

SurTec® 680 IAT

Ion Exchange Resin

for Recycling of Chromiting SurTec 680

Properties

- removes iron contamination selectively out of Chromiting SurTec 680
- the ion exchange resin is regenerable
- recycling of the Chromiting solution will reduce neither the layer properties of the Chromiting nor the corrosion protection

Application

SurTec 680 IAT Ion Exchange Resin is to be filled into a column. Load the ion exchange from below with the iron contaminated Chromiting solution. The regeneration of the resin is carried out from top by use of hydrochloric acid.

temperature:	0-60°C
pH-value:	< 6
capacity:	10-14 g iron per litre ion exchange resin (new condition)
grain size:	0.2-1.5 mm (applies for a contingent > 90 % of the resin) The slit or nozzle sizes of the plant may account for at most 0.2 mm. Even then, small amounts of the resin particles could get into the plant.
column depth:	800-1200 mm
speed of loading:	max. 10 m/h
regenerant:	30 %vol (20-45 %vol) of 31-33 % hydrochloric acid = 300 ml/l (200-450 ml/l) of 31-33 % hydrochloric acid
amount of regenerant:	3-5 times of the resin volume
speed of regenerating:	3-5 m/h
rinsing:	DI-water, pH-value adjusted to pH 2-4 with hydrochloric acid
amount of rinsing water:	2-4 times of the resin volume
speed of rinsing:	5 m/h
change of volume:	approx. 3 %
filling of the column:	90 % of the column Please consider: 10 % have to be left free because of the dilatation of the resin!

hints:

The resin can be used without any preconditioning.

Avoid any contact to alkaline solutions (pH-value higher than pH 6). Otherwise the resin will be destroyed.

For rinsing the Chromiting solution from the resin prior to regeneration, use water, where the pH-value is **adjusted to pH 2 with hydrochloric acid**. The same water can be used to rinse the regenerant from the resin.

Usually the 30 %vol of a 31-33 % hydrochloric acid (= 300 ml/l of a 31-33 % hydrochloric acid) for regeneration can be used several times.

Maintenance

Regenerate the resin in case it is worn with 30 %vol (= 300 ml/l) of 31-33 % hydrochloric acid.

For an ion exchange cartridge of 300 l, normally 600 l of a 30 %vol of 31-33 % hydrochloric acid (= 300 ml/l of a 31-33 % hydrochloric acid) are necessary. Therefore channel the acid 3-5 times in cycle. The acid is able to absorb at least 30 g/l iron without a loss of regeneration quality.

The resin can absorb approx. 14 g/l iron, so the acid can be used at least two times for regeneration.

Technical Specification

(at 20°C)	Appearance	Bulk density (kg/l)
SurTec 680 IAT	pellets, light beige	0.600 (0.52-0.68)

Product Safety and Ecology

The safety instructions and the instructions for environmental protection have to be followed in order to avoid hazards for people and environment. The Material Safety Data Sheets (according to European legislation) contain explicit details for this.

The following hazard designations and classifications into water hazard classes (WHC) have to be taken into account:

<u>product</u>	<u>hazard designation</u>	<u>water hazard class</u>
SurTec 680 IAT	Xn - Harmful	WHC 1

Warranty

We are responsible for our products in the context of the valid legal regulations. The warranty exclusively accesses for the delivered state of a product. Warranties and claims for damages after the subsequent treatment of our products do not exist. For details please consider our [general terms and conditions](#).

Information and Contact

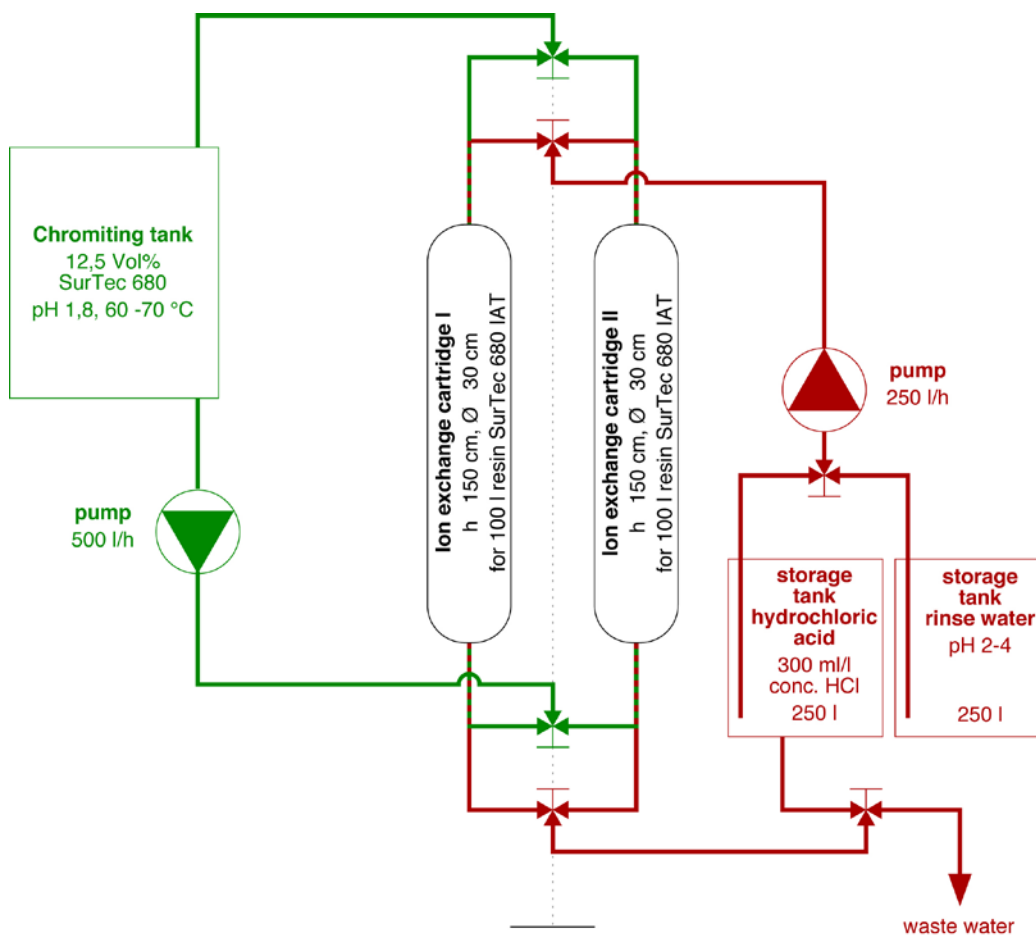
In our forum, you can discuss topics of the surface technology:

<http://forum.SurTec.com/>

If you have any questions concerning the process, please contact your local technical department: <http://SurTec.com/International.html>

16 June 2011/DK, AB

Scheme for the Installation of the Ion Exchange



For continuous lines, two ion exchange cartridges should be installed, so one cartridge can be on run while the other will be regenerated.

If the Chromating bath is not in continuous use, one ion exchange cartridge is enough.