IGP POWDER COATINGS

56

Technical data sheet

IGP-DURA®*one* 5603E-A1

Matte, smooth flowing low-cure powder coating with good weather stability based on saturated polyester and declaration-free hardener.

Characteristics

- Matte
- Smooth finish
- Pearl mica
- Standard facade quality,
  1 year Florida > 50% residual gloss
- Lower cure

Material approvals

- GSB 173 d - Florida 1
- Qualicoat Nr. P-2119, class 1
- Qualicoat Nr. P-2115, class 1
- QSC ST2 PE-0015/IGP-KORROPRIMER 1001
- QSC ST2 PE-0016/IGP-KORROPRIMER 6007
- QSC ST2 PE-0206/IGP-KORROPRIMER 1808
- QSC HD2 PE-0017/IGP-KORROPRIMER 1001
- QSC HD2 PE-0018/IGP-KORROPRIMER 6007
- QSC MS2 PE-0074/IGP-KORROPRIMER 1001
- QSC HD1 PE-0160
- EPD IGP-DURA®one 56
- AAMA 2603-22, independent test report

Powder properties

Particle size:	< 100 µm
Solids:	> 99 %
Density:	1.3 kg/l-1.6 kg/l
Suitability for storage:	min. 24 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, IGP-Korroprimer 18 or IGP-KORROPRIMER 60 is recommended.

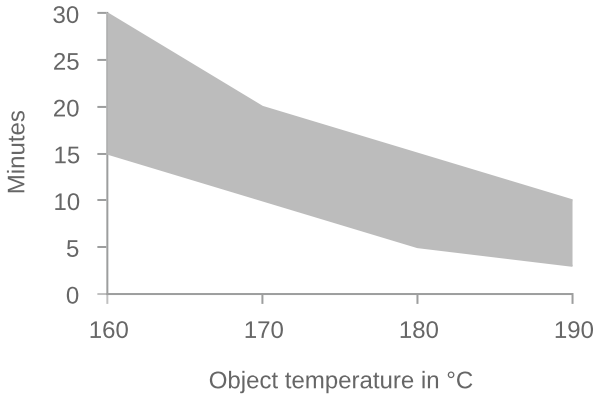
The suitability of the pretreatment method used is generally to be tested by the coater in advance with appropriate test methods. The minimum requirement for aluminium substrates / galvanised steel components is to carry out a boiling water test with a subsequent cross-cut adhesion and tape test. We 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

A homogeneous coating result with textured paints or colour or article-specific differences in hiding power may require higher Film thicknesses. The corresponding processing guidelines must be observed.
For a preliminary calculation of the required powder coating quantity, the required Film thickness must be determined for each specific article.

Curing conditions



T_{Object}	t_{min}	t_{max}
160 °C	15 minutes	30 minutes
170 °C	**10 minutes**	**20 minutes**
180 °C	5 minutes	15 minutes
190 °C	3 minutes	10 minutes

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

For further information on gloss & overbake stability, please refer to IFO report 42420. Please contact your IGP representative.

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 VR201.1.

Reclaimability
To prevent colour variations caused by loss of effect during coating, pearlescent mica products should be processed without reclaiming. In the case of automated coating with an appropriate batch size, a certain quantity of reclaimed powder may be added, depending on the shade's categorisation. Please refer to the effect category on the container label and processing guideline VR201.1.

Film properties

Tested on

Substrate:	Aluminum (AlMg1), 0.8 mm chrom-free
Film thickness:	60 µm - 80 µm
Object temperature:	170 °C, 10 min.

Appearance

Gloss level	25-35 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	≤ 5 mm	DIN EN ISO 1519 2011
Impact test	≥ 20 inchp.	ASTM D 2794 1993
Erichsen cupping	≥ 5 mm	DIN EN ISO 1520 2007-11
Buchholz hardness	≥ 80	DIN EN ISO 2815 2003-10 (Anhang A)

Weathering tests

Xenon-arc lamps, 1000h	> 50 % residual gloss	DIN EN ISO 16474-2 2014-03
QUV/SE-B-313, 300h	> 50 % residual gloss	DIN EN ISO 16474-3 2014-03
1 year Florida, 5° south	> 50 % residual gloss	DIN EN ISO 2810 2021-01

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

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**