

IGP-LivingSurfaces

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

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A Member of the DOLD GROUP

Product description

IGP-LivingSurfaces are powder coating materials from the IGP-HWFclassic 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 with a vibrant variance in terms of texture and/or color 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 architecture.

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

Application

For coating architectural elements as well as industrial design components that require not only a vibrant material character, but also high gloss and color stability.

Shades

Due to the limited selection of highly weather-resistant pigments available, the IGP product portfolio only features a small number of shades with and without effect pigment from the special IGP color range. Please note: Due to their multi-component composition, these powder coating products as well as the coats produced with them may exhibit visible deviations from these samples or previously completed surfaces from earlier batches.

Processing groups

Processing group	Designation	Characteristics / inhomogeneous surfaces
Group A	591TC-A11	Microtexture speckles, without effect pigment
	592SA-A10	Uni-color wave pattern, without effect pigment
	592SC-A10	Wave pattern, uni-color speckles, without effect pigment
Group B	592SE-A10	Wave pattern with effect pigment
Group C		no longer available
Group D	592SC-A81*	Variable coarse structure, uni-color speckles; coarsely ground
	591TA-A81*	Uni-color fine plaster structure, without effect pigment
	591TC-A81*	Fine plaster structure, uni-color speckles, without effect pigment

Legend:

In combination with Product Group 591 / 592

* Application A81 = special fluidization and powder feeding, coarsely ground, also applies to A8F and A8X gloss finishes

Pre-treatment

Substrate pre-treatment

The substrate to be coated must be free from oxidation products as well as scale, oil or releasing agent residues.

Aluminum substrate

Chrome-free pre-treatment: Ideally, use approved systems from GSB and Qualicoat
Chromatizing: DIN EN 12487
Pre-anodization: Also possible

A similarly shaded fine structure IGP-HWFclassic 591TA R10 with standard grinding is strongly recommended as a primer when using products with the article labels "-A81" and "-A8X" as a fine plaster structure on aluminum.

IGP corrosion protection primer IGP-KORROPRIMER 60 can also be used as a primer. Always consult the specific technical data sheet for the primer you use. Also follow Processing Instruction VR211 when using IGP-KORROPRIMER 60.

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Steel substrate

Zinc or iron phosphating
Galvanized sheet metal: chromating in accordance with DIN EN 12487

IGP-KORROPRIMER 60 anti-corrosive primer is essential in order to achieve sufficient corrosion protection when using products with the article labels "-A81" or "-A8X" as a fine plaster structure on steel. The recommended coating thicknesses stated on the product's technical data sheet must be taken into account. The coater must always test the suitability of the pre-treatment method in advance using appropriate test methods.

Project organization

If the coated objects are installed directly adjacent to each other, we recommend that you determine the required powder amount for the project and plan a certain reserve to ensure you can coat the entire project with product from a single batch. This minimizes production-related deviations in surface characteristics as well as differences in shade and effect when using effect-pigmented products. The information stated in the technical data sheets regarding the recommended coating thicknesses must be used to determine the order amounts.

When using coarsely-ground articles from product groups 591T or 592S (suffix "-A81" or "-A8X" at the end of the product key) on components that will subsequently be connected (clip or joint connection), first test for the accuracy of fit after coating with coarsely ground sample powder. For this reason, if you coat façade components with coarsely-ground "-A81" powders, we recommend coating connecting components such as glass retaining strips using a similarly shaded article with a **finely structured surface** (591TA and 591TC with the article suffix "-R10" or "-A10" instead of "-A81").

If you order coarsely ground products and finely ground structured variants in the same shade together, the article versions can be produced in a matching shade.

For example: coarse structure 591TA90050A81 and fine structure 591TA90050R10.

Coating equipment

Experience has shown that varying results in terms of efficiency and visual surface characteristics can be generated when applying the product using devices from different 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 utilization of ion-leakage rings can impact the charging behavior and the characteristics as well as the shade and effect formation of the inhomogeneous surface.

Processing

For processing IGP-LivingSurfaces, we recommend using corona guns with a negative polarity electrostatic charge. Use flat spray nozzles for automatic and hand-held guns. It is not necessary to restrict the spray current to $< 80 \mu\text{A}$. Using ion-leakage rings, especially when coating fine-structured surfaces, can have a positive impact on the structure uniformity.

Ion-leakage rings usually generate a lighter surface with effect pigment products. Processing can be performed manually or using automatic plants in an automatic or semi-automatic coating process. If you use 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 feeding speed (harmonized sinusoid guns) when coating using the long stroke method.

