Product Data Sheet

THERMAX

TULSION® T- 42 H UPS

Premium grade strong acid cation exchange resin - hydrogen

Tulsion® T- 42H UPS is a premium grade, gel type strong acid cation exchange resin with excellent physical and chemical properties.

It offers exceptional resistance to osmotic shock due to its robust bead strength and reliable operating capacity. With a precisely controlled particle size, it minimizes pressure loss in high flow column operations and is ideal for water treatment applications. This versatile resin can be used in a broad range of pH and high temperature conditions.

Regulatory certificates & approvals

- HALAL certified
- Kosher certified

Applications

- Demineralization
- Mixed bed deionization
- De-alkalization
- Chemical processing for removal of cationic impurities

Typical characteristics of Tulsion® T-42H UPS	
Type	Gel type strong acid cation exchange resin
Appearance	Translucent amber color
Matrix structure	Cross-linked polystyrene
Functional group	Sulphonic
Physical form	Moist spherical beads
Ionic form	Hydrogen
Effective size	0.5 to 0.65 mm
Uniformity coefficient (Max.)	1.2
Total exchange capacity (Min.)	1.8 meq / ml (39.4 Kgr.as $CaCO_3$/cft)
Moisture content	50 to 56 %
Reversible swelling (Approx.)	Na^+ to H^+: 7%
pH range	0 to 14
Solubility	Insoluble in all common solvents
Shipping density (Approx.)	800 gm/l (49.9 lbs./cft)
Temperature stability (Max.)	248°F/ 120°C

Influent limitation	
Free chlorine	Not traceable
Turbidity	Less than 2 NTU
Iron and heavy metals	Less than 0.1 ppm

Suggested operating conditions for Tulsion® T-42H UPS	
Maximum operating temperature	248 °F(120°C)
Resin bed depth (minimum)	600 mm (24”)
Maximum service flow	60 $m^3/hr/m^3$ (7.5 gpm/ft^3)
Backwash expansion space (Min.)	40 to 70%
Backwash flow rate for 40-70% expansion at 77 °F (@25°C)	9 to 25 $m^3/hr/m^2$ (3.7 to 10.2 gpm/ft^2)
Regenerant	HCl/ H_2SO_4
Regeneration level	30 to 160 g/l HCl (2 to 10 lbs./cft) 40 to 250 g/l H_2SO_4 (2.5 to 15.6 lbs./cft)
Regenerant concentration	4 to 5% HCl; 0.7 to 4% H_2SO_4
Regenerant flow rate	2 to 16 $m^3/hr/m^3$ (0.25 to 2 gpm/cft)
Regeneration time	20 to 60 min.
Rinse flow rate : Slow	At regeneration flow rate
: Fast	At service flow rate
Rinse volume	3 to 5 m^3/ m^3 (22.5 to 37.4 gal/cft)

Testing

The sampling and testing of ion exchange resins is done as per standard testing procedures, namely ASTM-D2187-17 and IS-7330, 1998.

ISO certificates

ISO 14001: 2015, ISO 45001: 2018, and ISO 9001:2015

Packing			
Super sack	1000 lit	Super sack	42 cft
MS drums	180 lit	Super sack	35 cft
HDPE sack	50 lit	Fiber drums	7 cft
HDPE lined bags	25 lit	HDPE lined bags	1 cft

For handling, safety and storage requirements, please refer to the individual material safety data sheets available at our offices.

The data included herein are based on test information obtained by Thermax Limited. These data are believed to be reliable but do not imply any warranty or performance guarantee. Tolerances for characteristics are as per BIS/ASTM standards. We recommend that the user should determine the performance of the product by testing on his own processing equipment.

In view of our constant endeavor to improve the quality of our products, we reserve the right to change their specifications without prior notice.

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