# ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

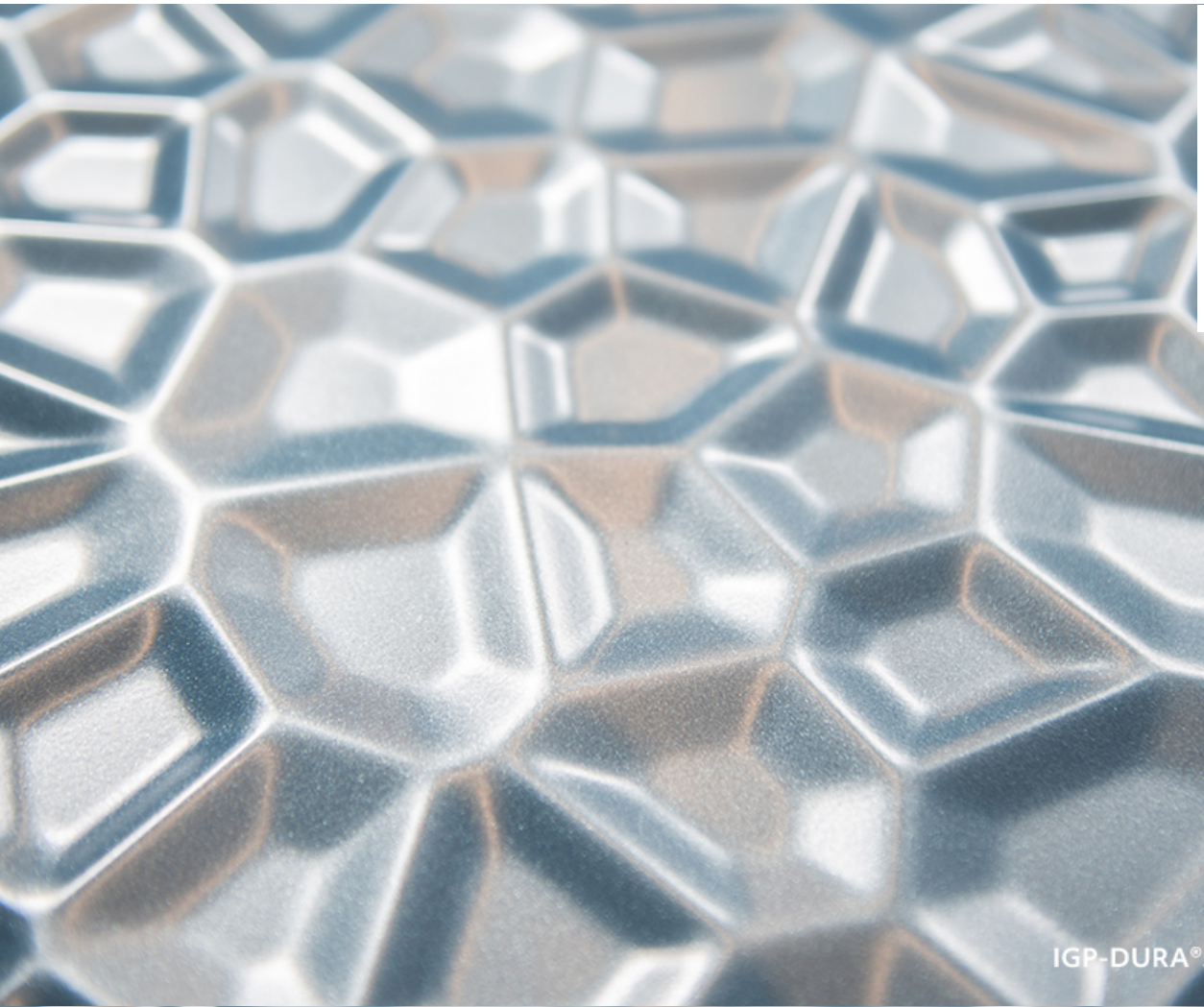
| | |
|---|---|
| Owner of the Declaration | IGP Pulvertechnik AG |
| Programme holder | Institut Bauen und Umwelt e.V. (IBU) |
| Publisher | Institut Bauen und Umwelt e.V. (IBU) |
| Declaration number | EPD-IGP-20220256-IAC1-EN |
| Issue date | |
| Valid to | |

## Coating Powder **IGP-DURA®*sky* 9503**

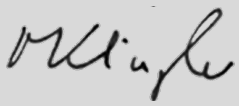
## IGP Pulvertechnik AG

Institut Bauen und Umwelt e.V.

