



# CATION EXCHANGE RESIN TOKEM-100

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High capacity strong acid cation exchange resin with improved particle range composition. It is characterized with high chemical stability and mechanical toughness.

## GENERAL DESCRIPTION

Matrix	styrene-DVB
Functional group	Sulfonic acid
Polymer structure	gel
Ionic form	H <sup>+</sup> Hydrogen Na <sup>+</sup> Sodium

### Application area:

The cation exchange resin can be applied in all conventional ion exchange processes, including:

- softening and demineralizing water treatment systems with co-current regeneration.

### Physical and Chemical Characteristics:

CHARACTERISTICS	STANDARD VALUE	
Appearance	Spherical beads, yellow to dark brown	
Ionic form	H <sup>+</sup>	Na <sup>+</sup>
Particle size range, mm	0.40-1.25	
Uniformity coefficient, max	1.6	
Volume of effective size fraction, % min	98	
Effective particle size, mm max	0.40-0.55	
Moisture retention, %	48-56	43-53
Osmotic stability, %, min	98	
Total uncracked beads as shipped, %, min	90(95*)	
Total capacity, mmol/cm <sup>3</sup> (mg-eq/cm <sup>3</sup> ), min	1.9	2.0
Mean mechanical toughness, g/bead, min	300	
Beads with toughness below 200 g/bead, %, max	10	
Shipping weight, g/cm <sup>3</sup>	0.75-0.82	0.80 – 0.85
Particle density, g/cm <sup>3</sup>	1.17-1.25	1.25-1.29

\* - 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 <sup>2</sup>	1.35
Temperature limit, ° C	120
pH limit	0-14
Swelling at H <sup>+</sup> → Na <sup>+</sup> , %	5-8
Regenerant, % H <sup>+</sup> form	(1-1.5-3.0) H <sub>2</sub> SO <sub>4</sub> (4-5) HCl
Na <sup>+</sup> form	(6-10) NaCl
Total rinse requirement, BV	3-5
Backwashing bed expansion, %	50-80