

# Classification report

## No. 230530-K1

issued 02.08.2023

**Customer:** IGP Pulvertechnik AG  
Ringstrasse 30  
CH-9500 Wil

**Order:** Classification of the burning behaviour according to  
DIN EN 13501-1 (2019-05)

**Date of order:** 21.06.2023

**Notification number of the test laboratory**

NB 1378

**Designation of the classified building product**

Product name: IGP-DURA®one 56

This classification report lays down the classification of the building product above according to the procedures of DIN EN 13501-1.



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This classification report is a translation of the German version 230530-K1 (issued 01.08.2023). In case of doubt only the German version is valid. This classification report contains 7 pages.

## 1. Beschreibung des Probenmaterials

### 1.1 Angaben des Auftraggebers:

Product Name: IGP-DURA®one 56

Test side: Coated Side

### Sample/material description:

Trade Name: IGP-DURA®one 56

Sample material: aluminium sheets, powder-coated

Material type: Powder coating based on saturated polyester resins

Method of manufacture: coated

Total thickness: 90 – 128 µm +/- 10% on 2 mm aluminium sheet

Total basis weight: 0.127 – 0.184 kg/m<sup>2</sup> (see attached sample legend)

Color: black, white, brown

Flame retardants: without

Technical data sheets are available in the test laboratory.

Intended area of application: Powder coating of façade elements in architecture

Sample no.	Series / Construction	Basecoat	Density Baasedcoat [g/cm <sup>3</sup> ]	Layer thicknesses				
				Layer thickness Primer μm	Layer thicknesses Top-Coat μm	Total thickness average μm	Surface weight min [kg/m <sup>2</sup> ]	Surface weight max [kg/m <sup>2</sup> ]
3	Serie 56	5603A90050A10	1,4131	-	90 - 110	100	0,127	0,155
1	Serie 56	5603A90100A10	1,5529	-	90 - 110	100	0,139	0,171
5	Serie 56	5603E81576A3F	1,4375	-	90 - 110	100	0,129	0,158
6	Serie 56	5603E81576A3F	1,4375	-	120-128	124	0,173	0,184

1.2 At the specimen preparation from the Warringtonfire Frankfurt GmbH determined values:

Powder coating on aluminium plate (2 mm)

Sample	Material / Plates No.:	Colour	Layer thickness [µm]	surface weight max. [kg/m <sup>2</sup> ]
1	5603A90050A10	black	90-110	0,155
2	5603A90100A10	white	90-110	0,171
3	5603E81576A3F	brown	90-110	0,158
4	5603E81576A3F	brown	120-128	0,184

Test arrangement: Colored front side to the burner

Material construction und fixing see pictures below:



Picture fixing of specime

1.3 Production and pretreatment of the samples for the tests according to DIN EN 13823

The material was delivered by the manufacturer for testing and prepared for testing.

The test was carried out over the entire area.

The material was tested without distance to the end plate analogous to DIN EN 13823, point 4.4.10 (calcium silicate) raw density  $800 \pm 150 \text{ kg/m}^3$ , thickness  $12 \pm 3 \text{ mm}$ ).

Before the test, the samples were taken for more than 48 hours until the weight consistency according to DIN EN 13238 conditioned.

1.4 Production and pre-treatment of the samples for the tests according to DIN EN 1716

The sample selection was made by the customer and the material was delivered for the tests.

Material: Topcoat Series 56	[kg/m <sup>2</sup> ] max.
5603A90050A10	0,155
5603A90100A10	0,171
5603E81576A3F	0,184

Material crushed (homogenized) after prior drying.

The samples were conditioned for more than 48 h to constant mass at a temperature of  $23 \pm 2^{\circ}\text{C}$  and a relative humidity of  $50 \pm 5\%$  prior to the testing.