**www.ibu-epd.com | https://epd-online.com**

## General Information

| IGP Pulvertechnik AG | **IGP-DURA®*sky*, 9503** |
|---|---|
| **Programme holder**<br>IBU – Institut Bauen und Umwelt e.V.<br>Hegelplatz 1<br>10117 Berlin<br>Germany | **Owner of the declaration**<br>IGP Pulvertechnik AG<br>Ringstrasse 30<br>9500 Wil, CH |
| **Declaration number**<br>EPD-IGP-20220256-IAC1-EN | **Declared product / declared unit**<br>Coating powder IGP-DURA®sky 9503 for the manufacturing of ultra-high weather resistant powdercoating finishes, declared unit 1 kg |
| **This declaration is based on the product category rules:**<br>Coatings with organic binders, 09.2017<br>(PCR checked and approved by the SVR) | **Scope:**<br>This Environmental Product Declaration declares a representative formulation of an organic, thermosetting coating powder of the 95 series from the manufacturer IGP Pulvertechnik AG.<br>The declaration covers the reproducible colour range of the solid and pearl mica effect shades of the ultra-high weather resistant product group: IGP-DURA®sky 9503.<br>The declared products refer to the development and production site in Wil, Switzerland. |
| **Issue date** | The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.<br>The EPD was created according to the specifications of *EN 15804+A2*. In the following, the standard will be simplified as *EN 15804*. |
| **Valid to** | **Verification**<br>The standard *EN 15804* serves as the core PCR<br>Independent verification of the declaration and data according to *ISO 14025:2011*<br>☐ internally ☒ externally |
| [Unterschrift]<br>Dipl.-Ing.Hans Peters<br>(chairman of Institut Bauen und Umwelt e.V.) | |
| [Unterschrift]<br>Dr. Alexander Röder<br>(Managing Director Institut Bauen und Umwelt e.V.)) |  <br>Matthias Klingler<br>(Independent verifier) |

## Product

**Product description/Product definition**
The product groups of the 95 series belong to the ultra-high weather resistant quality level and are based on fluoropolymers of the FEVE group, as well as saturated copolymer resins, corresponding TGIC-free hardeners and UV- light resistant pigments.
The series includes the following surface finishes:
IGP-DURA®sky 9503A smooth, matt, uni;
IGP-DURA®sky 9503E smooth finish, matt with pearl effect.
The product groups are characterised by highest chalking and colour stability.

Coating Powder is a product for which no legal provisions for harmonisation of the EU exists.
For the use and application of the product the respective national provisions at the place of use apply.

**Application**
IGP-DURA®sky 9503 is a matt ultra-high weather resistant coating for highly gloss and colour stable, chalking resistant surfaces for high value object facades made of metal substrates, as well as for surfaces with good sliding properties and for high chemical stresses.
A good adhesion to the substrate requires the formation of a conversion layer, which also works well with approved chrome-free pretreatment chemicals.

