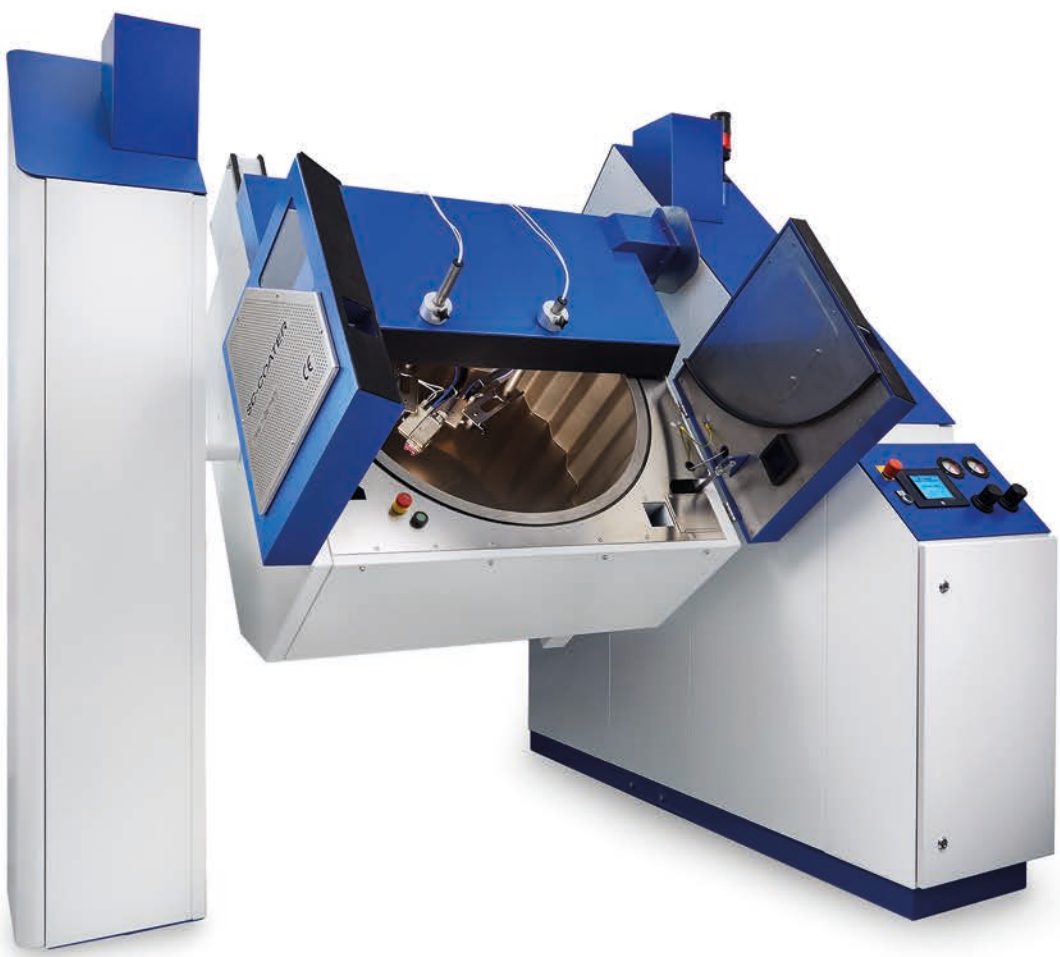
SPECIAL COATINGS
Systems GmbH

SC-Coater®

Functional coatings for bulk material



www.sc-systems.de

Company

The Special Coatings Systems GmbH is a subsidiary of Special Coatings GmbH & Co. KG. The Special Coatings group can look back on more than 20 years of history. It all started with the distribution and development of customized water- and solvent based coating systems.

Since the market launch of the SC-Coater®, an innovative high-tech drum coating machine in 2005, the company has been very successful in the field of decorative and functional job coating for mass-produced small parts.

The Special Coatings Systems GmbH is a system supplier of drum coating systems, their accessories and also offers project planning and other services. These include commissioning of equipment, training and maintenance for which our professionals are at your disposal worldwide.

