IGP POWDER COATINGS

59

Technical data sheet

IGP-HWF*smart* 591TU-L1

Deep matte, fine-textured low-cure effect powder coating on polyester base with superdurable weather resistance, energy-efficient curing and enhanced surface robustness; produced with IGP-Effectives® technology.

Characteristics

- Deep matte
- Fine texture
- IGP-Effectives®
- Super durable facade quality, 3 years Florida > 50% residual gloss
- Lower cure
- More robust & pliable

Material approvals

- GSB 109 a - Florida 3
- Part of QSC-System
- Qualicoat Nr. P-2133, class 2
- AAMA 2604-13, independent test report
- EPD IGP-HWFsmart 59

Powder properties

Particle size:	< 100 µm
Solids:	> 99 %
Density:	1.2 kg/l-1.6 kg/l
Suitability for storage:	min. 36 months at ≤ 25 °C in an unopened original container
Color tones:	RAL Metallic and individual metallic colors on request

Processing

Pre-treatment

The substrate must be free from oil, grease and oxidation products. The pretreatment depends on the type of substrate and the corrosion protection to be achieved. We recommend the following pretreatments:

Aluminium

- Chromating according to DIN EN 12487
- Pre-anodization
- Chrome-free pretreatment according to GSB International and QUALICOAT specifications

Steel

- Zinc phosphating

Galvanised steel
- Zinc phosphating
- Chrome (III) passivation
- Chromating according to DIN EN 12487

For improved corrosion protection for applications on steel / galvanised steel, the use of corrosion protection primer IGP-KORROPRIMER 10 or IGP-KORROPRIMER 60 is recommended.

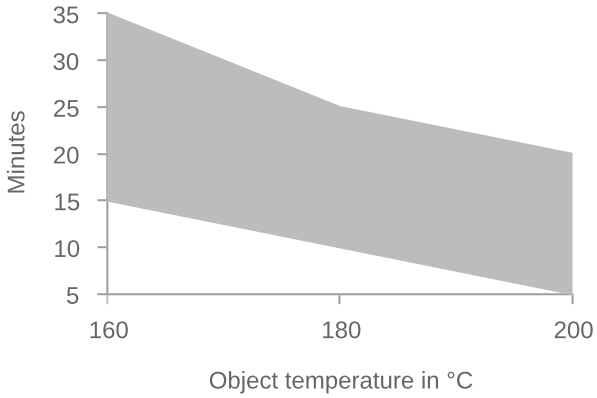
The suitability of the pretreatment method used is generally to be tested by the coater in advance with appropriate test methods. The minimum requirement for aluminium substrates / galvanised steel components is to carry out a boiling water test with a subsequent cross-cut adhesion and tape test. We refer to the guidelines of the GSB International, Qualicoat and Qualisteelcoat certifications. For further information: see also our special leaflet on pre-treatment (IGP-TI 100).

Coating devices
All conventional electrostatic systems with corona charging.
For the construction and operation of powder coating plants, the following regulations must be complied with: ATEX RL 2014/34/EU, EN 50177, DIN EN 16985.

Recommended film thickness
60 µm - 80 µm

To achieve a uniform finish with textured coatings, or where there are colour- or product-specific differences in hiding power, higher film thicknesses may be required. The relevant processing guidelines must be followed. To estimate the quantity of powder coating required in advance, the necessary Film thickness must be determined on a product-by-product basis.

Curing conditions



T_{Object}	t_{min}	t_{max}
160 °C	15 minutes	35 minutes
180 °C	**10 minutes**	**25 minutes**
200 °C	5 minutes	20 minutes

In order to determine ideal curing conditions, we recommend practical trials with the respective object and curing oven.

Application
For an optimal coating and surface quality, please refer to the effect category on the container label and the recommendations in the processing guideline VR201.2.
For fine-textured powders, please also refer to the recommendations in the processing guideline VR214.

Reclaimability
Due to the high bonding rate of powder grain and effect agent, the powder can be charged much more uniformly compared to other effect finishing processes. As a result, the powder can be processed with a significantly increased recovery rate. Please also refer to the IGP processing guideline for IGP-Effectives® powder coatings: VR201.2

Film properties

Tested on

Substrate:	Aluminum (AlMg1), 0.8 mm chrom-free
Film thickness:	60 µm - 80 µm
Object temperature:	180 °C, 10 min.

Appearance		
Gloss level	3-13 R'/60°	DIN EN ISO 2813 2015-02

Mechanical tests		
Cross-cut adhesion test	Gt 0	DIN EN ISO 2409 2020-12
Mandrel bending test / Tape test	≤ 5 mm	DIN EN ISO 1519 2011
Impact test / Tape test	≥ 20 inchp.	ASTM D 2794 1993
Erichsen cupping / Tape test	≥ 5 mm	DIN EN ISO 1520 2007-11
Buchholz hardness	≥ 80	DIN EN ISO 2815 2003-10 (Anhang A)

Weathering tests		
3 years Florida, 5° south	> 50 % residual gloss	DIN EN ISO 2810 2021-01
Xenon-arc lamps, 1000h, 90%	> 90 % residual gloss	DIN EN ISO 16474-2 2014-03
QUV-SE-B-313, 600h	> 50 % residual gloss	DIN EN ISO 16474-3 2014-03

Corrosion tests		
Acetic acid salt spray test, 1000h	No infiltration, no blisters	DIN EN ISO 9227 2017-07
Condensation water test, 1000h	No infiltration, no blisters	DIN EN ISO 6270-2 2018-04

Chemical tests		
Mortar resistance	Easily removable after 24h with no residues.	ASTM D 3260 2001

Further information

Packaging
20 kg cardboard box with inserted antistatic PE liner

Overcoating suitability
Preliminary tests are mandatory for overcoating painted surfaces.

Printing and glueing
Preliminary tests are mandatory for printing and glueing of painted surfaces.

Protection of coated parts
Coated parts should be packed after cooling with suitable materials without plasticizers. They should be stored protected from the weather to avoid the formation of condensation and thus water spots on the coating.

Cleaning
The coated parts must be cleaned according to the directives RAL-GZ 632 or SZFF 61.01. Technical Information IGP-TI 106 must also be observed when dealing with pearl mica effects.

Paint removal and disposal
After use, coated goods should be supplied to the normal recycling process. The disposal methods for sludges or residual powders must be observed in accordance with the local official provisions whilst taking Waste Code "080201 Coating Powder Wastes" in accordance with the European Waste Catalogue into consideration.

This application-related advice is given to the best of our knowledge. However, this information is non-obligatory and does not exempt you from carrying out your own tests. Application, use and processing of these products are beyond our control and are therefore on your responsibility.

Consult the Safety Data Sheet prior to use. Article-specific safety data sheet and comprehensive risk management measures available at: **igp-powder.com**