IGP POWDER COATINGS

Processing guideline

VR213 – IGP-LivingSurfaces

Introduction

IGP-LivingSurfaces are powder coating materials from the IGP-HWFclassic 59 series with characteristic yet individual surfaces that show a "lively" variance in texture and/or colour composition.

The articles in the LivingSurfaces group are divided into two processing categories "A" and "D". You can recognise the category of your product on the container label of your powder coating.

Pretreatment/ primer

Aluminium substrate
Chrome-free pre-treatment: Preferably tested systems from GSB and Qualicoat

Pre-anodization: alternatively possible

For the application of products with the article code "-A81" as a fine plaster structure on Aluminium, the use of a colour-like fine structure IGP-HWFclassic 591TA ... R10 with standard grinding as a primer is strongly recommended. Alternatively, it is also possible to use the
IGP corrosion protection primer IGP-KORROPRIMER 60 as a primer. The relevant technical data sheet for the selected primer must be consulted. The processing guideline VR211 must also be observed for IGP-KORROPRIMER 60.

Steel substrate
Zinc or iron phosphating

Galvanised sheet metal: sweep blasting possible

For the application of products with the article code "-A81" as a fine plaster structure on Steel, the use of the corrosion protection primer IGP-KORROPRIMER 60 is mandatory for the necessary corrosion protection. The recommended Film thicknesses in the product-specific technical data sheet must be observed. The suitability of the pretreatment method used must always be checked in advance by the coater using suitable test methods. The processing guideline VR211 must also be observed.

Order organisation

If the coated objects are installed directly next to each other, we recommend determining the amount of powder required for coating the entire order and also planning a certain reserve in order to coat the entire order with one finished batch. This minimises production-related deviations in surface characteristics and differences in shade and effect. To determine the order quantities, it is essential to refer to the information in the technical data sheets on the recommended layer thicknesses.

For the use of coarsely ground articles of product groups 591T (labelled "-A81" at the end of the product key), the accuracy of fit of components to be joined together (clip or joint connection) should be checked in advance after coating with coarse ground sample powder. For this reason, when using coarse grinding powders "-A81" on façade components for the joining components, such as glass retaining strips, we recommend choosing an article of a similar colour with a finely textured surface (591TA and 591TC with the respective article endings set to "-R10" or "-A10" instead of "-A81").

If ordered at the same time (591TX-A81 or also 592SX-A81 with the fine structure 591TX-R10), the article variants can be produced in a practically coordinated manner.

Note: Due to the multi-component production process, these powder coating products and the coatings produced with them may be subject to visible deviations with regard to existing samples or already finished surfaces from previous batches.

Coating devices

Experience has shown that different results in terms of efficiency and optical surface properties can be achieved when applying with devices from different manufacturers (due to differing characteristics of the high-voltage generators).
Electrostatic parameters such as the level of the set high voltage, the setting of the current limiter (µA) or the use of ion-leakage rings can influence the charging behaviour and characteristics as well as the shade and effect formation of the inhomogeneous surface

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System and application technology requirements

The overview shows the processing requirements depending on the product selection in order to process IGP-*LivingSurfaces* appropriately.

Processing/processing group	A	D
Corona gun	yes	yes
Tribo gun all manufacturers	no	no
Required number of guns Visible surface performance* m² / gun / minute	≤ 0.6	≤ 0.4
Powder feed* Rod injector(a)	yes	yes
Powder feed* Suction unit / fluidising air(b)	yes	conditional
Powder conveying* Powder container / fluidisation(c)	yes	no
Processing in reclaiming mode	yes	no
Setting High voltage* (RV)	≥ 70	± 60
Setting Current limiter (µA)	80	80
Setting Powder output* (gr./min.)	130	170
Spray distance Gun / object (mm)	300	≥ 350
Screening capacity Mesh size > 400µm	Yes	no

Steel / galvanised substrate IGP-KORROPRIMER 60 mandatory	no	yes
Substrate Aluminium IGP-KORROPRIMER 60 or 591TA10 strongly recommended	no	Yes

Legend

*Visible surface performance = transport speed x coating height / number of guns / side

*Powder conveying = rod injector without fluidising air, suction unit with fluidising air, conveying via fluid container injector / venturi, DDF, HDLV, regardless of manufacturer

*High voltage = The high voltage parameters are guide values and must be adjusted depending on the manufacturer.

*Powder output (gr./min.) = The specifications are guide values and may vary depending on the system manufacturer.

Powder conveying

In principle, powder coating materials from the IGP-LivingSurfaces product range can be conveyed with all conveying equipment available on the market, such as Venturi injectors, piston pumps or vacuum pumps. Group D products are an exception. We generally recommend using rod injectors without fluidising air for processing these products; the conveying container must be vibrated. This conveying method guarantees a uniform surface structure over the entire coating process. "Conditionally", suction units with fluidising air can also be used for Processing Group D products.

For this purpose, powder boxes without a fluidising bed or with fluidising air switched off must be used. Vibration of the conveying container is necessary. Before starting coating, the fluidising air at the powder suction pipes must be set to a low level so that powder is conveyed on the one hand and powder in the container can flow out on the other. The suction unit must be retracted into the empty powder box to the lowest point on the floor. Once the suction unit has been moved into the powder box, it is filled ¾ full with powder. The coating process can now begin. During the coating process, fresh powder must be added manually on a continuous basis. The surface structure must be checked visually during the entire coating process using limit samples.

Reclaiming

Group A products can be processed in reclaiming mode. In this case, the reclaimed powder should be added to the fresh powder in a small proportion of approx. 15% (automatically if possible) and processed. Based on the manufacturing process of Group D products, which gives these products their unique look and feel, the powder coating materials can only be processed in loss mode. Screens that are integrated in the recovery unit (cyclone) or in the powder feed hopper must be removed from the system components for the coating process.

Mounting the parts

The mounting of the workpieces must be determined before coating (horizontal or vertical). The distances between the coating objects within the hanger as well as the distances between the hangers should be as small and even as possible. If the distances between the hangers are large, it is advisable to switch the guns on and off automatically via a parts detection system.

Curing

Depending on the melt viscosity, a change in the effect (visually recognisable as a difference in colour tone) can be provoked by the temperature control in the curing oven and the mass of the coated workpiece. As a result, different curing temperatures and heating speeds must be avoided, and thick and thin-walled parts must not be coated at the same time.

Resistance and technical data

These can be found in the relevant information sheets.