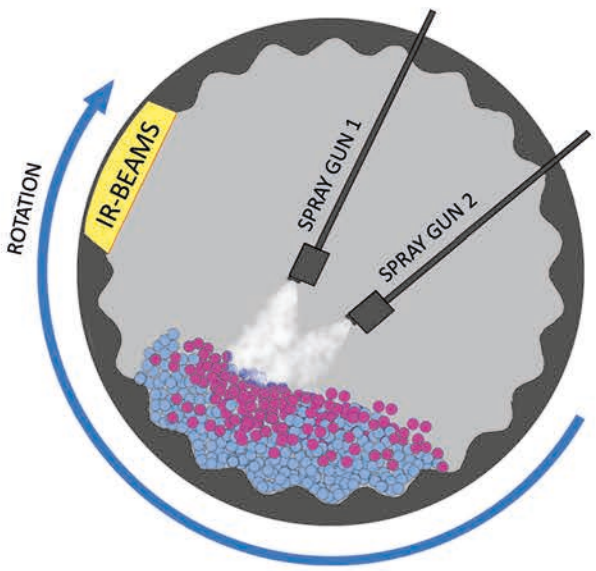
Today, the SC Coater® is used by many renowned companies around the globe. Special Coatings is your specialist for functional surfaces, such as adhesive coatings for the automotive and aerospace industries or for lubricant coatings on plastics and elastomers.

Both companies are ISO 9001:2015 certified and thus fulfill the most important requirements of major customers.

SC-Coating Process

The SC-Coater® is a computer-controlled drum coating system for mass-produced small parts. The material to be coated is processed in bulk. The coating is done with one or two automatic spray guns. Depending on the application, the process achieves closed surfaces already at a layer thickness of 5 µm (5/1000 mm).

The SC-Coater® enables the most effective and economical coating of paints, adhesives and lubricants on small parts. The fast and cost-saving infrared drying process which enjoys patent protection is the most important feature. The special coating drum coating process allows a wide range of coating materials to be applied to mass small parts made from a wide variety of materials. Parts made of metal, elastomer and plastic can be coated in the SC-Coater® in bulk without labor-intensive positioning of the parts.



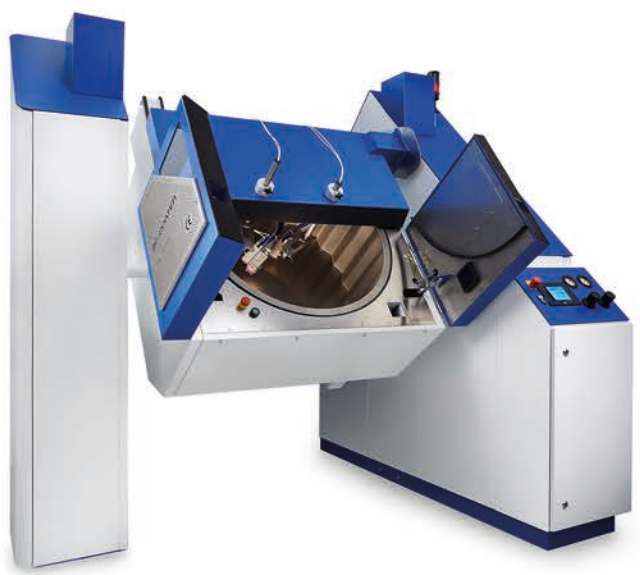
Coating Procedure

1. Filling of the lacquer container
2. Filling parts to be coated into drum in bulk
3. Start of coating program
4. Warming up of the parts by IR-beam continously and automatic coating simultaneously
5. Post-drying of lacquer and emptying of drum

SC-Coater®

Technical data

Dimensions:	approx. 2,5 x 2,0 x 2,4 m
Weight:	about 1.500 kg
Power connection:	32 A Cekon socket with 3-phasig AC, 400 V und 50 Hz
Power consumption:	approx. 8 kW
Heater radiation output:	4,5 kW, sensorregualted
Connection:	Compressed air connection
Minimum presssure:	6 bar (max. 10 bar)
Air volume:	approx. 60 m3/h (120 m3/h with two spray guns)
Exhaust air volume:	max. 900 m3/h
Solvent entry:	max. 3.600 g/h
Drum volume:	60 up to 80 liters of substrate (depending on part)
Filling weight:	max. 180 kg
Approvals:	CE - Mark



Control

The SC-Coater® is controlled via touch screen. There, numerous parameters can be easily adjusted at any time.

Spray system

The spray system may consist of one or, if necessary, two automatic spray guns. All relevant influencing variables, such as spray jet shape, material pressure, spray rate, etc., can be set by the control.

