FRAUNHOFER INSTITUTE FOR SILICATE RESEARCH ISC
WÜRZBURG

PRESS RELEASE

Rapid transfer from lab to roll – continuous coating on the pilot scale

Saving R&D time while reliably bringing new material formulations into near-production coating processes in a cost-efficient way: A clear benefit offered by Fraunhofer Institute for Silicate Research ISC with a novel coating plant especially designed for easy up-scaling. Find more on this and other news around the development, application and characterization of functional barrier coatings at the Fraunhofer ISC booth 142 in hall 5 at the European Coating Show which takes place from April 21 to 23 in Nuremberg.

Functional coatings are an ideal way to provide products with new properties by using just a minimum of extra material. Fraunhofer ISC develops customized advanced coatings, e. g. based on ORMOCER®s (Trademark of Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e. V., München, in Germany), for all kinds of applications and substrates. To implement these new materials in industrial production they must be adapted to match wet chemical coating processes on site to keep costs low.

The roll-to-roll coating plant recently established at Fraunhofer ISC is of modular design and thus allows adaptation of coating materials on pilot scale in maximum bandwith of 500 mm. Critical material and process parameters can be tested and approved long before transferring them to the actual industrial plant.

The in-house coating unit is suitable to work with all kinds of substrates, from plastic films to metal or ceramic foils, and with all kinds of coating materials such as hybrid or organic polymers, inorganic sol-gel materials or silicon. Application and curing processes are equally adaptable, and switching from one material system to another is fast and easy.

An extra benefit: The roll-to-roll coating plant is located in a clean room of class ISO 8 according to DIN EN ISO 14644-1. This ensures high quality, extremely faultfree coating as, e. g., required for functional or optical coatings.

So, Fraunhofer ISC has added new potential to customized coating and coating application R&D.

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Electrochromic coating, applied under clean room conditions on the new roll-to-roll coating plant at Fraunhofer ISC © K. Dobberke für Fraunhofer ISC

The **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 66 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of nearly 24,000, who work with an annual research budget totaling more than 2 billion euros. Of this sum, around 1.7 billion euros is generated through contract research. More than 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.

The **Fraunhofer Institute for Silicate Research ISC** in Würzburg being a material research institute develops new materials capabilities by order of the client considering the efficient and safe energy usage, sustainable use of resources and affordable health care. However, the focus lies on non-metallic inorganic materials. Fraunhofer ISC focuses its projects mainly on the fields of Energy, Environment and Health. On initiative of industry, the institute develops materials and the respective technologies and manufacture process. Since decades, the ISC is competent partner of small and medium-sized enterprises and large scale industry when it comes to developing innovative materials.

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