**Technical Data**
The powder coating films of IGP-DURA®sky 9503 applied according to the technical data sheet at a recommended film thickness of approx. 60 µm have the following technical properties:

**Powder and film properties**

| Name | Value | Unit |
|---|---|---|
| Weathering quality according to /Qualicoat/, /AAMA/ | 'QC KL. 3; AAMA 2605 | - |
| Density /EN ISO 8130-2/ | 1,3-1,6 | kg/l |
| Solids content /EN ISO 14680-2/ | 99 | % |
| Theoretical yield at 50 µm, 80% application efficiency | 9.9 - 12.4 | sqm |
| Gloss product group 9503 /EN ISO 2813/ | 25-35 | *R' 60° |
| Curing time | from 15' | min |
| Curing temperature | 200 | °C |
| Impact test indirect /EN ISO 6272-2/ | ≥ 2.5 | Nm |
| Bending test /EN ISO 1519/ | ≤ 5 | mm |
| Adhesion test /EN ISO 2409/ | no delamin. | - |
| Salt spray test (AASS) /EN ISO 9227/, /ISO 4628-2/ | 2000 h max ≤ S2 | h |
| Condensation test /EN ISO 6270-2 CH/, /ISO 4628-2/ | 2000 h max ≤ S2 | h |
| Gloss stability acc. /Qualicoat/ with short term weathering in Florida | 3 Jahre ≥ 80% | **RG |
| Color stability acc. /Qualicoat/ with short term weathering in Florida /ISO 2810/ | 3 years ≤ 50% acc. App. A12 | ΔE (CIE) |
| Florida long-term exposure Gloss stability acc./Qualicoat//AAMA/ /ISO 2810/ | 10 years ≥ 50% | RG |
| Color stability acc. /Qualicoat/, /CIELAB Color space/ /ISO 11664-4/; D65 | acc. to***LV QC: App.A12 | ΔE (CIE) |
| Color stability acc. /AAMA 2605/, /Hunter Color space/ /ASTM D2244; Sect. 6.3/ | acc. to LV AAMA 2605 5 | ΔE (Lab) |
| Scratch resistance 32 moves / 200 gr /CEN/TS 16611/ | ≥ 50% | RG |

* R' - Reflectometer values with 60° angle
** RG- Residual gloss
*** LV- Limit values ' QC- Qualicoat

Product definition:
The coating powder is not subject to EU harmonisation legislation: the use of the product is subject to the respective national regulations at the place of use.

**Base materials/Ancillary materials**

The declaration refers to the following composition of the coating powder IGP-DURA®sky 9503:

| Name | Value | Unit |
|---|---|---|
| Binder (resin and hardener) | 67- 80 | % |
| Pigments (coloured/ effect pigments) | 0- 5,3 | % |
| Titanium dioxide | 0- 24,5 | % |
| Extender | 2,7- 18,2 | % |
| Additives | 3,3- 7,2 | % |

All articles of series 95 comply with the /REACH Regulation (EC) No 1907/2006/. Substances of very high concern (SVHC) according to the Candidate List, 17.01.2022, as well as substances of Annex XIV of REACH Regulation (EC) No. 1907/2006/ are not included above the legal threshold of 0.1%.
Articles of series 95 further comply with /Directive (EU) 2015/863 (RoHS 3)/.

The product/article/at least one sub-article contains other CMR substances of category 1A or 1B, which are not on the candidate list, above 0.1% by mass in at least one sub-article: no

Biocidal products have been added to this construction product or it has been treated with biocidal products (it is thus a treated product in the sense of the Biocidal Products Regulation (EU) No. 528/2012): no

**Reference service life**
When surfaces coated with IGP-DURA®sky 95 are properly maintained, the service life of the surfaces corresponds to the service life of the building. Changes in colour and gloss due to weathering do not impair the protective effect. The ageing of the material is mainly caused by the effects of UV radiation and moisture. Both influences can lead to changes in gloss and colour within the permissible tolerance range of the GSB and Qualicoat quality associations. Delamination of the coating must not occur in this case. High concentrations of atmospheric agents such as industrial waste gases or chlorides - e.g. from de-icing salts - can lead to irreversible impairment of the protective effect of the coating. The protective effect of the coating film can be irreversibly impaired in high concentrations, even to the point of infiltration and detachment.

## LCA: Calculation rules

**Declared Unit**

The declared unit refers to 1 kg of 95er Fluoropolymer coating powder product.

| Name | Value | Unit |
|---|---|---|
| Gross density (mean value) | 1450 | kg/m$^3$ |
| Declared unit | 1 | kg |

This EPD declares a representative composition for all products under study. This composition is representative because it considers a powder coating formulation with the highest environmental impacts (within a 10% range).

