Practical examples

Lankwitzer
Premium Coatings

Advantages

Application takes place on the production line:

▸ fast drying, hence rapid further processing, such as printing or other manufacturing processes
▸ no solvents
▸ no heating of the parts, therefore a very short cooling time
▸ small space required for painting and curing unit (space requirement approx. 10 m²)
▸ high efficiency thanks to the recycling of resources

100% UV-lacquer coating of drive shafts and flange drives - black, glossy
UE 18-9502/2

Company Hirschvogel Komponenten GmbH, as an internationally operating medium-sized subcontractor for motor vehicles, produces among others shafts and flanges for the automotive industry. Main production is for Daimler A-Class cars.

Our task was to formulate a solvent-free system that can be processed in a very small paint shop area - at the center of production - and can be applied in a short process time and confidently meet Daimler Benz test standards.

Painting process description

Painted objects
Drive shafts and drive flanges

Material
Steel

Application equipment
Warm spray with air pressure

Painting process

▸ Pre-treatment with water-based cleaner with temporary corrosion protection
▸ Blowing and drying components with compressed air
▸ UV-lacquers are being performed by rotation
- Gun with 1mm nozzle,
- Paint temperature 50 ° C
- Dry layer thickness of 80 - 100 µm
▸ UV-curing: 15s UV-curing
  3 Fe-emitters, Offset
  UV-lamps / object: 6 - 10 cm
▸ Cycle time 10 s

Characteristics / approvals
DBL 7381.10 and following requirements:

▸ 240h salt chamber test EN ISO 9227:2006 (NSS)
  after 1h and 24h regeneration
  (Goal: Purity degree < 2 (S2),
   corrosion degree < Ri1, Wb U/2 ≤ 1mm)
▸ 3 and 6 corrosion resistance test cycles according to VDA 621-415
  (Objective: The degree of bubble formation < 2 (S2),
  corrosion degree < Ri1, Wb U/2 ≤ 2mm)
▸ 240h Condensation according to EN ISO 6270-2:2005
  After 1h a 24h regeneration
  (Goal: Purity degree < 2 (S2),
   corrosion degree < Ri1)

Material used
UE 18-9502/2
100% UV- black glossy lacquer