PREVIEW IST - INTERNATIONAL SURFACE TECHNOLOGY 01.2022

SPECIAL TO THE FAIR PAINTEXPO

PaintExpo 2022
The most important platform for industrial painting technology opens its doors. At the eighth edition of PaintExpo from 26 to 29 April 2022 in Karlsruhe, the painting technology industry and users from contract coating and in-house painting companies will finally meet again in person, exchange information on the latest trends and coordinate concrete projects. We highlight the highlights of the trade fair and present the innovations in the industry.

NEW TECHNOLOGIES

Efficient coating process - soon also for additive manufacturing?
Extreme high-speed laser cladding, developed at the Fraunhofer Institute for Laser Technology ILT, is considered an efficient and environmentally friendly alternative to conventional coating processes. It offers significant advantages especially where metallic components are subject to extreme stress and therefore need to be protected from corrosion and wear by coating. Together with a partner, scientists at the institute are now working on further developing the patented process for additive manufacturing.

CORROSION PROTECTION

Pay attention during corrosion testing
Corrosion testing is a challenging quality test for many components. The correct choice of substrate material, pre-treatment and coating play an important role here. But an incorrectly performed corrosion test can also lead to the failure of a component during the test. There are a number of things to consider.

POWDER COATING

Flexibility in the smallest space
A specialist for powder coating systems realised a compact coating system for an innovative metal supplier in Switzerland. The 3-in-1 powder booth includes automatic, manual and robotic coating in the smallest possible space. Thanks to short distances and optimal efficiency, the customer can now handle production flexibly and optimise the flow of goods.

Powder coating with energy from the company's own turbine
A system supplier specialising in aluminium processing for industry, the caravan sector, medical technology, and the development and production of bicycle carrier systems was working with up to seven different contract coaters. Then the idea of having their own coating department came up - also to increase their own added value. A subsidiary was founded and the decision was made to use an innovative energy concept and a high-performance, flexible powder coating plant.

LIQUID COATING

Painting process and paint quality in view
For a manufacturer of bumpers for the automotive industry, the quality of the painting result and the stability of the painting process are essential factors for its long-term competitiveness. The installation of a spray pattern control system can make a decisive contribution to this.

Bacteria clean exhaust air streams cost-efficiently
Painting and coating processes produce exhaust gases and vapours that pollute the environment if they are not purified. In order to protect the environment and comply with legal requirements, the exhaust air must be cleaned before it is released into the atmosphere. Classically, this is done with thermal processes. Rising energy prices are cost drivers for coating companies. According to the supplier, a new solution for biological exhaust air purification makes it possible to purify high exhaust air flows in a cost-efficient and environmentally friendly manner.

PARTS CLEANING

Efficiency is in the air
Can the cleanliness required for stators for electric drives in hybrid vehicles be reliably achieved using only air as the cleaning medium? An application-specific dry cleaning solution proves that it works. The fully automated cleaning process improved the cleaning quality and reduced the costs enormously.

GRINDING AND POLISHING

How the Cobot puts the finishing touches on surfaces
Whether sanding, grinding or polishing - the finishing of surfaces is an art in itself. To achieve optimum results, consistent force intensity and maximum precision are required. Until now, these processes have been difficult to automate. Collaborating lightweight robots - equipped with the appropriate sensor technology - can do this.
ELECTROPLATING

Digitalised control, monitoring and inspection in contract electroplating
Against the backdrop of the digital transformation with its new possibilities, a contract electroplating company has invested in the development and construction of a radio-controlled automated surface finishing system. In this way, a holistic process was developed that aims to set high quality standards in the industry throughout Germany: the complete coating processes from incoming goods to outgoing goods are controlled, monitored and checked seamlessly and traceably at all times.

MATERIALS HANDLING

Upgrades and expansions of existing plants
After the pandemic-related planning standstill, the topics of modernisation, flexibilisation and targeted expansion of capacities in existing coating plants have seldom been in such demand as in recent months. A globally active manufacturer of conveyor technology reports on current expansion projects: Instead of making capital-intensive new investments, the existing substance is being aligned to a higher throughput level and to modern digitalisation topics such as sorting, sequencing and tracking.

COATINGS

Even thinner for next-generation electric motors
The development of smaller and more powerful electric motors requires more compact laminar cores. A thinner coating is essential for this. A new electrodeposition coating specially tailored to this application should enable the development of new, more efficient motor types with lower manufacturing costs.

Edge protection of electrocoatings taken to the extreme
Reuse and recycling - two goals that have led to a change in the material composition of electrodeposition coatings but also their performance in recent years. At the same time, design changes in automotive construction require increased edge protection. Innovations in electrodeposition coating technology do justice to this.

MEASURING AND TESTING

Highest measurement reliability over the entire life cycle
Especially in the automotive industry, regular calibration of measuring instruments is mandatory. The test process suitability according to VDA Volume 5 is now established. As a calibration service provider, a sensor manufacturer ensures that its coating thickness gauges comply with these specifications.