**System boundary**
The type of EPD is cradle to gate with modules C1–C4, and module D (A1–A3, C, D).
The life cycle assessment includes the provision of raw materials (module A1), transport to the production site (module A2) and the manufacturing processes of the powder coating and packaging material (module A3). The coating process is outside the scope of the study.

The $CO_2$ emissions from biogenic carbon in the packaging material is released within A1-A3.

At the end of its life, the product is transported to the disposal company (module C2) and then disposed of (module C4).

**Comparability**
Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

Background dataset : *GaBi ts software,* CUP 2021.2.

## LCA: Scenarios and additional technical information

**Characteristic product properties**
**Information on biogenic Carbon**

The calculation of the biogenic carbon content is based on the assumption, that the absolutely dry wood and cardboard mass consists of 50% biogenic carbon. No biogenic carbon content exists in any of the products under study, only packaging materials.

The $CO_2$ emissions from biogenic carbon in the packaging material is released within A1-A3.

| Name | Value | Unit |
|---|---|---|
| Biogenic Carbon Content in accompanying packaging | 0.0363 | kg C |

The following information was used to calculate the declared modules:

**End of life (C1-C4)**
- Module C1: Manual dismantling (no environmental loads).
- Module C2: An average transport distance of 200 km is assumed by truck.
- Module C4: As a disposal scenario, it is assumed that the coating powder, which is located on an aluminium surface during disposal, is thermally disposed of during the recycling of the aluminium (melting/burning). No credits were awarded for combustion on the basis of energy substitution, but only the resulting emissions were taken into account.

| Name | Value | Unit |
|---|---|---|
| For thermal utilisation without energy recovery | 1 | kg |

IGP POWDER COATINGS

# LCA: Results

## DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

| PRODUCT STAGE | | | CONSTRUCTION PROCESS STAGE | | USE STAGE | | | | | | | END OF LIFE STAGE | | | | BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Raw material supply | Transport | Manufacturing | Transport from the gate to the site | Assembly | Use | Maintenance | Repair | Replacement | Refurbishment | Operational energy use | Operational water use | De-construction demolition | Transport | Waste processing | Disposal | Reuse-Recovery-Recycling-potential |
| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
| X | X | X | ND | ND | ND | ND | MNR | MNR | MNR | ND | ND | X | X | X | X | X |

## RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg Coating Powder IGP-DURA®sky 9503

| Core Indicator | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Global warming potential - total | [kg $CO_2$-Eq.] | 9.71E+0 | 0.00E+0 | 1.75E-2 | 0.00E+0 | 2.54E+0 | 0.00E+0 |
| Global warming potential - fossil fuels | [kg $CO_2$-Eq.] | 9.62E+0 | 0.00E+0 | 1.66E-2 | 0.00E+0 | 2.54E+0 | 0.00E+0 |
| Global warming potential - biogenic | [kg $CO_2$-Eq.] | 8.06E-2 | 0.00E+0 | 7.80E-4 | 0.00E+0 | 2.95E-4 | 0.00E+0 |
| GWP from land use and land use change | [kg $CO_2$-Eq.] | 7.62E-3 | 0.00E+0 | 1.36E-4 | 0.00E+0 | 1.55E-4 | 0.00E+0 |
| Depletion potential of the stratospheric ozone layer | [kg CFC11-Eq.] | 8.01E-13 | 0.00E+0 | 2.12E-18 | 0.00E+0 | 1.35E-15 | 0.00E+0 |
| Acidification potential, accumulated exceedance | [mol $H^+$-Eq.] | 2.42E-2 | 0.00E+0 | 5.69E-5 | 0.00E+0 | 4.39E-4 | 0.00E+0 |
| Eutrophication, fraction of nutrients reaching freshwater end compartment | [kg P-Eq.] | 2.84E-5 | 0.00E+0 | 4.93E-8 | 0.00E+0 | 1.96E-7 | 0.00E+0 |
| Eutrophication, fraction of nutrients reaching marine end compartment | [kg N-Eq.] | 4.56E-3 | 0.00E+0 | 2.65E-5 | 0.00E+0 | 9.88E-5 | 0.00E+0 |
| Eutrophication, accumulated exceedance | [mol N-Eq.] | 4.98E-2 | 0.00E+0 | 2.95E-4 | 0.00E+0 | 2.03E-3 | 0.00E+0 |
| Formation potential of tropospheric ozone photochemical oxidants | [kg NMVOC-Eq.] | 1.57E-2 | 0.00E+0 | 5.14E-5 | 0.00E+0 | 2.75E-4 | 0.00E+0 |
| Abiotic depletion potential for non-fossil resources | [kg Sb-Eq.] | 6.31E-4 | 0.00E+0 | 1.26E-9 | 0.00E+0 | 1.84E-8 | 0.00E+0 |
| Abiotic depletion potential for fossil resources | [MJ] | 1.40E+2 | 0.00E+0 | 2.21E-1 | 0.00E+0 | 1.18E+0 | 0.00E+0 |
| Water (user) deprivation potential, deprivation-weighted water consumption (WDP) | [$m^3$ world-Eq deprived] | 8.89E-1 | 0.00E+0 | 1.44E-4 | 0.00E+0 | 2.60E-1 | 0.00E+0 |

## RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg Coating Powder IGP-DURA®sky 9503

| Indicator | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Renewable primary energy as energy carrier | [MJ] | 2.16E+1 | 0.00E+0 | 1.23E-2 | 0.00E+0 | 3.32E-1 | 0.00E+0 |
| Renewable primary energy resources as material utilization | [MJ] | 1.31E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Total use of renewable primary energy resources | [MJ] | 2.29E+1 | 0.00E+0 | 1.23E-2 | 0.00E+0 | 3.32E-1 | 0.00E+0 |
| Non-renewable primary energy as energy carrier | [MJ] | 1.19E+2 | 0.00E+0 | 2.21E-1 | 0.00E+0 | 2.33E+1 | 0.00E+0 |
| Non-renewable primary energy as material utilization | [MJ] | 2.25E+1 | 0.00E+0 | 0.00E+0 | 0.00E+0 | -2.22E+1 | 0.00E+0 |
| Total use of non-renewable primary energy resources | [MJ] | 1.41E+2 | 0.00E+0 | 2.21E-1 | 0.00E+0 | 1.18E+0 | 0.00E+0 |
| Use of secondary material | [kg] | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Use of renewable secondary fuels | [MJ] | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Use of non-renewable secondary fuels | [MJ] | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Use of net fresh water | [$m^3$] | 7.70E-2 | 0.00E+0 | 1.41E-5 | 0.00E+0 | 6.21E-3 | 0.00E+0 |

## RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg Coating Powder IGP-DURA®sky 9503

| Indicator | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Hazardous waste disposed | [kg] | 4.40E-8 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Non-hazardous waste disposed | [kg] | 2.07E-1 | 0.00E+0 | 1.11E-11 | 0.00E+0 | 2.53E-10 | 0.00E+0 |
| Radioactive waste disposed | [kg] | 2.60E-3 | 0.00E+0 | 3.29E-5 | 0.00E+0 | 2.64E-1 | 0.00E+0 |
| Components for re-use | [kg] | 0.00E+0 | 0.00E+0 | 2.68E-7 | 0.00E+0 | 4.02E-5 | 0.00E+0 |
| Materials for recycling | [kg] | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Materials for energy recovery | [kg] | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Exported electrical energy | [MJ] | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |
| Exported thermal energy | [MJ] | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 | 0.00E+0 |

## RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 kg Coating Powder IGP-DURA®sky 9503

| Indicator | Unit | A1-A3 | C1 | C2 | C3 | C4 | D |
|---|---|---|---|---|---|---|---|
| Potential incidence of disease due to PM emissions | [Disease Incidence] | 2.95E-7 | 0.00E+0 | 3.13E-10 | 0.00E+0 | 5.62E-9 | 0.00E+0 |
| Potential Human exposure efficiency relative to U235 | [kBq U235-Eq.] | 3.10E-1 | 0.00E+0 | 3.83E-5 | 0.00E+0 | 3.72E-3 | 0.00E+0 |
| Potential comparative toxic unit for ecosystems | [CTUe] | 7.04E+1 | 0.00E+0 | 1.60E-1 | 0.00E+0 | 4.29E-1 | 0.00E+0 |
| Potential comparative toxic unit for humans - cancerogenic | [CTUh] | 2.77E-9 | 0.00E+0 | 3.22E-12 | 0.00E+0 | 3.87E-11 | 0.00E+0 |
| Potential comparative toxic unit for humans - not cancerogenic | [CTUh] | 2.36E-7 | 0.00E+0 | 1.93E-10 | 0.00E+0 | 3.89E-9 | 0.00E+0 |
| Potential soil quality index | [-] | 2.89E+1 | 0.00E+0 | 7.59E-2 | 0.00E+0 | 3.43E-1 | 0.00E+0 |

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”.
This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”.
The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

## References


**/AAMA 2605/**
AAMA 2605-20, Voluntary Standards, Performance Requirements and Test Procedures for Ultra-High Weather-Resistant organic coatings on aluminium profiles and sheets; according to the test design of the American Architectural Manufacturers Association (AAMA)

**/ASTM D 2794/**
Testing of organic coatings for resistance to rapid deformation; impact loading

**/CIELAB or CIE/**
The CIE Lab system is a colour space defined by the International Commission on Illumination CIE in 1976. Colour differences are determined numerically. The model tries to adapt the geometric distance between two colours in the colour space to human perception.

**/DIN CEN/TS 16611/, Martindale test**
The Martindale test is originally an abrasion test for textiles. Since 2020, this test has been used as part of the Qualicoat tests to test the abrasion resistance of powder coatings.

**/DIN EN ISO 14680-2/**
EN ISO 14680-2:2006 Paints and varnishes - Determination of pigment content - Part 2: Ashing method

**/DIN EN ISO 8130-2/**
EN ISO 8130-2:2010 Powder coatings - Part 2: Determination of density using a gas comparator pycnometer (arbitration method)

**/DIN EN ISO 2813/**
DIN EN ISO 2813 2000-04 Aerospace series - Aluminium alloy AL-P6061-T6 - Drawn internal pressure tubes 0,6 mm <= a <= 12,5 mm

**/DIN EN ISO 2409/**
German version EN ISO 2409:2013
Coating materials - Cross-cut test

**/DIN EN ISO 1519/**
German version EN ISO 1519:2011 Paints and varnishes -
Mandrel bending test (cylindrical mandrel)

**/DIN EN ISO 6272-1/**
German version EN ISO 6272-1:2011 Paints and varnishes -
Test for resistance to impact deformation (impact test)
Part 1: Falling weight test, large test area

**/DIN EN ISO 1520/**
EN ISO 1520:2006 Paints and varnishes -
Cupping test

**/DIN EN ISO 2815/**
EN ISO 2815:2003 Paints and varnishes -
Buchholz indentation test

**/DIN EN ISO 2810/**
German version EN ISO 2810:2004 Paints and varnishes - Outdoor exposure of coatings -
Weathering and evaluation

**/DIN EN ISO 9227/**
DIN EN ISO 9227 AASS 2012-09 Corrosion tests in artificial atmospheres

**/DIN EN ISO 6270-2 AT/**
German version EN ISO 6270-2:2005 Paints and varnishes - Determination of resistance to moisture -
Part 2: Method for exposure of specimens to condensed water climates

**/ISO 16474 Part 1- 3/**
DIN EN ISO 16474 part 1 - 3:2014-03, Paints and varnishes - Artificial irradiation or weathering in equipment.
DIN EN ISO 16474-1:2014-03:
Part 1 General guidance
DIN EN ISO 16474-2:2014-03:
Part 2 Xenon arc lamps (e.g. WOM);
Irradiation, temperature cycles
DIN EN ISO 16474-3:2014-03:
Part 3 Fluorescent lamps (e.g. QUV-B):
Irradiation, temperature, cycles

