



IGP-DURA®*mix* 381M

Low temperature – fine structure
for indoor use



This highly-reactive, matte, polyester and epoxy resin-based coating powder enables curing temperatures starting at 130°C. IGP-DURA®*mix* 381MA is suitable for coating aluminium and steel, and, after testing, also for MDF, glass, plastics and similarly heat-sensitive substrates.

Technical Data Sheet

Characteristics

- highly creative
- good mechanical properties
- good resistance to light (indoor use)
- hard and scratch-proof surface
- excellent abrasion resistance
- resistance against dry and damp heat

Applications

- kitchen furniture
- bathroom furniture
- cover panels
- glass panels
- metal furniture
- fibre glass-reinforced plastics
- MDF wood fibre board
- heat-sensitive substrates

Product range

Surface appearance:

- **381M**, fine structure, matte
- Gloss level, DIN EN ISO 2813: 5-30 R'/60°

Shades

Principally RAL and NCS shades; special custom shades by arrangement.

Powder specifications

- Particle size: < 100 µm
- Solids: > 99%
- Density based on shade: 1.2 – 1.6 kg/l
- Storage stability: at least 6 months
- Storage temperature: < 25° C

The durability can be extended by continuously lowering the storage temperature.

Packaging

- Carton with antistatic PE bag liner, capacity 20 kg, net.
- Carton container with 25 antistatic PE liner bags, capacity 500 kg, net.

Ask about additional packaging materials that are thermally-resistant for transport.



IGP-DURA®mix 381M

Processing instructions

Pre-treatment of metal

The substrate to be covered must be free of oxidation products, scale, oil, fat or release agent residue.

- Aluminium, either de-greasing or chromatising in accordance with DIN EN ISO 12944, depending on intended use.
- Steel or zincor sheet metal, either de-greasing or iron phosphating, depending on intended use.

Pre-treatment of glass

To improve adhesion, a thorough cleaning and a subsequent „silica coating“ of the surface to be coated is recommended.

Pre-treatment of MDF

The “MDF” components to be coated must be carefully tested for their suitability, including quality and dampness (4-7%). The material density should preferably be > 720 g/m².

The “MDF” surface must be free of grease, dust and lint, preferably with smoothed edges, smoothed using the “thermal smoothing technique” or with smooth round edges. The MDF substrate should be electrically conductive, to facilitate the electrostatic powder application. Normally, surface resistances of approximately < 1010 Ohm are adequate. Conductible MDF materials are available on the market. If the substrate material is not electrically conductive enough, preheating or dampening the MDF substrates can be advantageous.

Powder spray application

IGP-DURA®mix 381M can be applied with all conventional electro-static systems (corona- and tribo-charging). Regulations to be observed: VDE provisions and VDM information sheet 23471.

Recyclability

Recycled powder should be added in small portions, (automatically, if possible), and mixed with fresh powder. The temperature should not exceed 25° C.

Curing conditions

Temperature and time combinations are shown which result in ideal reticulation of the coating.

Object- temperature	Retention time at object temperature	
	minimum	maximum
130°C	15 min.	30 Min.
140°C	10 min.	20 Min.
150°C	5 min.	10 Min.

In any event, practical experiments adapted to the particular object and curing oven are recommended in order to determine the best possible curing conditions.

The curing conditions must be carefully controlled, as the resulting coating quality is dependent on the degree of curing. Inadequately cured powder varnishes are brittle and tend to form cracks. Our technical customer support is happy to advise you.

Technological values

To determine the following data, IGP-DURA®mix 381M was applied as follows:

- iron sheet metal 0.8 mm
- coating thickness 80 µm
- object temperature of 140°C, 10 min.

Erichsen cupping, DIN EN ISO 1520: > 3 mm
Mandrel bend test, DIN EN ISO 1519: ≥8 mm
Impact penetration, ASTM 2794: > 10 kg x cm
Cross-cut adhesion test, DIN EN ISO 2409: Gt 0

500h water condensate test, DIN EN ISO 6270: no infiltration, no blisters.

500h salt spray test, DIN EN ISO 92271: no infiltration, no blisters

Resistance in accordance with DIN 68861

Part 1, chemical resistance: Category 1B

Part 2, abrasion: Category 2C

Part 4, scratch resistance: Category 4D

Part 7, dry heat: Category 7C

Part 8, damp heat: Category 8B

Test in accordance with AMK guidelines «The resistance to dampness and climate conditions of kitchen furniture components»

Module 1

No visible changes

Module 2 (5 cycles)

No recognizable damage

Module 4 (20 cycles)

No visible changes

Note

This application-related guidance is provided in accordance with current findings, but must be regarded as a non-binding notice and does not release you from conducting your own tests. The application, use and processing of the products occur beyond our possibilities of control and therefore lie exclusively in your sphere of responsibility.



Powderful Solutions.