



# MATERIALS FOR 3D PRINTING **BLUEDP**

# BlueDP

## Blue X-Ray and metal detectable nylon

BlueDP is a type of plastic designed to replace parts that would otherwise be CNC milled or injection molded. The material was developed by the Danish Technological Institute. 3S surface-treated BlueDP is approved as food contact material (FCM) and can be detected by metal detectors and X-ray scanners in a production line, as it contains metal.

We print with Selective Laser Sintering (SLS). The technology prints in powder and uses a laser to sinter the powder layers together. 3D printing with SLS offers a great deal of design freedom, as the parts do not need support material.

The technology can produce parts that comply with ISO 2768-m 1; however, the tolerances depend significantly on the geometry of the part. At the Danish Technological Institute, our 3D printing production is also ISO 9001 certified.



### MATERIAL PROPERTIES

TENSILE STRENGTH [Rm]	48 MPa
YIELD STRENGTH [Rp,0,2]	43 MPa
ELONGATION AT BREAK [A]	15 %
VICKERS HARDNESS [Shore D]	80
PART DENSITY	>96,0 %
MATERIAL MASS DENSITY	0,95 g/cm <sup>3</sup>

### SURFACE TEXTURE

	Raw	3S surface sealing
Average roughness [Ra]	10 ±3	1,2*

\*Depending on geometry

### Danish Technological Institute - Industrial 3D-printing

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#### Technology:

- Select Laser Sintering

#### Printer:

- EOS - P396

#### Build volume:

- 320 x 320 x 600 mm

#### Application:

- Industrial use

#### Possible post-processing:

- Deburring
- Media blasting
- Colouring
- Lacquering
- 3S surface sealing

#### Customization:

Contact us if you have specific requests for surface roughness and material properties.

#### Design features:

- Minimum feature size 0,8 mm
- Minimum channel size Ø1,5 mm
- Minimum wall thickness 0,7 mm
- Support not necessary
- Hole for emptying powder Ø5 mm

#### Examples of use

- Hygienic nozzles and manifolds for food applications
- Lightweight grippers for robotic handling
- Machine components

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