

Resistance of the whole plant to process media

Overhead Conveyor:

Waiting loops / parking sections or other reserves are necessary during disruptions. One has to ensure that none of the material in the quality-relevant zones (pre-treatment, curing ovens) exceeds or undershoots the manufacturer's specification.

The workpieces to be processed should be protected against falling dirt particles.

This includes:

Jerk-free operation of the conveyor chain

Encasement of moving parts (avoidance of dust build-up, powder deposits, scheduled cleaning at regular intervals!)

Panels for protection against falling particles or dripping media? (lubricating points for chain conveyors at the end of the chain?)

Type and frequency of the chain lubrication (use certified greases, do not use silicone-containing lubricants!!)

Coating Booth:

Compressed-air quality

Refrigerant dryer, extremely fine oil trap, moisture trap, it is necessary to install moisture and oil traps at several places in the case of longer lines!

Recovery using safety screening

Ratio of screen throughput to booth throughput has to ensure perfect functioning.

Screen size mesh size must conform to the expected surface finish (absence of particles). Be careful when processing metallics/structured surfaces.

Hose material = PU (recommended by supplier of the powder-coating plant). Hoses with an embedded earth lead offer advantages.

Separate extraction system for the powder-feed centre.

Storage container with vibration / fluid base, for small batches that have to be supplied from a cardboard box, otherwise there is non-uniform supply of powder.

Is manual pre-coating with powder possibly being carried out and documented?


Not quality relevant. Post-coating with powder? Why document?

Dryer:

Distance between powder booth and dryer (avoiding heating the walls of the booth). Also accessible via the insulation.

Position of the measurement of the room temperature (near to the combustion chamber?) The probes should be positioned in such a way that one is able to make a statement regarding the temperature distribution.

Is there an IR zone? Is the overall curing time / object temperature still being maintained? This is checked by carrying out a measurement using the oven controller.

	INFORMATION SHEET Recommendations for Application and Thermal Curing (GSB QR AL 631 Sect. 6.2.9)	GSB AL 03/2008
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Is the maximum temperature of the circulating air controllable? This is checked by carrying out a measurement using the oven controller. In addition, care should be taken when positioning the temperature probe.

Temperature differences inside the curing oven can be minimized by using a standard substrate.

Storage of goods and consumables:

Roofed storage facility for raw materials and finished parts.

Powder storage is carried out under controlled climatic conditions (temperature and humidity?) or in accordance with the supplier's instructions. Dry and cool
 Separate store room for liquid media, paints, etc.?

Cleanliness and maintenance of the plant:

Keeping a maintenance log. This is in the plant owner's interest otherwise the plant will not be operational.

Are preventive cleaning and maintenance of the pre-treatment section of the plant being carried out at the specified intervals? Check nozzles for spray pre-treatment.

... ditto for the overhead conveyor? Cleaning, lubrication and visual inspection.

... ditto for the dryer? Cleaning and checking the position of the guide vanes for the air. Maintenance of the burner (a legal requirement)

Is it compulsory to wear lint-free protective suits with hoods in the area around the unit? Not necessary.

Lint-free gloves are always used when carrying out maintenance and cleaning as well as when manually moving coating parts (hanging up or taking down, stacking, inspecting, etc.) while leather or plastic gloves are only used for handling prior to coating.

Check consumables for compatibility
 (e.g. silicone-free hand creams etc).

The whole plant has to conform to statutory legislation and other relevant requirements, such as the requirements of the respective Employer's Liability Insurance Association (Berufsgenossenschaft) in Germany.

This includes: continuous earth monitoring, fire suppression system and waste-water treatment plant, exhaust-air treatment plant, etc.

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