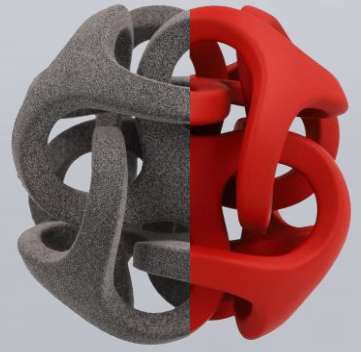
B3DPS Coating Solutions

Product Presentation

BASF 3D Printing Solutions (B3DPS)

Status March 2023

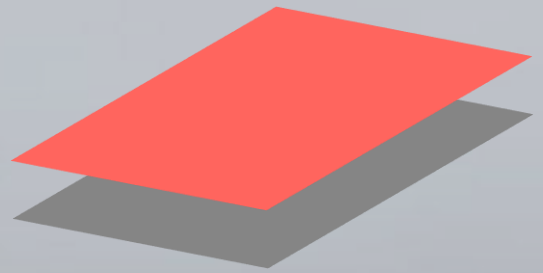
BASF 3D Printing Solutions – Product Description



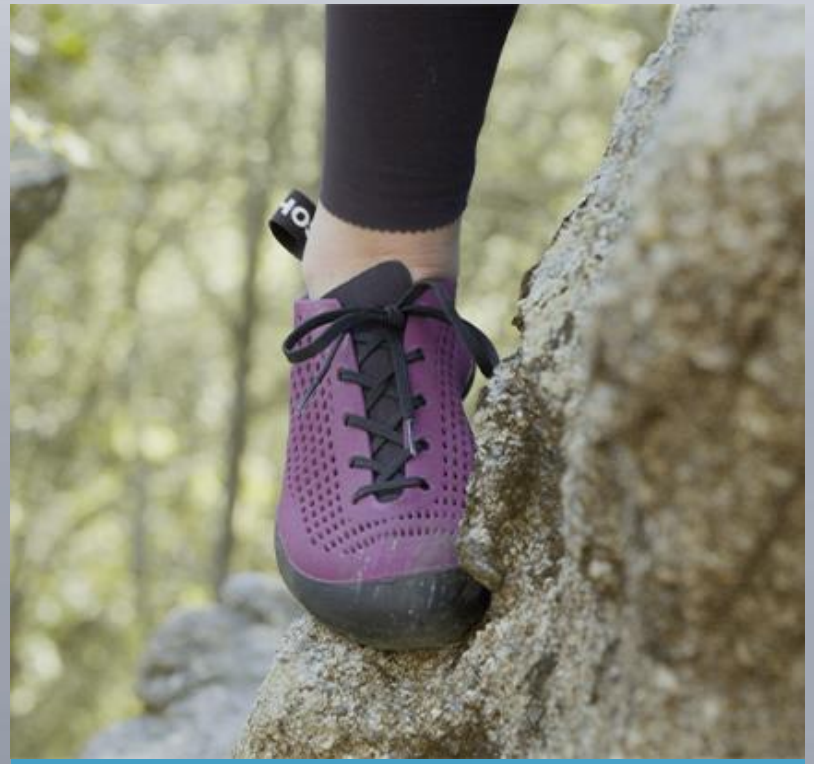
Ultracur3D® Coat F+ by Forward AM is a flexible waterborne 2k-basecoat designed to offer **exceptional flexibility** for elastic 3D Printing Materials and enables new possibilities for advanced applications – from functional prototyping through to end use serial production parts. Together with BASF Coatings GmbH we can offer **outstanding technical support** and an **extensive range of colors** to identify the ideal surface finish for your specific application.

Waterborne based coatings can be applied with a wide range of industrial spray guns, which allows **easy handling** and **reduces expensive hardware investments**.

In addition, a **customized color development** based on a physical sample, RAL or Pantone code is offered.



