

The image features a blue-tinted industrial background with a robotic arm in the foreground. The robotic arm has a cylindrical nozzle and is labeled 'ATOM' and 'STS-1'. The background shows blurred industrial machinery. An orange and white geometric shape is overlaid on the top left. The logo 'Sturm' is in a stylized, italicized font, and 'GRUPPE' is in a simpler, spaced-out font below it.

Sturm
GRUPPE

Surface Coating Systems

Coating Systems for almost all requirements

1995

foundation



65

experts

150

customers
in **25** countries



35
mio

turnover

SURFACE COATING SYSTEMS

Business Unit of the Sturm-Gruppe

Multizone coating line with robotic painting, dryer and skid conveyor technology

Modern integrated special systems for organic coating for automotive and industrial applications

AUTOMATIC COATING SYSTEMS

- ✓ with Overhead Conveyors
- ✓ with Floor Conveyor Technology
- ✓ for applying adhesive and binding agents as well as bonded coating
- ✓ for brake discs
- ✓ System Components
 - Paint booths
 - Spot-Repair-Lines
 - Partial Surface Coating (TEFLA)
 - Exhaust Air Purification
 - Workstations

UV-COATING SYSTEMS

- ✓ Rotary indexing table systems
- ✓ with linear conveyor technology
- ✓ Prototypes and pilot plants

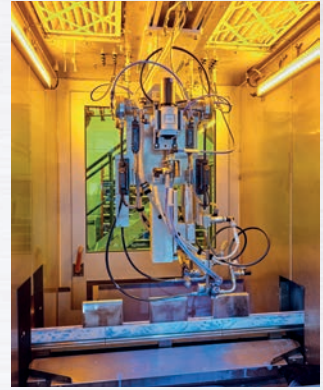
RETROFIT AND PROCESS TECHNOLOGY

- ✓ Plant Conversions and Refurbishment
- ✓ Overspray-/Paint Separation
- ✓ Pretreatment and Cleaning Systems

TRIAL COATINGS, TECHNICAL CENTRE

- ✓ Enhancement of plant concepts
- ✓ Coating application tests
- ✓ Feasibility check, determination of parameters

Sturm-Gruppe is a sought-after partner of leading industrial companies worldwide, relying on the know-how of its specialists and many years of industry experience.



Overview Surface Coating Systems at Sturm-Gruppe

Coating Media (materials processed)

- ✓ Water-based paints
- ✓ Solvent paints
- ✓ UV-curable paints
- ✓ UV-hydro paints
- ✓ Functional coatings, e.g. sliding coatings, insulation, haptics
- ✓ Release and adhesive agents
- ✓ Special materials, e.g. Geomet® and Alutherm®

Application Technology/ Paint Supply

- ✓ Completion of own plants with fully automated application technology
- ✓ Special media supply systems for application-specific conditioning of coating materials

Material Handling Systems

- ✓ Work piece carrier transfer systems
- ✓ Linear conveyors
- ✓ Overhead and floor conveyors
- ✓ Rotary indexing table systems
- ✓ Chain conveyor coating machines
- ✓ Skid conveyor systems
- ✓ Electric monorail systems

Booth and Ventilation

- ✓ Tailor-made from a wide range of materials, e.g. stainless steel, aluminum or glass
- ✓ Design according to technological and ergonomic requirements
- ✓ Energy efficient

Pretreatment

- ✓ CO₂ cleaning
- ✓ Laser structuring
- ✓ Laser/Plasma cleaning
- ✓ Scarfing
- ✓ Ionization

Drying Technology

- ✓ UV-Dryer
- ✓ Convection dryer
- ✓ Refrigeration dryer
- ✓ Infrared dryer

Periphery

- ✓ Integration of our coating systems into production lines
- ✓ Automatic handling, loading and unloading, masking ...
- ✓ Integrated measuring technology
- ✓ Upstream and downstream processes, handling, logistics

Own Technical Centre

- ✓ Process development and verification
- ✓ Sampling
- ✓ Prototypes and small series
- ✓ Rotary transfer machine and multizone coating system with linear conveyor
- ✓ Robot application

Control Technology

- ✓ Control and automation of complex industrial manufacturing processes
- ✓ Hardware design
- ✓ Pneumatics and fluid planning
- ✓ Control cabinet construction and worldwide assembly
- ✓ Simulation and online programming
- ✓ Robot programming and commissioning
- ✓ Software planning for PLC, HMI and control systems
- ✓ Database connections and evaluations
- ✓ Remote maintenance and process monitoring



Product examples Sturm-Gruppe for automatic UV-coating

UV-COATING SYSTEMS

Coating with UV-cured paints

Why UV-cured paints?

