



Press release

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First world-scale chlorine plant from Covestro with innovative oxygen depolarized cathode (ODC) technology from thyssenkrupp nucera and Covestro in operation

- Joint further development of oxygen depolarized cathode electrolysis technology by Covestro and thyssenkrupp nucera
- thyssenkrupp nucera responsible for engineering, procurement and construction management of the new production facility
- Reduction of energy consumption by up to 25 percent
- Avoidance of up to 22,000 metric tons of CO₂ emissions per year at the world's first large-scale ODC production facility

Dortmund, February 22, 2023 – The first world-scale chlorine plant based on oxygen depolarized cathode electrolysis technology has been successfully started up in Tarragona, Spain. Covestro and thyssenkrupp nucera worked closely together to develop the innovative and energy-efficient electrolysis technology. The oxygen depolarized cathode electrolysis technology is based on thyssenkrupp nucera's proven electrolysis technology. The supplier of world-leading technologies for high-efficiency electrolysis plants is also responsible for the engineering, procurement and construction management of the new production plant.

The process for producing chlorine and caustic, which was jointly developed by thyssenkrupp nucera and Covestro, requires a lower voltage compared with the prevailing conventional chlor-alkali electrolysis. Therefore, the energy consumption of the plant can be reduced by up to 25 percent and up to 22,000 metric tons of CO₂ emissions per year can be avoided (based on the energy mix at the start of construction planning in 2018). The new plant thus makes an important contribution to Covestro's goal of being operationally climate-neutral by 2035.

Covestro is one of the world's leading manufacturers of high-quality plastics and their components. With the world's first large-scale chlorine production plant, the company is securing an efficient, permanent and independent supply of chlorine and caustic soda for MDI production in Tarragona, thus strengthening the European production network for MDI. Methylene diphenylene diisocyanate is a precursor for the production of rigid polyurethane foam, which is used to insulate refrigeration appliances and buildings.



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"The successful start-up of the new plant is good news, both economically and ecologically, for Covestro as well as for our site in Tarragona" said Dr. Markus Steilemann, CEO of Covestro. "The plant demonstrates how new technologies enable us to advance our vision of the circular economy and further reduce resource consumption while increasing the robustness and efficiency of our production network."

Dr. Werner Ponikwar, CEO and Chairman of the Executive Board of thyssenkrupp nucera AG & Co. KGaA: "The ODC success story has continued. Our long-standing partner and customer Covestro and we have succeeded in moving into the capacity range of large-scale production plants with the proven oxygen depolarized cathode electrolysis technology. This electrolysis technology is characterized by very high energy efficiency. We are thus also opening up the possibility for companies to decisively reduce their CO₂ footprint in chlor-alkali electrolysis and thus make their contribution to the decarbonization of industry."

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About thyssenkrupp nucera:

thyssenkrupp nucera offers world-leading technologies for highly efficient electrolysis plants. The company has extensive expertise in the design, procurement and construction of electrochemical plants. Its track record includes more than 600 successfully installed projects with a total capacity of more than 10 gigawatts. thyssenkrupp nucera's chlor-alkali electrolysis plants allow significant savings in construction costs and offer fast, simple and cost-effective assembly.

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