Drying

Integrated infrared beamers preheat the substrate. Thus, the coating medium dries off immediately.

Drum

The stainless steel drum is resistant to coating materials and cleaning agents. Due to the wave geometry of the drum wall, the substrate is continuously and gently circulated.

Lacquer cabinet

Pressure vessel and gear pump are integrated in the associated paint cabinet. The cabinet is connected to the exhaust air system of the SC-Coater® and thus ensures the lowest possible solvent emissions and optimum safety.

Safety

Intelligent safety and monitoring functions prevent the operator from being endangered. The system has a closed paint chamber, in which a slightly negative pressure prevails, thereby preventing an uncontrolled escape of vapors.

Environment

Through the exhaust fan creates a constant negative pressure in the drum housing. Pocket filters ensure the environmentally friendly filtering of harmful solids and dusts.

Production quality and process reliability

The SC-Coater® is completely made in Germany. For the purchased parts, we set the same, high standard. Only branded components with the best references are used, which guarantee the worldwide supply of spare parts.

Advantages

Technically

Power consumption:	approx. 4 kWh
Filling volume:	80 liters (dep. on part)
Filling weight:	180 kg (dep. on part)
Spray jet:	up to 300 mm wide
Cleaning:	minimal, partly automated
Filling:	fast
Overspray:	about 3%
Preheating time:	~8 min. for 60 l material

Low energy costs
The average energy consumption of the SC-Coater® of 4 kWh is negligible compared to other processes. This is largely due to the energy-saving infrared drying.

Large quantities
The high filling capacity of up to 80 Liters guarantees an economical operation of the SC-Coater®.

Incomparable efficiency
The SC-Coater® requires significantly less coating material (primer and cover) than conventional coating methods. The overspray is just about 3%.

Low personnel costs
The coating process is fully automatic. A complex manual part positioning or hanging or plugging is completely eliminated, because the material to be coated is processed as bulk material.

No rejects
In terms of process technology, the material to be coated is evenly coated all around. There are no rejects. In addition, there is no "spider web formation" in the SC-Coater® process.

Best quality
Due to the defined, fine spray mist and the immediate curing of the coating material on the preheated parts an impressive homogeneity and an excellent degree of coverage of the surface is achieved.

Material-saving process
A swiveling, cylindrical stainless steel drum ensures, in addition to the broad drainage and the low bulk depth of the substrate, less surface damage in the case of angular parts.

Protection of employees
Numerous intelligent security and monitoring functions prevent the operator from being endangered without restricting its possibilities. An optionally available, closed filling system for the coating material (primer and cover) prevents harmful emissions, e.g. of toluene and xylene.

Gentle on the environment
Due to the low power consumption, the minimal overspray and the environmentally friendly filtering of harmful solids/dusts in SC-Coater®, the environment is best protected.

Exhaust air/safety
The SC coater has a discharge capacity of up to 900 m3/h. When using the optional closed filling system including the larger exhaust fans, no Ex zone marking is required.

Process safety
With the help of the built-in control all parameters can be comfortably and flexibly monitored, changed and stored. All recipes and settings can be saved. This ensures maximum process reliability and reproducible coating quality for series production.

Cleaning
The SC-Coater® is equipped with an automatic cleaning program. This cleans the entire material cycle or the spray system within 2 minutes. Only the easily accessible drum needs to be cleaned by hand shortly after this process.

Maintenance
All system components are designed for process safety and longevity. Most of the maintenance work can be carried out by yourself. Of course, we also offer individual maintenance contracts.

Bonding Agents

The SC-Coater® is suitable for functional coating by means of adhesion promoter for vulcanized metal-rubber and plastic-rubber components, in particular for the automotive industry. All common coating materials can be processed here.

