

# TIGITAL® 3D-Set | Technical Data Sheet

## PPP 371/80008 BK9/14



### General Information

#### Product Description

TIGITAL® 3D-Set PPP 371/80008 BK9/14 is a thermoset powder material for selective laser sintering (SLS). It exhibits excellent mechanical properties, very low smoke density if burned and is easy to print with vastly lower printing temperatures than standard printing materials on all SLS devices. The moisture uptake is minimal, the reuse-rate is >70% and no pre drying step is necessary. The material is available in black.

#### Features

- High reuse-rate
- Vastly lower printing temperatures
- Outstanding mechanical properties
- Very low smoke density if burned
- Minimal moisture uptake

#### Applications

- Rail
- Transportation
- Electronic industry

### Material Properties

| General Properties*                       | Test Method       | Typical Values |
|---|-------------------|----------------|
| Printed Part Density [kg/m <sup>3</sup> ] | ISO 1183-3        | 1570           |
| Particle Size d10 [µm]                    | Laser Diffraction | 11             |
| Particle Size d50 [µm]                    | Laser Diffraction | 38             |
| Particle Size d90 [µm]                    | Laser Diffraction | 80             |

| Thermal Properties*  | Test Method | Typical Values |
|----------------------|-------------|----------------|
| HDT/A (1.8 MPa) [°C] | ISO 75      | 60             |

| Burning Behaviour* | Test Method                      | Typical Values |
|--------------------|----------------------------------|----------------|
| UL 94              | ISO 60695-11-10                  | V0 - 2.5 mm    |
| EN 45545 R22 [%]   | EN ISO 4589-2 OI                 | HL3 – 50       |
| EN 45545 R22       | EN ISO 5659-2 D <sub>3</sub> max | HL3 – 42.6     |
| EN 45545 R22       | EN 17084 - 1 CITG                | HL3 – 0.15     |

| Mechanical Properties*                 | Test Method | Typical Values |
|--|-------------|----------------|
| Tensile Strength [N/mm <sup>2</sup> ]  | ISO 527     | 38             |
| Tensile Modulus [N/mm <sup>2</sup> ]   | ISO 527     | 4000           |
| Elongation at Break [%]                | ISO 527     | 1.5            |
| Flexural Strength [N/mm <sup>2</sup> ] | ISO 178     | 50             |
| Flexural Modulus [N/mm <sup>2</sup> ]  | ISO 178     | 4200           |

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

## 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).

## 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

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