IGP Powder Coatings
TDS IGP-DURA®xal 4201U-L1|240424|v2.1

Technical data sheet

IGP-DURA®*xal* 4201U-L1

Super-durable, effect containing coating powder for deep matt surfaces, produced with IGP-Effectives® technology for maximum effect stability.

Characteristics

- Deep matte
- Smooth finish
- IGP-Effectives®
- Super durable façade quality, 3 years Florida > 50% residual gloss
- Lower cure
- Touchproof

Material approvals

- Qualicoat Nr. P-1909, class 2
- AAMA 2604-13, independent test report

Powder properties

Particle size:
< 3.94 mil
Solids:
ca. 99 %
Density:
10.01 lb/gal-13.35 lb/gal
Suitability for storage:
min. 18 months at ≤ 77 °F
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:
Aluminum

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

Steel

- Zinc phosphating

Galvanized steel

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

For improved corrosion protection for applications on steel / galvanized 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 aluminum substrates / galvanized 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

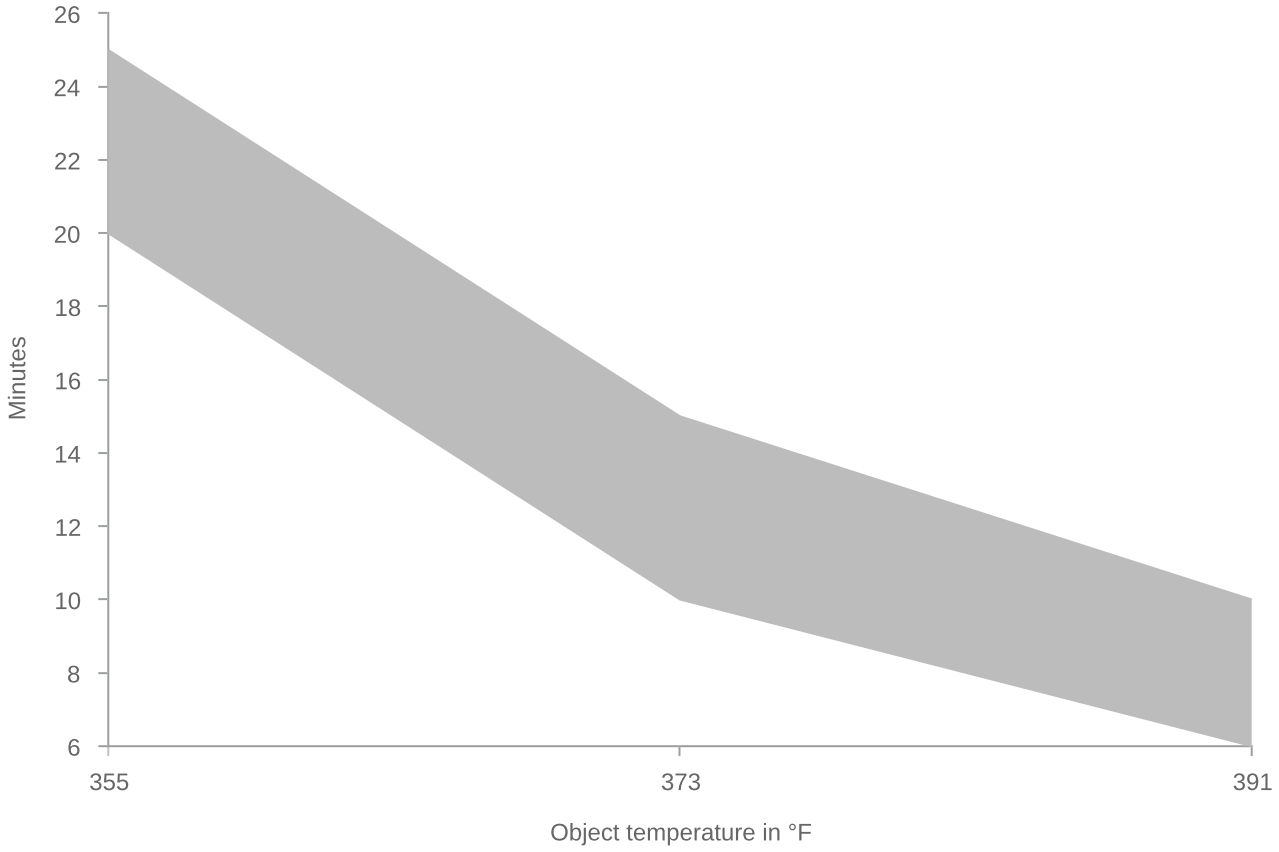
All conventional electrostatic systems with corona charging. For the construction and operation of powder coating plants, the following regulations must be complied with: ATEX RL 2014/34/EU, EN 50177, DIN EN 16985.

Recommended film thickness

2.36 mil - 3.15 mil

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}
356 °F	20 minutes	25 minutes
374 °F	10 minutes	15 minutes
392 °F	6 minutes	10 minutes

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

Application

IGP processing instruction for “IGP-DURA®xal”: VR 207.2.

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: VR 201.2

Film properties

Tested on
Substrate:
Aluminum (AlMg1), 0.8 mm chromium-free
Film thickness:
2.36 mil - 3.15 mil
Object temperature:
374 °F, 10 min.
Appearance
Gloss level
3-11 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
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
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

More 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.