

Guidelines for processing of metallic-powder coating

A basic distinction is made between bonded and non-bonded metallic-powder coating.

In both cases we recommend corona external charge treatment for the application, as tribo charge treatment can lead - even in grades for which it is basically suitable - to an insufficient degree of deposition and a weaker metallic effect due to the set up of the metalpigments.

A) Bonded metallic-powder coating

The bonded grades are characterized by good circulation stability with a high degree of color consistency and as a rule by good processing properties.

B) Non-bonded metallic-powder coating

With non-bonded qualities the effect components are added later.

Difficulties can be encountered during processing, especially with regard to circulation stability.

However, as a rule good results with regard to color consistency can be obtained, even for these grades, by the **continuous addition of small quantities of fresh powder** into the supply tank.

C) Special-Effects

Hammer-Effects

- High film thickness necessary (>100µm)
- Recuperation reduced, because separations of added metalpigments are possible
- Effect fluctuations by different film thicknesses, material thicknesses and stoving conditions possible

Extra-Effects

- For example nacre- and flitter-colours
- Formulation and processing must be checked

D) General Information

- Special plant adjustments, and in some circumstances even special spray guns, are required for application
- Higher cleaning and maintenance costs are necessary
- In filter booths, special filters are essential

Check list of possibly occurring problems in the powder coating film:

Error	Cause	Corrective measures
1) Poor degree of deposition	<ul style="list-style-type: none"> • poorly charged powder coating, i.e. voltage too low or pressure of carrier air too high 	<ul style="list-style-type: none"> • increase the voltage • reduce the pressure of the carrier air
2) Poor primary adhesion	<ul style="list-style-type: none"> • a) see 1) • b) unsuitable application (tribo charge) 	<ul style="list-style-type: none"> • a) see 1) • b) select suitable application (corona external charge)
3) Rough surface	see 1)	see 1)
4) Color does not comply with specification	<ul style="list-style-type: none"> • a) see 2b) • b) separations of special effect components and basic material (in non-bonded grades) 	<ul style="list-style-type: none"> • a) see 2b) • b) add small amounts of fresh powder frequently when there is only a small amount of material left in the supply tank. If this does not solve the problem, do not use a circulation system or change to a bonded grade
5) "Metallic spots" on painted surfaces	<ul style="list-style-type: none"> • Powder aggregations under the lee of the application disc become dislodged from time to time 	<ul style="list-style-type: none"> • Use a suitable nozzle system (e.g. an application disc with internal ventilation)

If the above-mentioned corrective measures do not solve the problem, please contact the applications department of the manufacturer of the powder coating.

More information contain our safety - and technical data sheets.