PROCESSING INSTRUCTION PG 213

IGP-*LivingSurfaces*

Extremely weather-resistant coating powder for **inhomogeneous varying surfaces.** Suitable for use in the field of architectural and industrial design.

IGP POWDER COATINGS

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A DOLD GROUP Company

Product Description

IGP-*LivingSurfaces* are powder coating materials from the IGP-HWF*classic* 59 series with energy-efficient curing conditions at temperatures of 170°C and above.

The extensive product range includes product groups with characteristic yet individual surfaces that exhibit a "lively" variance in terms of texture and/or colour composition. The certified products are based on saturated polyester resins with the associated hardeners and, as highly weather-resistant products, are ideally suited for applications in the architectural segment.

High resistance to climatic influences such as UV radiation, industrial emissions and other atmospheric components.

Application

For the coating of architectural elements as well as industrial design components that, in addition to exhibiting lively material character, are subject to high gloss and colour stability requirements.

Shades

Due to the limited volume of extremely weather-resistant pigments, the product portfolio only has a small amount of different shades with and without effect pigment in accordance with the special IGP colour range. Note: Due to the multi-component production, these powder coating products as well as the coats that are manufactured with these products may exhibit visible deviations from these samples or previously completed surfaces from earlier batches.

Processing groups

Processing group	Description	Characteristics / inhomogeneous surfaces
Group A	591TC-A11	Microtexture speckles, without effect pigment
	592SA-A10	Uni-colour wave pattern, without effect pigment
	592SC-A10	Wave pattern, uni-colour speckles, without effect pigment
Group B	592SEA10	Wave pattern with effect pigment
Group C		not applicable
Group D	592SC-A81*	Variable coarse grain structure, speckles with effect pigment
	591TA-A81*	Uni-colour fine plaster structure, without effect pigment
	591TC-A81*	Fine plaster structure, uni-colour speckles, without effect pigment

Legend: In combination with Product Group 591 / 592
* Application A81 = Special fluidisation and powder transport, coarse-grinding, also applies to A8F

Pre-treatment

Substrate pre-treatment
The substrate to be coated must be free from oxidation products as well as scale, oil or releasing agent residue.

Aluminium substrate

Chrome-free pre-treatment:	Preferably GSB and Qualicoat tested systems
Chromatising:	DIN EN 12487
Pre-anodisation:	Also available

A similarly shaded fine structure IGP HWFclassic 591TA R10 with standard milling is strongly recommended as a primer when using products bearing article label "A81" as a fine plaster structure on aluminium. IGP corrosion protection primer IGP ANTI-CORROSIVE PRIMER 60 can also be used as a primer. The individual technical data sheet for the primer selected must be consulted. Processing Instruction VR211 must also be taken into consideration when using IGP ANTI-CORROSION PRIMER 60.

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Steel substrate
Zinc (Zn) or iron (Fe) phosphating
Galvanised metal sheet: Chromatising according to DIN EN 12487

The IGP-KORROPRIMER 60 corrosion protection primer is recommended for use on steel / galvanised steel in order to achieve improved corrosion protection.
For this reason, when coating facade components with coarsely-ground "A81" powders for joint components such as glass retaining strips, we therefore recommend using a similarly shaded article with a finestructured surface (591TA and 591TC with the individual article suffix "R10" or "A10" instead of "A81").

If ordered at the same time (591TX-A81 or even 592SX-A81 with the fine structure 591TX-R10), the article versions can be practically produced simultaneously and synchronised with each other.

Project organisation

If the coated objects are installed directly adjacent to each other, we recommend determining the required powder amount for the entire order and planning a certain reserve in order to coat the entire application with a single produced batch. This minimises production-related deviations in terms of surface characteristics as well as differences in terms of shade and effect when dealing with effect-pigmented products. The information stated in the technical data sheets regarding the recommended coating thicknesses must be used when determining the order amounts.

