

Processing guideline

VR208 – IGP-DURA®than 8909B Weather resistant industrial quality

Introduction

System 8909B was developed for use as a topcoat powder coating for permanent graffiti prevention on metal surfaces.

Processing

Initial coating with a high-voltage setting of 60 to 70 kV. When overcoating with 8909B with a setting of 50 to 60 kV and a current limiter <10 µm.

Spray-back effects can be avoided by using ion-leakage rings (low-ion charge).

We recommend flat spray nozzles. The spraying distances can be set to 250 mm. To optimise the coating thickness distribution, the speed of the lifting devices must be adapted to the transport speed when coating in long-stroke operation (coordinated sinusoidal curve of the guns). Coating in short-stroke operation requires the lifting height to be adapted to the intermediate distance between the guns (coordinated gun turning points). Any necessary manual application in semi-automatic mode should be carried out as a pre-coating.

We recommend working with Film thicknesses of 50 µm to 70 µm.

With IGP-DURA®than 8909B, fine bubbles may appear in the powder-coated surface with Film thicknesses of > 90 µm after curing.

Processing with tribo guns is not recommended.

Reclaiming

Continuous dosing of fresh powder is recommended for Processing IGP-DURA®than 8909B in reclaiming mode.

Maintenance and Cleaning of all system components (guns, hoses, cyclone...) must be carried out with the utmost care.

Earthing

When processing IGP-DURA®than 8909B, especially on substrates that have already been coated, ensure that the substrate is sufficiently earthing.

Curing in the oven

Curing requires exact temperature control.

If the temperature falls below the required object temperature, cracking may occur in the powder-coated surface, while exceeding this temperature usually results in yellowing and foaming of the powder coating layer.

Based on these conditions, we recommend creating a temperature profile of the curing oven with an oven measuring device under production conditions before starting production. Curing of the coated objects should always be carried out on the basis of the time combination of retention time at object temperature determined with the oven measuring device, taking into account the recommended curing conditions. The recommended temperature and time combinations according to the technical data sheet must not be exceeded under any circumstances.

Ventilation and smoke development

During the curing process, 8909B releases decomposition products in the form of caprolactam. Decomposition products generate a lot of smoke, which must be removed from the inside of the curing oven by adequate ventilation. If the curing oven is not equipped with sufficient ventilation, it is essential to ensure adequate ventilation of the room and oven. The list of information on special risks (H-phrases H302/H312/H332/H315/H319/H317/H335/H336) must be observed. Deposited decomposition products in the curing oven, especially on the oven walls and in the venting area, must be removed in due course, depending on their thickness.

Paint stripping

IGP-DURA®than 8909B is difficult to paint strip chemically. Collector hangers used for coating can be freed from powder coating using a flame process.

Applicable documents

- Technical data sheet IGP-DURA®than 8909B

Further recommendations for Processing IGP-DURA®than 8909B

Equipment and processing parameters (appliances / accessories)	Setting (parameters) according to categorisation	Possible influences on (remark)
	Uni	
High voltage setting kV	50-70	Charging / back sprayer (note actual values)
Current limiter μ A (gun)	< 20 < 10	à Normal operation à Reduces overloading effects in case of overcoating

Total air Nm ³ /h	12mm = 5 Nm ³ /h	
Conveying + dosing air (internal ø powder hose)	11mm = 4 Nm ³ /h 10mm = 3 Nm ³ /h	Prevents pulsation of the powder cloud
Powder hose with integrated earthing (injector - gun)	Earthing the injector	Prevents electrostatic charge in the powder hose
Nozzle (gun) with flat spray nozzles	Suitable	Ensure a "soft" cloud
Nozzle (gun) with baffle plate	suitable	Reduced depth
Processing with ion-leakage ring (gun)	Possible with and without	When used, reduced overloading effects when overcoating
Spraying distance coating (gun - workpiece)	≥ 250mm	Prevents blow-off effects
Coating with tribo guns	Not suitable	No sufficient charging
Powder feed from fluidised container	Well suited, fluidising air as required	Check fluidisation before coating
Powder delivery from the carton	Not recommended	Sometimes slightly irregular conveying and therefore irregular layer thicknesses
Screening with US screen (sieving machine)	Recommended with mesh size >140µm	Better fluidisation, more even application
Maximum proportion of reclaimed powder in recirculation mode	≤ 90%	Prevents shifts in the particle distribution
Processing parameters (control unit programme) document	Recommended	Facilitates reproducibility of the coating results

Create limit samples in advance	Conditionally recommended	Recommended for first use
Coating on different coating plants	Possible	Adjust parameters accordingly
Manual pre-coating of the workpieces in semi-automatic operation	possible	Pay attention to recommended layer thicknesses
Manual follow-up coating of the workpieces in semi-automatic operation	possible	Pay attention to recommended layer thicknesses
Manual coating only	possible	Ensure even layer thickness distribution

This application-technical consultation is based on the current state of knowledge, but is only non-binding and does not exempt the coater from carrying out their own tests.