- Excellent, long-term stable corrosion protection
- Very good adhesion and mechanical stability, scratch-resistant surface
- Drying in seconds
- Low energy consumption, low CO₂ footprint
- Practically solvent-free – 100 % solids, minimal emissions
- Low space requirement, especially for drying/curing areas
→ no evaporation zone and no cooling zone necessary
- High recycling rates of the overspray



Plant for coating battery cells with UV-curable paint

Battery Cell Coating Systems

Coating of battery cells – E-Mobility

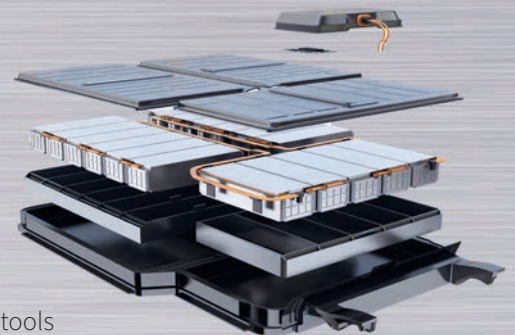
Advantages of coating with UV-paint compared to foiling

- Better adhesion, especially at higher temperatures and alternating loads
- Lower thermal insulation
 - better distribution of heat → reduced risk of overheating
- Security against disbonding (sub-surface migration)
- Better insulation at higher voltages
- Uniform layer thicknesses even at edges
- No risk of partial melting due to heat-generating subsequent processes



OUR STRENGTHS

- ✓ Many years of experience in rebuilding and new construction of plants for BEV (= Battery Electric Vehicle), PHEV (= Plug-in-Hybrid Electric Vehicle) and MHEV (= Mild Hybrid Electric Vehicle)
- ✓ Experience with prototype and large-scale production systems
 - Output up to 3.600 cells per hour
 - Flexible in variations
- ✓ Short project lead times due to our high engineering competence
- ✓ Planning of individual (special) plant solutions together with the customer
- ✓ High vertical range of manufacture and state-of-the-art design and planning tools
- ✓ Flexible integration of the plants into existing production processes

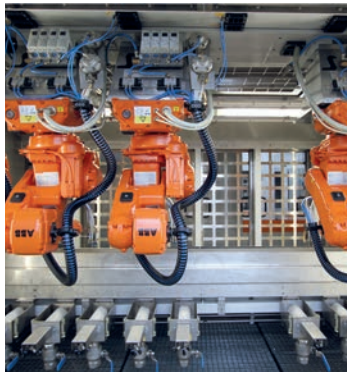




Cooling zone for car bodies

AUTOMATIC COATING SYSTEMS

Paint Booths and Periphery



Our paint booths comprise

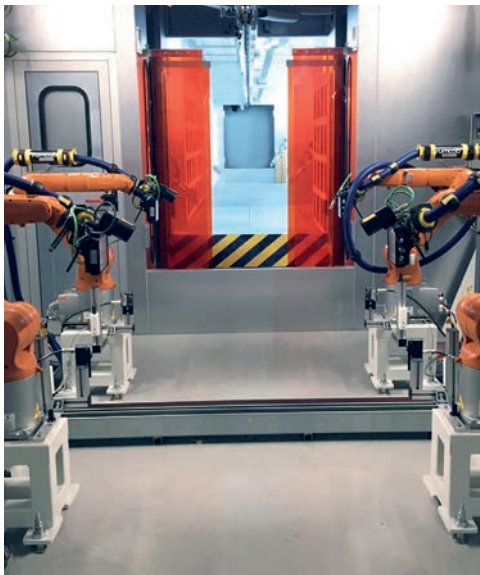
- ✓ Different door and gate systems
- ✓ Individual lighting systems
- ✓ Image-supported recognition systems
- ✓ Air conditioning
 - Filtering of air supply
 - Heating/cooling
 - Humidification and dehumidification
- ✓ Environment friendly exhaust cleaning, e.g. by TNV and RNV
- ✓ Optimized wet and dry separation of overspray, recycling
- ✓ Workplace installations



Typical paint supply for small containers (30 kg standard hobbocks) incl. automat. refill container, explosion protected design

RETROFIT AND PROCESS TECHNOLOGY

Plant Conversions and Refurbishment



We upgrade your proven and solidly designed systems to the latest available state of the art, conforming to environmental requirements and official guidelines. The retrofiting of existing plants results in resource-saving, fully adequate state-of-the-art production facilities with reduced investment costs.



Get in touch with our experts concerning surface coating systems!

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Sturm-Gruppe – Your Strong Partner

For more than 30 years we have been offering our customers complete solutions in our five business areas **Automation Technology, Material Handling Systems, Surface Coating Systems, Thermal Surface Technology** and **Vision Technologies**.

Our strength lies in the fast and creative development of individually adapted special systems for your challenges! In this way, our approximately 500 employees worldwide can be a competent partner to each of our renowned customers through flat hierarchies and maximum responsibility, on whom you can simply rely.

Whether from our headquarters in Salching, Lower Bavaria or from one of our other locations throughout Germany, whether in other European countries, in the USA or in Asia: No matter where you are and what you are planning - we make sure that you are prepared for the future in your market.

Sturm
GRUPPE

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