When using coarsely-ground articles from Product Groups 591T or 592S (bears the suffix "-A81" at the end of the product key), a test for the accuracy of fit following coating should be performed in advance using coarsely-ground sample powder when dealing with components that will be connected to each other (clips or joint connection).
When coating façade components with coarsely-ground "-A81" powders for the joint components such as glass retaining strips, we therefore recommend using a similarly shaded article with a **fine-structured surface** (591TA / 591TC / 591TE or 591TV with the respective article suffix of "-A10" instead of "-A81").

If ordered at the same time (591TX-**A81** or even 592SV-**A81** with the fine structure 591TX-**A10**), the article versions can be practically produced simultaneously and synchronised with each other.

Coating equipment

Experience has demonstrated that varying results in terms of efficiency and the visual surface characteristics can be generated when applying the product using devices from various manufacturers (due to the varying characteristic curves generated by the high-voltage generators). Electrostatic parameters such as the level of the applied high voltage, the current limiter setting (µA) or the utilisation of ion-leakage rings can significantly impact the charging behaviour and the characteristics as well as the shade and effect formation of the inhomogeneous surface.

Processing

When processing IGP-*LivingSurfaces*, we recommend using Corona guns with a negative polarity electrostatic charge. Flat spray nozzles should be used for automatic and hand-held guns. It is not necessary to restrict the spray current to < 80 µAmpere. The utilisation of ion-leakage rings, especially when dealing with fine-structured surfaces, can have a positive impact on the structure uniformity.
Ion-leakage rings usually generate a lighter surface when dealing with effect pigment products. Processing can be performed manually or using automatic plants in an automatic or semi-automatic coating process.
When using the semi-automatic coating method, we recommend performing the necessary manual application as a preliminary coat. The speed of the stroke devices must be adapted to the transport speed (harmonised sinusoid guns) when coating using a long stroke method.
The stroke height must be adapted to the gun distance (harmonised gun turning points) when coating using the short stroke method.
Processing the entire order in different cabins should be avoided. No changes to the coating plant processing or application parameters may be made when processing a certain consignment.
If it is determined that plant data / application parameters are ideal, they must be documented and observed.
Automatic coating should always take precedence over manual coating.
When dealing with objects to be coated on both sides (e.g. profiles), the side that will be primarily visible should be coated last.
In principle, the following applies for the processing groups:

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Group A:
These products can be processed using all conventional coating plants with corona charging. Operating in recycling mode is permitted.

Group B:
These products can be processed using all conventional coating plants with corona charging. The effect product should not be operated in recycling mode. However, in the event that recycling mode is used, the ratio of fresh powder to recycled powder must not exceed 85/15.

Group C:
not applicable

Group D:
In principle, products with a fine plaster look are more coarsely-ground and, therefore, may only be applied with a vibrated powder container without fluidising air (bears the suffix A81 at the end of the product key). More detailed information is available in the section entitled "Powder feeding". The product should not be operated in recycling mode due to the special screening curve.
A primer as described in the "Aluminium substrate" / "Steel substrate" section must be used when utilising these products. Due to the necessary application-related requirements, an increased level of manual preliminary / follow-up coating must be taken into consideration on interior angles and similar locations.

Detailed specifications regarding the application parameters of the individual processing groups can be found in the following table entitled "Plants and application-related requirements".

Plants and application-related requirements

The overview demonstrates the processing-related requirements in association with the product selection in order to process IGP-*LivingSurfaces* in line with the process.

Product group	591TC-A11	592SA-A10	592SC-A10	592SE-A10	591TA-A81	591TC-A81	591TV-A81
Processing group / Processing	A	A	A	B	D	D	D
Corona gun	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tribo gun All manufacturers	No	No	No	No	No	No	No
Required number of guns Visible surface rating* m^2 / gun / minute	≤ 0.6	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.4	≤ 0.4	≤ 0.4
Powder transport* Rod injector[a]	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Powder transport* Suction unit / fluidising air[b]	Yes	Yes	Yes	Yes	Under certain conditions	Under certain conditions	Under certain conditions
Powder transport* Powder container / fluidisation[c]	Yes	Yes	Yes	Yes	No	No	No
Processing in recycling mode	Yes	Yes	Yes	No	No	No	No
Settings for high voltage*	≥ 70	≥ 70	≥ 70	≥ 70	± 60	± 60	± 60
Settings for current limiter	80	80	80	80	80	80	80

