

Successfully proven brine treatment

- **LANXESS ion exchangers being used for brine purification in chlor-alkali electrolysis**
- **Lewatit MDS TP 208 protects highly sensitive electrolysis membranes**
- **Fine beads enhance the brine treatment process**

Cologne – A leading producer of chlor-alkali products on the Indian market benefits from the improved efficiency of his chlor-alkali electrolysis by applying the new Lewatit MDS TP 208 as ion exchange resin from LANXESS. The finely dispersed polymer beads reduce the energy input effectively by preventing damage to the ion exchange membranes used for electrolysis and thus extending their lifespan. Consequently, this new generation of finely dispersed resins is being successfully introduced alongside the MonoPlus types.

The chemical plant in the south of India has a production capacity of approximately 190 metric kilotons of caustic soda a year requiring a quantity of around 400 cubic meters of sodium chloride brine per hour. The brine used for electrolysis needs to be pretreated to protect the electrolysis membranes from high levels of impurities. Otherwise precipitations can harm the membranes, for example, resulting in a less efficient process. The new Lewatit MDS TP 208 finely dispersed ion exchange resin is being used in one of three filters of one brine treatment line to optimize brine purification. The resin reduces the hardness of the brine from an incoming level of 2 mg/l to below 10 µg/l (Ca²⁺, Mg²⁺). The chemical plant also has an effective process for removing barium and strontium levels to a concentration of below 100 µg/l.

The use of the Lewatit MDS TP 208 chelate resin from LANXESS enables effective economic advantages for the plant operator, in particular in terms of significant energy cost savings. Further advantages include a longer lifetime for the membranes and the resin. Additionally reduced quantities of regeneration agents are

LANXESS AG

Contact:
Ilona Kawan
Corporate Communications
Spokesperson Trade & Technical
Press
50569 Cologne
Germany

Phone +49 221 8885-1684
ilona.kawan@lanxess.com

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required and a reduction of wastewater is expected to lower operating costs. The resin type used is capable of achieving longer cycle times, which in turn generates a higher brine treatment throughput. Based on the positive results, the Indian producer decided to switch the other two resin filters of this line to Lewatit MDS TP 208 as well.

Since installation of the resins in 2016, the customer has enhanced the capacity of this brine treatment line by 53 percent in two years. The use of Lewatit MDS TP 208 has increased the throughput from 3,035 BV (bed volumes) to 4,662 BV.

You can find more detailed information about products from the LPT business unit on the website at <http://lpt.lanxess.com>.

LANXESS is a leading specialty chemicals company with sales of EUR 7.2 billion in 2018. The company currently has about 15,400 employees in 33 countries and is represented at 60 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. LANXESS is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good.

Cologne, April 16, 2019
kaw (2019-00025e)

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LANXESS AG

Contact:
Ilona Kawan
Corporate Communications
Spokesperson Trade & Technical
Press
50569 Cologne
Germany

Phone +49 221 8885-1684
ilona.kawan@lanxess.com

News Release

Information for editors:

All LANXESS news releases and their accompanying photos can be found at <http://press.lanxess.com>. Recent photos of the Board of Management and other LANXESS image material are available at <http://photos.lanxess.com>. TV footage can be found at <http://globe360.net/broadcast.lanxess/>.

You can find further information concerning LANXESS chemistry in our WebMagazine at <http://webmagazine.lanxess.com>.

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Ilona Kawan

Corporate Communications

Spokesperson Trade & Technical

Press

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Germany

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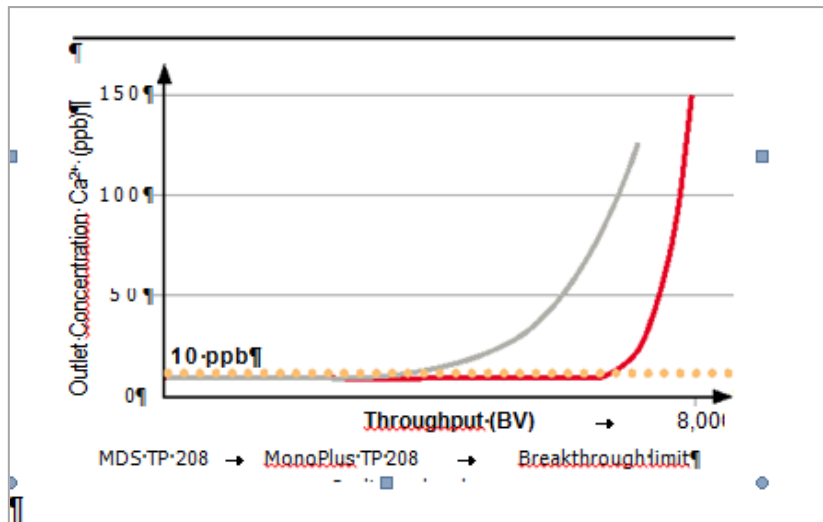
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Images



One of the leading manufacturers of chlor-alkali products in India is increasingly relying on ion exchange resins from LANXESS at its site in the south of the country because they increase the efficiency of chlor-alkali electrolysis.

Photo: LANXESS AG



LANXESS AG

Contact:
 Ilona Kawan
 Corporate Communications
 Spokesperson Trade & Technical
 Press
 50569 Cologne
 Germany

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 ilona.kawan@lanxess.com

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For comparison purposes, one of the three filters was equipped with Lewatit MDS TP 208 to compare performance with Lewatit MonoPlus TP 208. On an eight month average since start-up, the operating capacity at a breakthrough limit of < 10 µg/l of hardness was raised from 4,480 BV to 6,660 BV of brine throughput, resulting in a capacity enhancement of 49 percent.

(Operating conditions: Brine flow rate: 100 m³/h [Ca²⁺/Mg²⁺], feed: 2 mg/l [Sr²⁺]: 1 mg/l [Ba²⁺]: 0.5 mg/l [NaCl]: 305 g/l, pH: 10, temperature: 60 °C, SV: 25 BV/h.)

Graphic: LANXESS AG