## 2. Test reports and test results

### 2.1.1 Test reports

Name of test laboratory	Customer	Report to form the basis	Test procedure
Warringtonfire, Frankfurt	IGP Pulvertechnik AG	230530	DIN EN 13823 (SBI) DIN EN ISO 1716 (Determination of gross heat combustion)

### 2.1.2 Test results

Test procedures	Parameter / classes		Test results
			average
DIN EN 13823 (SBI)	FIGRA <sub>0,2MJ</sub> ≤ 120 [W/s] for class A2 FIGRA <sub>0,2MJ</sub> ≤ 120 [W/s] for class B		61,19
	FIGRA <sub>0,4MJ</sub> ≤ 250 [W/s] for class C FIGRA <sub>0,4MJ</sub> ≤ 750 [W/s] for class D		27,06
	THR <sub>600s</sub> [MJ] ≤ 7,5 MJ for class A2 THR <sub>600s</sub> [MJ] ≤ 7,5 MJ for class B THR <sub>600s</sub> [MJ] ≤ 15 MJ for class C THR <sub>600s</sub> [MJ] no requirement for class D		0,75
	SMOGRA-index ≤ 30 [m <sup>2</sup> /s <sup>2</sup> ] für s1 SMOGRA-index ≤ 180 [m <sup>2</sup> /s <sup>2</sup> ] für s2		1,55
	TSP <sub>600s</sub> ≤ 50 [m <sup>2</sup> ] for s1 TSP <sub>600s</sub> ≤ 200 [m <sup>2</sup> ] for s2		34,56
	LFS < edge of the specimen for class A2 LFS < edge of the specimen for class B LFS < edge of the specimen for class C		fulfilled
	no burning dripping off/dropping within 600s for class d0		fulfilled
	DIN EN ISO 1716	PCS ≤ 3,0 MJ/kg <sup>a</sup> for Class A2 PCS ≤ 4,0 MJ/m <sup>22b</sup> for Class A2 PCS ≤ 4,0 MJ/m <sup>22d</sup> for Class A2 PCS ≤ 3,0 MJ/kg <sup>e</sup> for Class A2	Top coat: 20,8557 MJ/kg max. = 3,8375 MJ/m <sup>2</sup> max Aluminium plate: 0,0000 MJ/kg

#### Explanations of table standing too above:

Figra<sub>0,2MJ</sub>: Heat release rate with consideration of the THR of threshold value of 0,2MJ [W/s]

Figra<sub>0,4MJ</sub>: Heat release rate with consideration of the THR of threshold value of 0,4MJ[W/s]

THR<sub>600s</sub>: Total set free warmth during 600s [MJ]

SMOGRA: Smoke development rate

TSP<sub>600s</sub>: Total set free smoke quantity during 600s [m<sup>2</sup>]

LSF: lateral propagation of flames

a: for homogenous products and substantial contents of inhomogeneous products

b: for every outer not substantial content from not homogenies products.

d: for every inner not substantial content from not homogenies products

e: for the complete product

### 3 Classification and range of application

#### 3.1 Reference

The classification was carried out according to the chapter 11 of DIN EN 13501-1

#### 3.2 Classification

The tested material is ranked related to its behaviour in case of fire and according to its heat combustion into the class **A2**.

Concerning the smoke development the tested material is ranked into the class **s1**

Concerning the dripping off behavior the tested material is ranked into the class **d0**.

The classification of the tested material reads thus:

# A2 – s1 d0

#### 3.3 Area of application

The classification is only valid for the in chapter one described powder coating, in the tested colours layer thicknesses and surface weights, on metallic substrates of building material class A2 s1 d0.

The classification also includes intermediate colours and layer thicknesses.

### 4 Reservation

This classification report replaces not a possible required type admittance or type certification of the product.

### 5 Decision rule and measurement uncertainty

In determining the results, the normative test conditions and limits are not adjusted to account for uncertainties in measurement. The determined measurement uncertainties are not combined with the measured results to evaluate compliance with the product specifications.

Frankfurt, the 02.08.2023

A. Krouhs  
Tester in charge

P. Scheinkönig  
Technical Lab Leader construction product regulations



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