**/DIN 50018/**
Testing in a condensed water alternating climate with an atmosphere containing sulphur dioxide

**/DIN EN 12206-1/**
German version EN 12206-1:2004 Paints and varnishes - Coatings on aluminium and aluminium alloys for construction purposes -

Part 1: Coatings made from coating powders

**/DIN EN ISO 14001/**
Environmental management systems - Requirements with guidance for use

**/DIN EN 13501-1:2010-01/**
Fire classification of construction products and types of construction works - Part 1: Classification using results of reaction to fire tests of construction products

**/DIN EN 15804/**
EN 15804:2019+A2, Sustainability of constructionworks — Environmental Product Declarations — Core rules for the product category of construction products

**/GaBi ts software/**
Sphera Solutions GmbH
GaBi Software System and Database for Life Cycle Engineering
CUP Version: 2021.2
University of Stuttgart
Leinfelden Echterdingen

**/GaBi ts documentation/**
GaBi life cycle inventory data documentation (https://www.gabisoftware.com/support/gabi/gabidatabase2020lcidocumentation/)

**/GSB International/**
Quality Association for Assuring the Quality of the Coating of Workpieces and the Pretreatment and Coating Materials Used in the Process; www.gsb-international.com

**/Hunter Colour Space/**
Colour space defined by Richard Sewall Hunter in 1948 that describes colour ranges using "Lab" coordinates.
Like CIELAB, it was designed in such a way that colour values can be transferred from the CIEXYZ space with simple formulae, but is more uniform than XYZ in terms of perception.

**/ISO 3231/**
German version EN ISO 3231 Paints and varnishes - Determination of resistance to humid atmospheres containing sulphur dioxide (ISO 3231:1993)

**/ISO 7724-3/**
Paints and varnishes-Colorimetry -Calculation of colour differences

**/PCR Part A/**
PCR - Part A: Calculation Rules for the Life CycleAssessment and Requirements on the Project Report,Berlin: Institut Bauen und Umwelt e.V., www.ibu-epd.com, Version 2.2, 2022

**/PCR Part B:/**
PCR - Part B: Requirements for the EPD for coatings with organic binders, Institut Bauen und Umwelt e.V.. (IBU), Version 1.7, 2019

**/Qualicoat/**
Quality Association for Industrial Painting and Coating; Quality Assurance and Specifications of Processes, Products and Quality Tests; www.qualicoat.net

**/REACH/**
Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

**/RoHS 2011/65/EU/**
Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment
replaces Directive 2002/95/EC.

**/Directive (EU) 2015/863 (RoHS 3)/**
Having regard to Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain substances classified as hazardous.

**Publisher**
Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Tel +49 (0)30 3087748- 0
Fax +49 (0)30 3087748- 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

**Programme holder**
Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Tel +49 (0)30 - 3087748- 0
Fax +49 (0)30 – 3087748 - 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

**Author of the Life Cycle Assessment**
Sphera Solutions GmbH
Hauptstraße 111- 113
70771 Leinfelden-Echterdingen
Germany

Tel +49 711 341817-0
Fax +49 711 341817-25
Mail info@sphera.com
Web **www.sphera.com**

Logo

Name
Straße, Nr.
PLZ, Ort
Land

Tel Nummer
Fax Nummer
Mail e-mail
Web **Web-Adresse**

**Owner of the Declaration**
IGP Pulvertechnik AG
Ringstrasse 30
9500 Wil
Switzerland

Tel +41 71 929 81 49
Fax +41 71 929 81 11
Mail info@igp-powder.com
Web **www.igp-powder.com**

Logo

Name
Straße, Nr.
PLZ, Ort
Land

Tel Nummer
Fax Nummer
Mail e-mail
Web **Web-Adresse**

Logo

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