The stroke height must be adapted to the gun distance (harmonized gun turning points) when coating using the short stroke method. Avoid processing one order in different cabins. Do not make any changes to the coating plant processing or application parameters when processing a single consignment.

If you determine that plant data / application parameters are ideal, document and observe them without fail.

Automatic coating should always be preferred over manual coating. When dealing with objects to be coated on both sides (e.g. profile sections), the side that will be primarily visible should be coated last.

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The following applies for the processing groups:

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. Ideally, the effect product should not be operated in recycling mode. However, if recycling mode is used, the ratio of fresh powder to recycled powder must not exceed 85/15.

Group C:

no longer available

Group D:

Generally, products with a fine plaster look are more coarsely ground and, therefore, may only be applied with a vibrated powder container without fluidizing air (suffix "-A81" or "-A8X" 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.

As described in the "Aluminum or steel substrates" section, you must use a primer when utilizing 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 in similar places.

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

Plants and application-related requirements

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

Product group	591TC-A11	592SA-A10	592SC-A10	592SE-A10	591TA-A81	591TC-A81	592SC-A81
Processing group	A	A	A	B	D	D	D
Corona gun	Yes	See VR 202 coarse structure and hammer effects	See VR 202 coarse structure and hammer effects	See VR 202 coarse structure and hammer effects	Yes	Yes	Yes
Tribo gun All manufacturers	No				No	No	
Required number of guns Visible surface rating* m ² / gun / minute	≤ 0.6				≤ 0.4	≤ 0.4	≤ 0.4
Powder feeding* Rod injector ^(a)	Yes				Yes	Yes	
Powder feeding* Suction unit / fluidizing air ^(b)	Yes				Under certain condi-	Under certain condi-	Under certain condi-
Powder feeding* Powder container / fluidization ^(c)	Yes				No	No	No
Processing in recycling mode	Yes				No	No	No
High voltage setting*	≥ 70				± 60	± 60	± 60
Current limiter setting	80				80	80	80

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Product group	591TC-A11	592SA-A10	592SC-A10	592SE-A10	591TA-A81	591TC-A81	592SC-A81
Processing group	A	A	A	B	D	D	D
Processing							
Powder output setting* (g/min)	130	See VR 202 coarse structure and hammer effects	See VR 202 coarse structure and hammer effects	See VR 202 coarse structure and hammer effects	170	170	170
Spraying distance Gun / object (mm)	300				≥ 350	≥ 350	≥ 350
Screening capability Screen mesh > 400 µm	Yes				No	No	No
Steel / galvanized substrate IGP-KORROPRIMER 60 essential	No				Yes	Yes	Yes
Aluminum substrate IGP-KORROPRIMER 60 or 591T-A10 strongly recommended	No				Yes	Yes	Yes

Legend

*Visible surface rating



= $\frac{\text{Feeding speed} \times \text{coating height}}{\text{Number of guns / side}}$

*Powder feeding



a) Rod injector without fluidizing air

b) Suction unit with fluidizing air



c) Feeding 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 (g/min) plant manufacturer.

= The values are guide values and can vary depending on the

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Powder feeding

Generally, powder coating materials from the IGP-LivingSurfaces product range can be conveyed with all of the feeding devices available on the market such as Venturi injectors, piston or vacuum pumps. Group D products are the exception to this rule. For these products, we recommend using rod injectors without fluidizing air, the conveying container must be vibrated. This feeding method ensures a uniform surface structure across the entire coating process. Suction units with fluidizing air can also be used for processing Group D products "under certain conditions".

For this purpose, powder boxes without a fluidizing bed or with switched off fluidizing air must be used. Vibration of the conveying container is necessary. Before starting the coating process, set the fluidizing air, located on the powder intake pipes, to a low level so that powder is conveyed and powder 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 into the powder box, the box is filled with powder to $\frac{3}{4}$ full. You can now start coating. During the coating process, a manual subsequent addition with fresh powder must take place continuously. Throughout the entire coating process, constantly check the surface structure using limiting samples.

Recycling

Group A products can be processed in recycling mode. For this, small amounts of recycled powder amounting to approx. 15% should be added to the fresh powder (automatically where possible) and processed. For Group B products, we recommend processing in loss mode to achieve stable and even surface characteristics. If you do process in recycling mode, do not exceed a share of approx. 15% recycled powder in the powder cycle. We recommend first making limiting samples. These powder coating materials can only be processed in loss mode due to the manufacturing process of Group D products that give these products their 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 (horizontal or vertical) must be determined prior to coating. The intermediate spacing between the coating objects within the hangers as well as the spaces between the hangers must be kept as small and regular 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 component 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 respective data sheets.

Note:

This processing information is provided to the best of our 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.