

## 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 flow
- Pearl mica
- Mica Bond
- Standard facade quality,  
1 year Florida > 50% residual gloss
- lower cure



## Material approvals

- Qualicoat Nr. P-1795, class 1
- GSB 173 d - Florida 1
- QSC ST2 PE-0015/IGP-KORROPRIMER 1001
- QSC ST2 PE-0016/IGP-KORROPRIMER 6007
- QSC HD2 PE-0017/IGP-KORROPRIMER 1001
- QSC HD2 PE-0018/IGP-KORROPRIMER 6007
- QSC MS1 PE-0074/IGP-KORROPRIMER 1001
- QSC HD1 PE-0160



## 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<br>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.

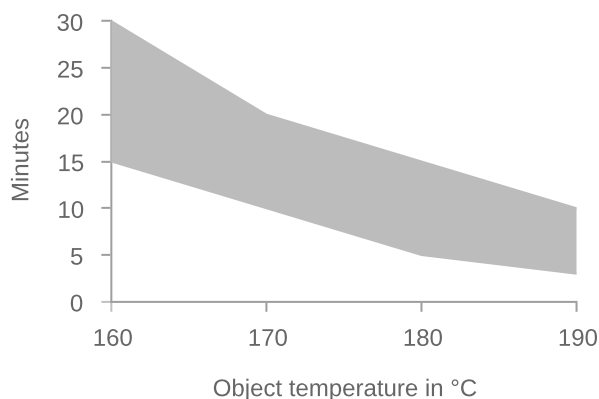
For the construction and operation of powder coating plants, the following regulations must be complied with: ATEX RL 2014/34/EU, EN 50177, DIN EN 16985.

## 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             |
|---------------|-------------------|-------------------|
| 160 °C        | 15 minutes        | 30 minutes        |
| <b>170 °C</b> | <b>10 minutes</b> | <b>20 minutes</b> |
| 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.

## 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: | 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 |

### Weathering

|                          |                       |                            |
|--------------------------|-----------------------|----------------------------|
| 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

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](https://www.igp-powder.com)**