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IGP Powder Coatings

TDS IGP-DURA®xal 4601E-L3|240424|v1.2

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**

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Technical data sheet

IGP-DURA®xal 4601E-L3

Deep matt, weather-resistant powder coating with a velvety elegance for top-quality design objects, also available as transparent and varnishing versions.



Characteristics

- Deep matte
- Smooth finish
- Pearl mica
- Premium
- Industrial outdoor quality
- lower cure



Powder properties

Particle size:

Solids:

Density:
Suitability for storage:
< 100 µm
> 99 %
1.3 kg/l-1.6 kg/l
min. 18 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.

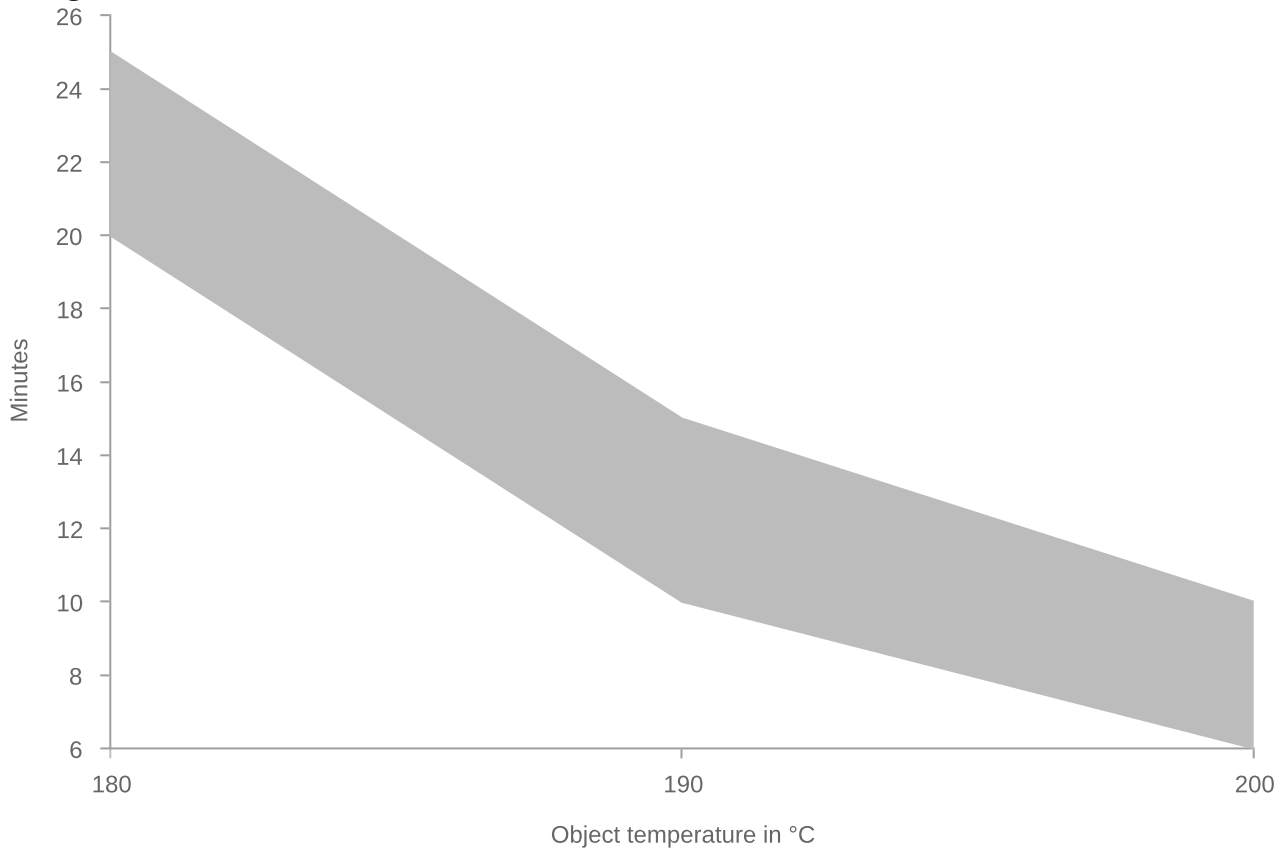
Recommended film thickness

60 µm - 80 µm

A homogeneous coating result with textured coatings or article-and color specific differences in hiding power may require higher coating thicknesses. The corresponding processing guidelines must be observed.

For a pre-calculation of the required powder coating quantity, the necessary coating thickness must be determined for each 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

Small portions of recovered powder can be added, automatically if possible, to the fresh powder.

Important: Keep overspray to an absolute minimum. Processing instruction VR201.1 must be observed.



Film properties

Tested on

Substrate:
Aluminum (AlMg1), 0.8 mm chrom-free
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 / Tapetest
≤ 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
Weathering
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

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.