rate allows decreasing negative impact of organic substances on the ionite. It is particularly important for an anion exchange resin which by its nature possesses affinity to organic compounds.

Uniform particle composition, compact bed packing, and no dead zones increase diffusion rate and contact area. These features, in turn, lead to better ion exchange kinetics.

This monodispersed anion exchange resin is characterized with a high osmotic stability resulting in longer service life compared to that of polydispersed products.

GENERAL DESCRIPTION	
Матрица	styrene-DVB
Functional group	quaternary ammonium basic groups (type 1)
Polymer structure	gel
Ionic form	Cl ⁻ chloride OH ⁻ hydroxyl

Application area:

Monodispersed anion exchange resin TOKEM-840 can be applied in all conventional water treatment systems, including:

- ionization water treatment systems with co-current regeneration;
- ionization water treatment systems with counter-current packed bed regeneration;
- condensate polishing.

Physical and Chemical Characteristics:

CHARACTERISTICS	STANDARD
Appearance	Spherical beads, white to brown in colour



Table con'd (Physical and Chemical Characteristics)

Mean particle size, mm	0.60±0.05
Uniformity coefficient, max	1.1
Volume ratio of beads passing through N04 mesh, % max	1.0
Volume ratio of beads on N08 mesh, % max	2.0
Moisture retention in Cl ⁻ form, %	35-50
Osmotic stability, %, min	98
Total uncracked beads as shipped, %, min	95
Total capacity in OH ⁻ form, mmol/cm ³ (mg-eq/cm ³), min	1.15
Equilibrium static exchange capacity in OH ⁻ form, mmol/cm ³ (mg-eq/cm ³), min	1.0
Oxidation in oxygen equivalent, mg/l, max	0.55 (0.5)*
Mean mechanical toughness, g/bead, min	300
Beads with toughness below 200 g/bead, %, max	10
Shipping weight, g/cm ³	0.66-0.72
Particle density, g/cm ³	1.06-1.10

* - Values given in brackets are for products supplied to atomic power plants

Processing Characteristics:

SUGGESTED OPERATING CONDITIONS AND MODES:

Bed depth, min, mm	800
Pressure drop coefficient, kPa·h/m ²	1.0
Temperature limit, ° C	
Cl ⁻ form	80
OH ⁻ form	60
pH limit	0-14
Swelling at Cl ⁻ → OH ⁻ , %	20
Regenerant, %	(3-4) NaOH
Total rinse requirement, BV	2-4
Backwashing bed expansion, %	80-100