

LANXESS at the “Chemistry in Power Plants” VGB Conference, October 23 to 24, 2019, Würzburg, booth 18

Cost-efficient, tailor-made water treatment for power plants

Cologne – Specialty chemicals company LANXESS will be giving two presentations at this year’s “Chemistry in Power Plants” VGB PowerTech e.V. trade conference, which will take place in Würzburg from October 23 to 24, 2019. At the accompanying trade exhibition, the Liquid Purification Technologies (LPT) business unit will present its Lewatit ion exchangers and Lewabrane membrane elements for power plant chemistry – the focus here will be on products for condensate polishing. LewaPlus software modules for designing systems in power plants will also be showcased.

Reverse osmosis process data for statistical predictions

On October 23, 2019, Uli Dölchow, application engineer in Technical Marketing for Lewabrane, will deliver the presentation entitled “Management and analysis of RO process data for optimal process control.” A reverse osmosis (RO) system is expected to deliver a certain quantity of water in the desired quality. The feed pressure should be within a defined range, as this has a decisive impact on the operating costs. However, the feed pressure may change dramatically due to fouling. Fouling materials can be removed easily if detected in good time. Regular monitoring and analysis of performance data and process parameters should therefore constitute an important part of operating an RO system. The performance of RO membranes is influenced by various parameters such as the composition of the feed or the temperature. In practice, it is therefore often not immediately apparent whether a change in system performance is due to fouling or whether it is simply the influence of fluctuating parameters taking effect. In the worst case, different effects are interfering in such a way that fouling occurs

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without a change in pressure being observed and consequently the right time for cleaning is missed.”

Two options will be presented for evaluating the performance of an RO system. The first of these is based on a comparative calculation using a design software. This method is useful if the amount of data available is limited. The second option involves assessing the normalization, i.e. comparing the current process data to a reference point. The advantages of normalization over a comparative calculation and why the former is therefore to be preferred will all be explained. Normalization is often carried out using Excel. However, an Excel evaluation is particularly difficult with large amounts of data and does not offer sufficient protection against manipulation. New data software to improve on this will be presented.

Ion exchangers for use in condensate circuits

In the afternoon, Hans-Jürgen Wedemeyer, Technical Marketing manager for Water Solutions, will deliver the presentation “TOCremoval through ion exchange resins.” Here, he will describe ways of using various different ion exchangers to remove the total organic carbon that is released during the production of make-up water. TOC is undesirable because it can result in the formation of carbon dioxide or organic acids in the power plant and a worsening of the operating conditions in the condensate circuit. Wedemeyer will explain the classification of various types of TOC in raw water. He will also discuss the impact of polystyrene sulfonic acid on the demineralization system during the production of make-up water. As a solution, he will present cleaning options for ion exchangers that have been contaminated with TOC.

Ion exchange and reverse osmosis hand in hand

Ion exchange resins from LANXESS help to ensure the efficient, safe and reliable operation of power plants. They are used to demineralize the cooling and make-up water, and to polish the condensate in the

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water-steam circuits that are the heart of all thermal power plants. The high regenerability of the resins, combined with their chemical and mechanical stability, supports long dwell times, which in turn guarantees economical power plant operation. Ion exchange is frequently used in conjunction with membrane technology to treat make-up water in power plants. The Lewabrane line of membrane elements that LANXESS offers for this purpose boasts a long service life, a good permeate yield, effective salt rejection and low energy requirements.

You can find more detailed information about LANXESS products for water treatment on the website at <http://pt.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.

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Information for editors:

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<http://press.lanxess.com>. Recent photos of the Board of Management and other LANXESS image material are available at <http://photos.lanxess.com>.

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

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Image



Ion exchange resins and membrane elements from LANXESS work hand in hand in power plants to turn surface water (right) into boiler feed water. In a lot of cases organic carbon (TOC) could be removed to a great extent. TOC is undesirable because of the formation of carbon dioxide or organic acids which favors corrosion in power plant operation. Photo: LANXESS AG