IGP POWDER COATINGS

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Technical data sheet

IGP-DURA®*xal* 4601U-L1

Durable deep matte powder coating for premium design objects, featuring a velvety anodized aluminum-like finish. Manufactured with IGP-Effectives® technology for superior effect stability.

Characteristics

- Deep matte
- Smooth finish
- IGP-Effectives®
- Industrial outdoor quality
- Lower cure

Powder properties

Particle size:	< 100 µm
Solids:	> 99 %
Density:	1.3 kg/l-1.6 kg/l
Suitability for storage:	min. 12 months at ≤ 25 °C in an unopened original container
Color tones:	Based on the IGP-Effectives® colour register, which is available on request from your sales organisation. The purchase of specific customer shades, which are refined in the IGP-Effectives® process, is possible after a feasibility check and agreement of minimum quantities.

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.

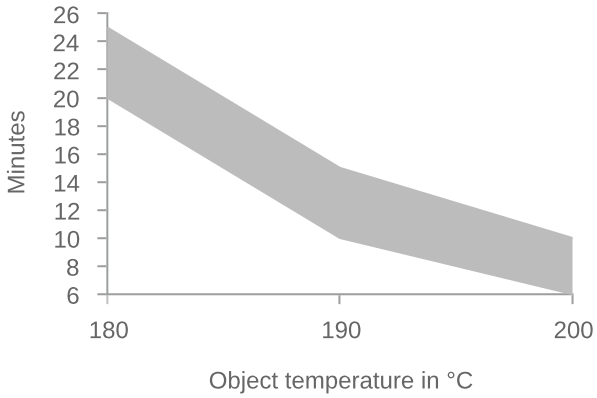
The suitability of the pretreatment method used is generally to be tested by the coater in advance with appropriate test methods. The minimum requirement for aluminium substrates / galvanised steel components is to carry out a boiling water test with a subsequent cross-cut adhesion and tape test. We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

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}
180 °C	20 minutes	25 minutes
190 °C	**10 minutes**	**15 minutes**
200 °C	6 minutes	10 minutes

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

Application
IGP processing instruction for “IGP-DURA®xal”: VR207.2.

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), 0.8mm, chromated
Film thickness:	60 µm - 80 µm
Object temperature:	190 °C, 10 min.

Appearance

Gloss level	0-12 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	≥ 2.5 Nm	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

QUV/SE-B-313, 300h	> 50 % residual gloss	DIN EN ISO 16474-3 2014-03

Corrosion tests

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

Further information

Packaging
20 kg cardboard box with inserted antistatic PE liner
500 kg cardboard container with 25 antistatic PE-liners each 20kg

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**