BASF 3D Printing Solutions – Target Markets



Consumer

Automotive Interior

Medical O&P

BASF 3D Printing Solutions – Product Features

High flexibility

Wear and scratch resistance

Skin contact

Waterbased formulation

Large color portfolio

BASF 3D Printing Solutions – Product Details

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	Norm	Specification	TPU01	PA 11	EL4000
Adhesion	ISO 2409	2mm blade distance	✓	✓	✓
Rossflex	ASTM D1052	100.000 cycles	✓	N / A	Ongoing
Martindale-Abrasion	ISO 12947-4	25.000 cycles	✓	Ongoing	Ongoing
Color fastness – dry	ISO 105-X12	100 double strokes	✓	✓	✓
Color fastness – wet	ISO 105-X12	100 double strokes	✓	✓	✓
UV-Resistance	ISO 4892-2A	1000h	✓	Not tested	Not tested
UV-Resistance	ISO 4892-2B	1000h – Cycle 3	✓	✓	✓
Hydrolysis		70°C at 95% RT for 168h	✓	✓	✓
Thermal storage		80°C for 240h	✓	✓	✓
Burning behavior	FMVSS 302		< 100mm/min		
Cytotoxicity	ISO 10993-5	Tested on medical steel		✓	
Skin sensitization	ISO 10993-10	Tested on medical steel		✓	
Skin irritation	ISO 10993-10	Tested on medical steel		✓	

BASF 3D Printing Solutions – Product Support

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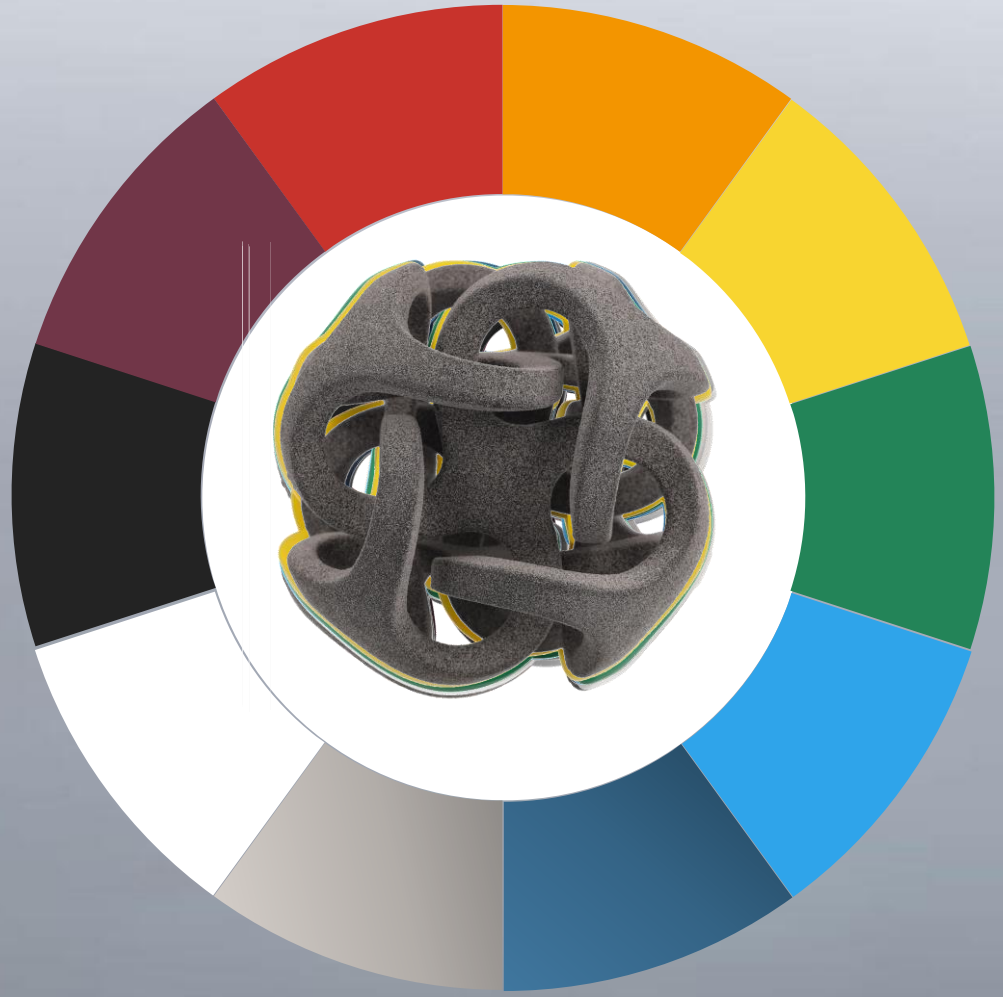
Color	Application	Equipment
		