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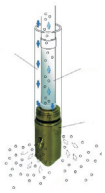
Product group	591TC-A11	592SA-A10	592SC-A10	592SE-A10	591TA-A81	591TC-A81	591TV-A81
Processing group / Processing	A	A	A	B	D	D	D
Powder output setting* (gr./min.)	130	140	140	140	170	170	170
Spraying distance Gun / object (mm)	300	300	350	350	≥ 350	≥ 350	≥ 350
Screening capability Screen mesh > 400 µm	Yes	Yes	Yes	Yes	No	No	No
Steel / galvanised substrate IGP KORROPRIMER 60 essential	No	No	No	No	Yes	Yes	Yes
Aluminium substrate IGP KORROPRIMER 60 or. 591T-A10 strongly recommended	No	No	No	No	Yes	Yes	Yes

Legend

***Visible surface rating**

= $\frac{\text{Transport speed x coating height}}{\text{Number of guns / side}}$

***Powder transport**



a) Rod injector without fluidising air

b) Suction unit with fluidising air

c) Transport via fluid container– Injector / Venturi, DDF, HDLV, irrespective of the manufacturer

Application ***high voltage**

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

***Powder output** (gr./min.)

= The values are guide values and can vary depending on the plant manufacturer.

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Powder feeding

In principle, powder coating materials from the IGP-*LivingSurfaces* product range can be transported with all of the transport devices available on the market such as Venturi injectors, piston/vacuum pumps.
Group C and D products are the exception to this rule. When processing these products, we recommend using rod injectors without fluidising air, the conveying container must be vibrated. The transport method ensures a uniform surface structure across the entire coating sequence.
Suction units with fluidising air can also be used for the processing of Group C and D products "under certain conditions".
For this purpose, powder boxes without a fluidising bed / with switched off fluidising air must be used. A vibration of the conveying container is necessary. Before the coating starts, the fluidising air located on the powder intake pipes, is to be set to a low level so that on the one hand, powder is conveyed and, on the other hand, powder which is located in the container can flow. The exhaust unit must be retracted into the empty powder box to the lowest point on the bottom. After retraction of the exhaust unit in the powder box, the box is filled with powder to ¾ full. The coating can now be started. During the coating process, a manual subsequent addition with fresh powder must take place continuously. The surface structure must be subject to constant visual examination using limiting samples throughout the entire coating process.

Recycling

The Group A products can be processed in recycling mode. In doing so, small amounts of recycled powder amounting to approx. 15% should be added to the fresh powder (automatically where possible) and processed. These powder coating materials can only be processed in loss mode due to the manufacturing process of Group B, C and D products that give these products that unique visual appearance and feel. Screens that are integrated into the recycling unit (cyclone) or the powder conveying container must be removed from the plant components for the coating process.

Suspension of the parts

The suspension of the parts must be determined prior to coating (horizontal or vertical). The intermediate spacing between the coating objects within the hangers as well as the spaces between the hangers must be kept as low and even as possible. If there are large distances between the hangers, it is advisable to automatically switch the guns on and off via a parts detection system.

Curing

Depending on the melt viscosity, the temperature management in the stoving oven and the mass of the coated components may cause a change in the effect (visually apparent as a difference in shade). This means that varying curing temperatures and heating speeds must be avoided. Furthermore, thick and thin-walled parts must be coated separately.

Resistances and technical data

This information can be found in the the respective data sheets.

Note:
This processing-related consulting is provided to the best of knowledge. However, it only represents non-binding information and does not release the user from the need to perform their own tests.
Application, use and processing of the products take place beyond our control and are therefore exclusively the responsibility of the user.