

TREION™ TSFT™ HCR

High-Capacity Softening Resin for Industrial Water

DESCRIPTION

TREION™ TSFT™ HCR is a gel-type Strong Acid Cation exchange resin, designed for industrial water softening applications. Its principal characteristics are excellent physical, chemical and thermal stability, good ion exchange kinetics and high exchange capacity.

TREION™ TSFT™ HCR is virgin AmberLite™ SR1L produced in Calcium form that was completely converted to Sodium form by Treitel Chemical Engineering, so it is ready-to-use for production of softened water.

PROPERTIES

Physical form _____	Amber beads
Matrix _____	Styrene divinylbenzene copolymer
Functional groups _____	Sulphonates
Ionic form as shipped _____	Na ⁺
Total exchange capacity _____	1.97 eq/L (Na ⁺ form)
Moisture holding capacity _____	47% (Na ⁺ form)
Shipping weight _____	808 g/L
Particle diameter _____	619 – 633 µm
Effective size _____	496 – 498 µm
Fines content _____	< 300 micron: 0.0 %
Coarse beads _____	> 1180 micron: 0.0 %
Uniformity coefficient _____	1.35
Chemical resistance _____	Insoluble in dilute solutions of acids or bases and common solvents
Packaging _____	200 L Drums

SUGGESTED OPERATING CONDITIONS

Maximum operating temperature _____	120°C
Service Flow rate _____	5 – 50* BV/h
Regenerant _____	NaCl
Level (g/L) _____	60 – 250
Concentration (%) _____	10
Flow rate (BV/h) _____	2 – 8
Minimum contact time _____	30 minutes
Slow rinse _____	2 BV at regeneration flow rate
Fast rinse _____	2 – 4 BV at service flow rate

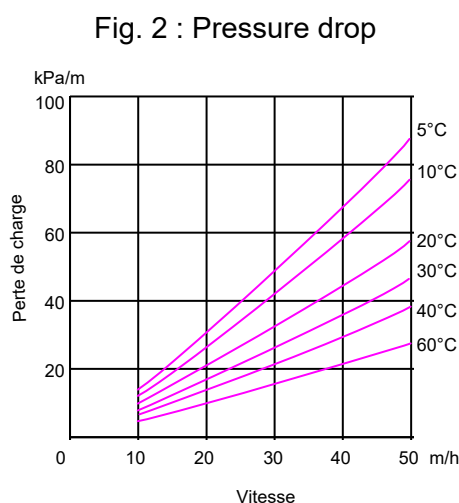
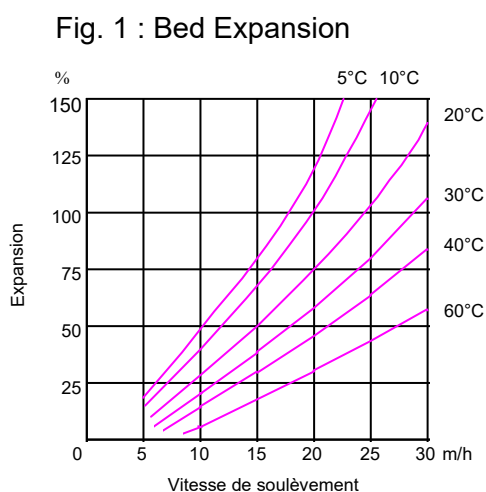
* 1 BV (Bed Volume) = 1 m³ solution per m³ resin

LIMITS OF USE

TREION™ TSFT™ HCR is suitable for industrial water applications. For all specific applications, it is recommended that all potential users seek advice from Treitel Chemical Engineering in order to determine the best resin choice and optimum operating conditions.

HYDRAULIC CHARACTERISTICS

Figure 1 shows the bed expansion of TREION™ TSFT™ HCR, as a function of backwash flow rate and water temperature. Figure 2 shows the pressure drop data for TREION™ TSFT™ HCR, as a function of service flow rate and water temperature. Pressure drop data is valid at the start of the service run with clear water and a correctly classified bed.



QUALITY ASSURANCE

A Certificate of Compliance is available for every batch of TREION™ TSFT™ HCR.

TRADEMARKS

TREION™ and TSFT™ are Trademarks of Treitel Chemical Engineering Ltd., Israel.

AmberLite™ is a Trademark of The DuPont de Nemours Inc., U.S.A.

CAUTION

Ion exchange resins, as produced, contain by-products resulting from the manufacturing process. The user must determine the extent to which organic by-products must be removed for any particular use and establish techniques to assure that the appropriate level of purity is achieved for that use. The user must ensure compliance with all prudent safety standards and regulatory requirements governing the application.

Except where specifically otherwise stated, Treitel Chemical Engineering does not recommend ion exchange resins, as supplied, as being suitable or appropriately pure for any particular use. Consult Treitel Chemical Engineering representative for further information.

Acidic and basic regenerant solutions are corrosive and should be handled in a manner that will prevent eye and skin contact. Nitric acid and other strong oxidising agents can cause explosive type reactions when mixed with Ion Exchange resins. Proper design of process equipment to prevent rapid build-up of pressure is necessary if use of an oxidising agent such as nitric acid is contemplated. Before using strong oxidising agents in contact with Ion Exchange Resins, consult sources knowledgeable in the handling of these materials.