

## ANION EXCHANGE RESIN TOKEM-842

TR 2227-016-72285630-2010

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, in turn, 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 anion exchange resin.

Uniform particle composition, compact bed packing, and no dead zones increase diffusion rate and contact area. These features improve ion exchange kinetics.

This monodispersed resin is characterized with a high osmotic stability resulting in its longer service life compared to polydispersed products. It differs from type 1 for more efficient regeneration due to its more available functional groups.

GENERAL DESCRIPTION	
Matrix	Styrene-DVB
Functional group	quaternary ammonium basic groups (type 2)
Polymer structure	gel
Ionic form	Cl <sup>-</sup> chloride

### Application area:

Monodispersed anion exchange resin TOKEM-842 can be applied in all conventional water treatment systems, including:

- in desalination units where sorption of all acid anions are carried out at the single anionization stage;
- in conventional co-current and modern counter-current water treatment systems for treating water with high content of mineral acid radicals but with low content of silicic and carbon acids.

### Physical and Chemical Characteristics:

CHARACTERISTICS	STANDARD VALUE
Appearance	Spherical transparent beads, white to light yellow 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 <sup>-</sup> form, %	45–55
Osmotic stability, %, min	96
Total capacity in OH <sup>-</sup> form, mmol/cm <sup>3</sup> (mg-eq/cm <sup>3</sup> ), min	1.0
Shipping weight, g/cm <sup>3</sup>	0.68–0.75
Particle density, g/cm <sup>3</sup>	1.07–1.10

**Processing Characteristics:**

SUGGESTED OPERATING CONDITIONS AND MODES:	
Bed depth min, mm	800
Pressure drop coefficient, kPa · h/m <sup>2</sup>	1.0
Temperature limit, °C	
Cl <sup>-</sup> form	80
OH <sup>-</sup> form	40
pH limit	0–11
Swelling at Cl <sup>-</sup> → OH <sup>-</sup> , %	15
Regenerant, %	4 NaOH
Total rinse requirement, BV	2–8
Backwashing bed expansion, %	80–100