BASF 3D Printing Solutions – Color Support



Ultracur3D Coat F+ Uni Colors

- Jet Black
- Pure White
- Pure Red
- Purple Violet
- Signal Orange
- Canola Yellow
- Grass Green
- Light Blue

Ultracur3D Coat F+ Effect Colors

- Metallic Silver
- Metallic Blue

BASF 3D Printing Solutions – Color Support

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1. Color reference

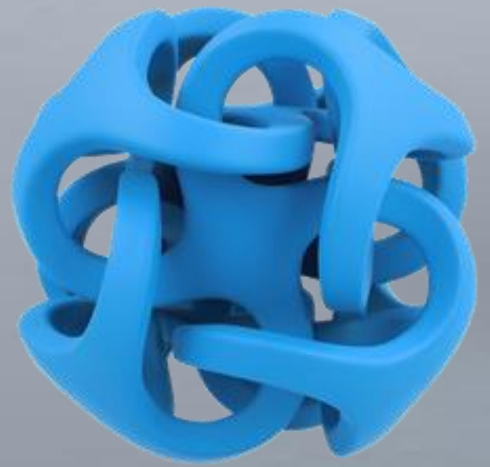
- RAL
- Pantone
- Physical master sample

2. Material selection

TPU01

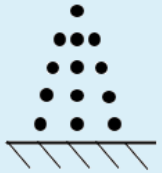
TPU 88A

3. Customized color



BASF 3D Printing Solutions – Application Support

Spray Application Process

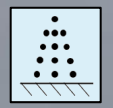
							
Surface Pretreatment	Mixing	Cleaning Isopropanol	1st Spraying	Flash-Off 5‘23°C	2nd Spraying	Flash-Off 5‘23°C	Drying 30‘80°C

Mixing ratio: 100 : 4 by weight

Hardener: Ultracur3D® Hardener F+

Potlife at 20°C: 2h

Shelf life (5 – 35°C) 6 months

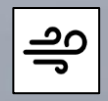


Surface pretreatment Blasting for 30min at 3bar

Remark: Blasting is recommended only for chemically smoothed surfaces.

Spray passes 1.5 - 2

Layer thickness 25 ± 5µm



Flash of at 23°C 5min

Final drying 30min at 80°C

BASF 3D Printing Solutions – Equipment Support

Protective clothing

1) Coating suit

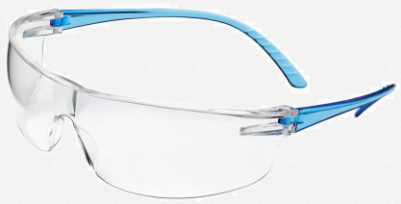
2) Coating Mask + Filter

E.g.: 3M™ 7500 Series Face Mask

3) Safety shoes

4) Single use gloves

5) Safety glasses



E.g.: HONEYWELL SVP200 ANTI-FOG

Coating equipment

1) Spray gun:

E.g.: SATAjet 5000 B

E.g.: Iwata WS 400 Evo

2) Spray booth

- Spray wall with filters
- Spray wall with air/water separation
- Closed spray cabin with air regulation

Drying equipment

1) Drying oven:

- Minimal drying temperature: 80°C
- Air circulation

E.g.: XUE225 universal oven Essential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