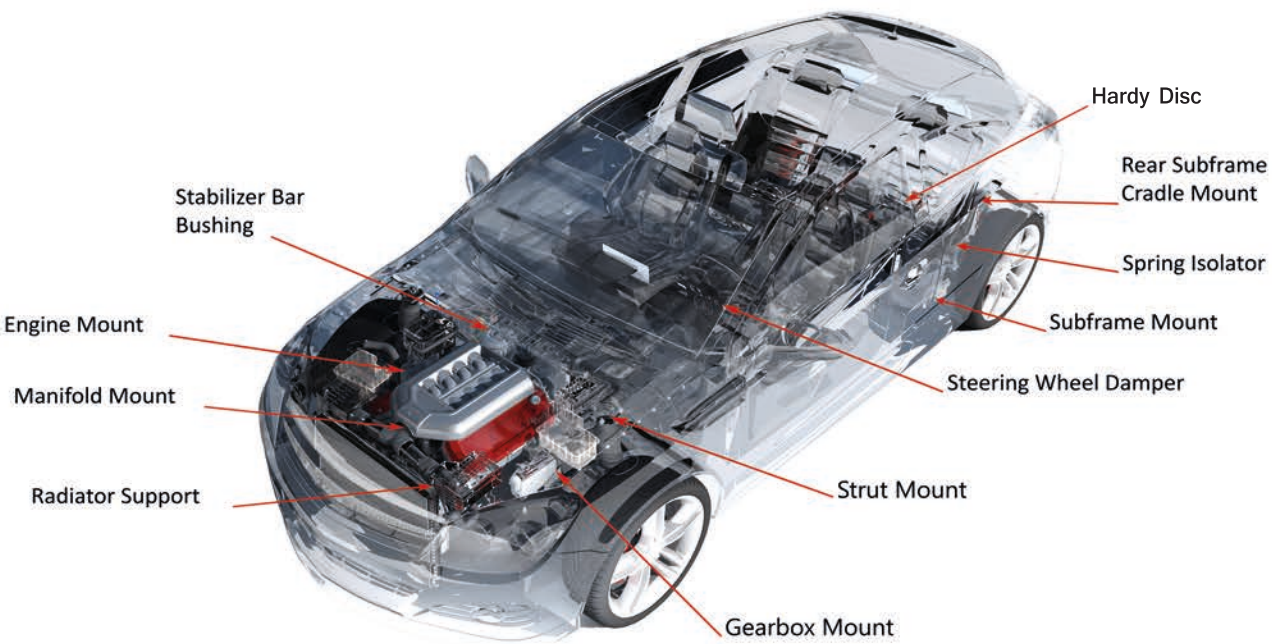
Basically, in the vulcanization process, rubber is bonded to metal or plastic using various adhesion promoters.

In the SC-Coater®, the substrate is coated in one or two cycles (cover only or primer+cover) with a liquid adhesion promoter system. Subsequently, the coated components are placed in a mold into which heated rubber is injected. The heat (120-160 °C) activates the bonding agent and bonds firmly to the rubber during cooling. Also resulting acids are firmly bound in this process by the primer in the rubber.

This process is used for products such as rubber rollers, reinforced gaskets, chassis parts, engine mounts, hardy disks for automotive and similar products for the electronics, medical and aircraft industries.

Applications:	Material of substrate:	Coating system:	End products:
- sleeves	- cast aluminium	We will be pleased to advise you on any question about primers and covers.	- wishbones
- rings	- steel		- hardy discs
- support rings	- plastics		- shock absorbers

Applications Automotive



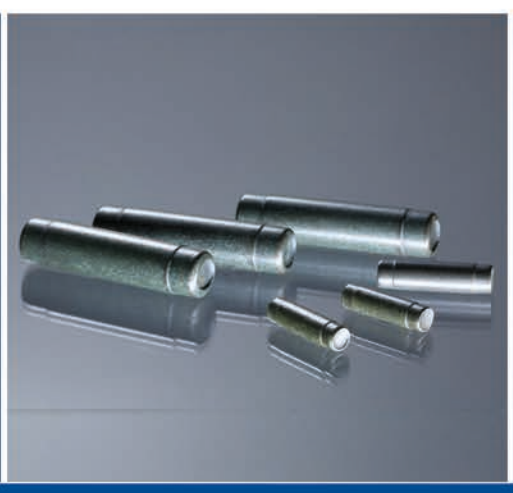
Anti-friction coatings

In the case of lubricant coatings, the SC-Coater® stands out above all for the uniform and therefore efficient application of the coating material.

Lubricant coatings are used to reduce friction and thus also the wear of moving parts. These can be made of metal, elastomers or plastic.

This process is used to produce products such as o-rings, seals, friction-reduced fasteners, slide discs and furniture mufflers.

Applications:	Material of substrate:	Coating material:	End products:
- bolts	- metals	We will advise you on questions about the anti-friction systems	- hinges
- O-rings	- elastomers		- plain bearings
- wheels	- plastics		- seals
			- slide discs



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