

# TIGITAL® 3D-Set | Technical Data Sheet

## PPP 371/80002



## General Information

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### Product Description

TIGITAL® 3D-Set PPP 371/80002 is a thermoset powder material for selective laser sintering (SLS). It exhibits high flame retardancy and with ultra-low emission. It is easy to print with vastly lower printing temperatures than standard printing materials on all SLS devices. The reuse-rate is >70% and no pre drying step is necessary. The material is available in black.

### Features

- Flame retardant material (UN ECE R118.03 Annex 6, 7 & 8)
- Vastly lower printing temperatures
- High reuse-rate
- Ultra-low emissions according to automotive interior

### Applications

- Bus and Rail
- Automotive
- Other Transportation

## Material Properties

General Properties*	Test Method	Typical Values
Printed Part Density [kg/m <sup>3</sup> ]	ISO 1183-3	1.25 ± 0.02
Particle Size d10 [µm]	Laser Diffraction	13
Particle Size d50 [µm]	Laser Diffraction	34
Particle Size d90 [µm]	Laser Diffraction	67

Mechanical Properties*	Test Method	Typical Values
Tensile Strength [N/mm <sup>2</sup> ]	ISO 527	≥ 40
Tensile Modulus [N/mm <sup>2</sup> ]	ISO 527	≥ 2100
Elongation at Break [%]	ISO 527	≥ 5.5
Charpy impact strength [kJ/m <sup>2</sup> ]	ISO 179	≥ 2.3
Charpy impact strength notched [kJ/m <sup>2</sup> ]	ISO 179 (-25°C)	≥ 1.2
Dynstat bending test 3.5%	DIN 53435	≥ 55

Stress Crack Resistance	Test Method	Typical Values
Blind sample	DIN EN ISO 22088-3	1/1
MB-window cleaner	DIN EN ISO 22088-3	1/1
MB-plastic cleaner	DIN EN ISO 22088-3	1/1
MB-cockpit care	DIN EN ISO 22088-3	1/1
MB-leather care	DIN EN ISO 22088-3	1/1
MB-rinsing agent solution	DIN EN ISO 22088-3	1/1
Glass cleaner (Sidolin)	DIN EN ISO 22088-3	1/1
Sun oil test mixture	DIN EN ISO 22088-3	1/1

Care Product Resistance	Test Method	Typical Values
MB-window cleaner	DBL 5414	0/0 (24h)
MB-plastic cleaner	DBL 5414	1/0 (24h)
MB-cockpit care	DBL 5414	1/0 (24h)
MB-leather care	DBL 5414	1/0 (24h)
MB-rinsing agent solution (Pril Power)	DBL 5414	0/0 (24h)
ARO universal cleaner	DBL 5414	0/0 (24h)

Cosmetical Resistance	Test Method	Typical Values
MB-PM001 sun milk test mixture	DBL 5414	2
MB-PM009 Nivea sun LSF 30	DBL 5414	2

Emission Properties	Test Method	Typical Values
Gravimetric fogging test [mg]	DIN 75201B	< 0.5
Thermal desorption analysis (VOC) [ppm]	VDA 278	< 30 (total emissions)
Thermal desorption analysis (FOG) [ppm]	VDA 278	< 50 (total emissions)
Odor test	VDA 270	Pass

Ageing Properties	Test Method	Typical Values
Heat Ageing (1h at 120°C)	DBL 5414	no optical or structural change
Hot light fastness and ageing	DIN EN ISO 105-B06	Grayscale 4

\* All properties are measured on printed ISO specimen (properties correspond to printing parameters)

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## Product Safety

Relevant industrial safety precautions and hygiene procedures must be followed (e.g. powder handling). For additional information please read the corresponding Material Safety Data Sheet (MSDS).

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## Compatibility

The product is compatible with all SLS printing machines. For specific printing parameters and additional post-curing steps please read the corresponding Processing Data Sheet (PDS).

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## Storage

The powder should be stored at temperatures from 15-25 °C in its originally sealed package in a clean and dry environment for 6 months upon delivery date.

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## Disclaimer

Our verbal and written recommendations for the use of our products, including the information provided in this Product Data Sheet, are based upon experience and in accordance with present technological standards. These are only given in order to support the buyer or user. They are non-committal and do not create any additional commitments to the purchase agreement. The buyer is solely responsible for verifying the suitability and/or fitness of our products for the intended use and application. Further, the buyer is solely responsible for the appropriate, safe and legally compliant use, processing, handling and application of our products.

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