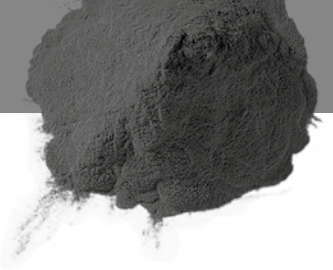

VR 006 English
Processing guidelines for deep matt POLYFLEX® PAC systems

PAC-140-SD Highly weather resistant Qualicoat class 2
PAC-135 Facade quality
PAC-50 Interior quality

Colours
As a result of the low gloss level, matches for RAL/NCS colours are only approximate. If you require identical colours and effects, we recommend that you always use one production batch consisting of the entire amount of powder needed for the order. This will allow you to guarantee consistent colours and effects when coating one order.

Pretreatment
You must pay close attention to the pretreatment when processing POLYFLEX® PAC systems. The process parameters must be constantly checked and the chemical supplier's instructions must be followed strictly.

Processing
Electrostatic corona guns with a negative charge are the ideal solution for processing POLYFLEX® PAC systems. For plain colours the high voltage settings should be between 50 and 80 kV and for pearlescent effects between 40 and 60 kV.
Depending on the colour, if the coating is thicker than 110 µm, back ionisation may occur. You can reduce this by limiting the current in the gun or by using ion traps. The earthing must be adequate in order to guarantee a homogeneous surface finish.

If you require a thick coating, but back ionisation occurs:
– Reduce the voltage, increase the current limiter settings, increase the powder quantity and check the earthing.

If you are applying a thin to normal coating, but back ionisation occurs:
– Use an ion trap and check the earthing.

We recommend using flat nozzles. The spraying distance for the guns varies between 250 and 350 mm for both plain colours and pearlescent effects.

In long-stroke operation (horizontal) the speed of the lifting devices must be adapted to the transport speed (sine wave). The ideal speed can be determined by a sine calculator.
In short-stroke operation (vertical), the lifting height must be adapted to the turning points of the guns. The turning points should be kept small and have a negative overlap, as otherwise stripes could form on flat surfaces.

If a partially automated application system is being used, a preliminary coating should be applied. If both sides of metal sections are being coated, the visible side should be coated last.

We do not recommend the use of tribo spray guns because the triboelectric charge is inadequate.

Powder recovery
When a filter is used to recover powder with POLYFLEX® PAC Qualibond products, the amount of effect pigment in the powder may increase.

When a cyclone is used, the amount of effect pigment may reduce.

The filter continuously separates out the effect pigments and the smaller particles in the powder coating. This can lead to a shift in the ratio between the basic colour and the effect pigments. In order to avoid this, we recommend using spray-to-waste mode.

In automatic spray booths, if enough fresh powder is added, a maximum of 20% recovered powder can be used (20% for plain colours and 10% for pearlescent effects). The effect and the colour must be constantly checked against reference samples during the production process.

You can find more information in our processing guidelines for Polyflex® powder coatings with a metallic effect VR003D.

Curing
The recommended curing temperature can be found in the technical data sheet. Minor variations in temperature (± 5°C) will not have a major influence on the gloss level. If both thick-walled and thin-walled parts are being cured at the same time in the same production batch, our experience shows that the gloss differences will be minimal.

At object temperatures between 180° and 210°C, the gloss level typically varies by 2 to 3 points (60°). This is easily noticeable given the low gloss levels of these coatings. For this reason, the same oven temperature should be used for one entire order. In addition, you must pay close attention to the curing process, in particular when different ovens are used to cure the components in one order. In this case, we recommend creating a temperature profile of both ovens with an oven measurement device in order to coordinate the two ovens.

Spray booth parameters Equipment/accessories	Settings for plain colours	Settings for pearlescent effects
High voltage	50 – 80 kV	40 – 60 kV
Current limit	› 10 µA	‹ 10 µA
Total air	Depending on hose length and interior diameter 12 mm = ab 5 m3/h 11 mm = ab 4 m3/h 10 mm = ab 3 m3/h (recommended setting for powder injector)	
Powder hose with integrated earth	Prevents the powder from becoming charged in the hose Injector and gun must be earthed	
Nozzle	Flat nozzle recommended	Flat nozzle recommended
Ion trap	Reduces back ionisation and indirectly improves the levelling properties of coatings thicker than 110 µm	
Spraying distances Long-stroke (Gun to workpiece)	200 – 280 mm	280 – 350 mm
Distances between guns (long-stroke)	250 – 300 mm	
Spraying distances Short stroke (Gun to workpiece)	200 – 280 mm	280 – 350 mm
Distances between guns (short-stroke)	300 – 350 mm With a maximum overlap of 0 to -5 cm	
Ultrasonic sieving	› 140 µm	› 180 µm
Without recovery	No changes in the colour, proportion of effect particles constant	
With recovery	Up to 20% possible	Up to 10% possible

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