GP POWDER COATINGS



#### General

Powder coatings, in the sense of a decorative coating used on metallic surfaces, are by definition considered to be a non-substantial building component and are therefore not a building product. They can, however, be tested as a building product in accordance with DIN EN 13501-1.

According to DIN EN 13501-1 and DIN 4102 Part 1, building materials are classified into the following categories in accordance with their fire behaviour:

	Additic	onal requirements	European class	Building		
Building control designation	No smoke	No burning droplets/par- ticles	in accordance with DIN EN 3501-1	in accordance with DIN 4102-1		
Non-combustible	v v		A1	A1		
	~	v	A2-s1, d0	A2		
Flame resistant	resistant 🗸 🗸		B-s1, d0	B1		
	~	v	C- s1, d0			
		¥	A2-s2, d0	B1		
		v	A2-s3, d0			
		v	B, C-s2, d0			
		v	B, C-s3, d1			
	~		A2-s1, d1	B1		
	v		A2-s1, d2			
	r		B, C-s1, d1			
	~		B, C-s1, d2			
			A1-s3, d2	B1		
			B-s3, d2			
			A2-s3, d2			
Normal flammability	~	~	D-s1, d0	B2		
		v	D0-s2, d0			
		V	D-s3, d0			
			E			
	r		D-s1, d2			
			D-s2, d2			
			D-s3, d2			
			E-d2	B2		
Highly flammable			F	B3		

#### The additional designations mean:

- s1, s2, s3 [m<sup>2</sup>/sec<sup>2</sup>] describes the smoke behaviour
- s1 = no or limited smoke development
- s3 = severe smoke development
- d0, d1, d2 = description of the burning droplets
- d0 = no burning droplets within 600 seconds

Affiliation to the building material class "**non-combustible**" must be proved by a general building control approval from an Institut für Bautechnik and ensured through continuous quality monitoring.

In accordance with the federal state building codes and implementation regulations, the "building control designations", such as "**non-combustible**", are decisive.

Only building materials that have been tested according to DIN EN 13501-1 and DIN 4102 should be used as equivalents.

## Classification

The	powder	coating	systems	with the	series	descriptions:
1110	powaci	couring	<i>y y y y y y y y y y</i>	WICH CHIC		

DURA®face 58	Standard façade coating
HWFclassic 59	Highly weather-resistant façade coating
DURA®xa/ 42/46	Highly weather-resistant façade coating
HWFsuperior 57	Ultra-highly weather-resistant façade
	coating

were tested for their fire behaviour at the MPA Braunschweig material testing institute in accordance with the procedures set out in DIN EN 13501-1:2010-01

Test report 2300/789/16-a in accordance with DIN EN 13823:2015-02

Test report 2300/789/16-b in accordance with DIN EN ISO 1716:2010-11

Subsequently, on the basis of the above-mentioned tests, the Deutsche Institut für Bautechnik (DIBt) issued the general building control approval with approval no. Z-56.428-1023 of 11 December 2018 below for the above-mentioned IGP powder coating systems on sheet metal coated on one or both sides, or metal profiles coated on all sides.

The above-mentioned powder coating systems have been classified as non-combustible building materials in accordance with DIN EN 13501-1 in

## Class A1 and Class A2-s1, d0

subject to product range and coating thickness. The statements of approval are provided on the individual technical data sheets for the products.

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Allgemeine bauaufsichtliche Zulassung	Migdael de 1076, de 12 des voel de 10730 Boron Benstellandersten 11 12 2018 BAR 4 56 4 52216	<ul> <li>Intervenité des la clearentempere Pro- Des Autochninges ent investeres pré- Prenditionneurs par la manufacture a Des autochninges entre la manufacture des Causaiones traites de la manufacture des des augeorgeners entre Prolongées est entre entrement par Alamétique des Manufactures des présentes une de la manufacture des présentes entre des la manufactures des présentes entre des la manufactures des présentes entre des la manufacture des présentes entre des la manufactures des présentes entre des la manufactures des la manufactures des présentes entre des la manufactures des la manufactures des présentes des la manufactures des présentes des la manufactures des la manufactures des présent</li></ul>	Addonaturinda Varanteurlähten för Jahre advateseten vari der för der meshnungente vorkegen. Ers and dem austredigen obereine Standucktisterindes ad- her frausstate unsechniste Advatoriteren Mid- felt, Stausstatet, der den Herberungen nicht freis Stausstatet, der den Herberungen nicht inserektungen ein Gesenschmerteuten ausge- fängtes all - soweit Storteuten möglich and gen- fangtes all - soweit Storteuten möglich als sein.
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Printouts of the corresponding approvals will be sent on request.

The classification of powder coating ranges is based, among other things, on the determined gross combustion heat, which is in turn considered in relation to the coating thickness according to the table (page 2, annex to DIBt approval document).

The classification of the above-mentioned powder coating ranges applies to any desired shades and various gloss levels, as well as to different surfaces and structural characteristics. In the case of profile bodies, the minimum centre distance from the adjacent profile must also be tested.

The above-mentioned powder coating systems were certified for a common average coating thickness of 80  $\mu$ m. In the event that coating thicknesses of slightly more than 80  $\mu$ m occur at isolated measuring points or at the component edge, experience demonstrates that class A2-s1 will not exceed d0.

# Sheet metal coated on one or both sides

Fire behaviour	Characteristics	Powder coating									
		IGP-DURAface 58	IGP-HWFclassic 59	IGP-HWFsuperior 57	IGP-DURAxal 42/46						
A 1	max. dry layer thickness [µm]	60	57	mitted							
AT	max. dry layer weight [g/m²]	95	90	Not permitted							
A2-s1, d0	max. dry layer thickness [µm]		8	0							
	max. dry layer weight [g/m²]	130									

## Metal profiles coated on all sides

Fire behaviour	Characteristics	Powder coating															
		IGP-DURAface 58				IGP-HWFclassic 59				IGP-HWFsuperior 57				IGP-DURAxa/ 42/46			
A1	max. dry layer thickness [µm]	60			57			Not permitted									
	max. dry layer weight [g/m²]	95				90			Not permitted								
	Factor "x" for determin- ing the permitted centre distance	1.0			1.0			-/-									
A2-s1, d0	max. dry layer thickness [µm]	80	70	60	50	80	70	60	50	80	70	60	50	80	70	60	50
	max. dry layer weight [g/m²]	130	110	95	80	130	110	95	80	130	110	95	80	130	110	95	80
	Factor "x" for determin- ing the permitted centre distance	0.70	0.60	0.50	0.45	0.70	0.60	0.50	0.45	0.70	0.60	0.50	0.45	0.70	0.60	0.50	0.45
Permitted centre distance "a" dependent on circumference U of metal profiles (see section 1.2.1)		a ≥ U * 1/x															

Sheet metal and metal profiles coated with powder coatings IGP-DURA® face 58, IGP-HWF classic 59, IGP-HWF superior 57 and IGP DURA® xal 42/46 as non-combustible building materials.

Table in accordance with approval document (DIBt) no. Z-56.428-1023

