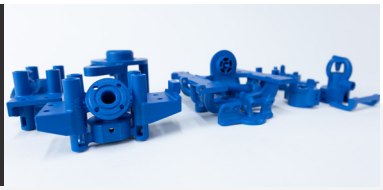
PA12 Blue Metal Detectable

Material Data Sheet

Parts on Demand

PA12 Blue MD

Foodsafe blue, x-ray and metal detectable



Characteristics

- Approved for food-contact applications according to EC1935/2004 and FDA 21 CFR*
- Throughout blue material
- X-ray and metal detectable

Applications

- Parts that have direct contact with foodstuffs
- Parts that are used in food-processing equipment
- Wear parts that need to maintain a blue color
- Parts that should be metal or x-ray detectable

* when vapor polishing is applied to the part

Mechanical properties	Test method	Value	Unit
Tensile strength	ISO 527-2:93-1B	49	MPa
Tensile modulus	ISO 527-2:93-1B	1800	MPa
Elongation at break	ISO 527-2:93-1B	10	%

Electrical properties	Test method	Value	Unit
Surface resistivity	n/a	n/a	Ohm

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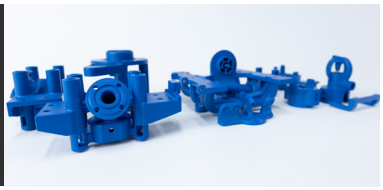

Thermal properties	Test method	Value	Unit
Melting point	ISO 11357-3	187 ± 2	°C
Glass transition temperature	ISO 11357-3	n/a	
Heat deflection temperature	ISO 75f	@ 0.45 MPa: 180 ± 2 @ 1.82 MPa: 170 ± 2	°C

Figure 1: Effect of vapor polishing

On the left a raw part, on the right a vapor polished part. The color of the parts changes due to the vapor polishing process. Note that vapor polishing does not reach internal cavities or long internal channels.

Parts are only approved for food-contact applications according to EC1935/2004 and FDA 21 CFR **after** vapor polishing.

Figure 2: Design rules and complex parts

Since Blue MD is PA12 based, many of the same design guidelines can be applied. Please note that PA12BMD is more prone to over-sintering. Internal channels in PA12BMD need to be bigger for proper cleaning (>8mm) and parts with a large wall thickness are at risk of warping.

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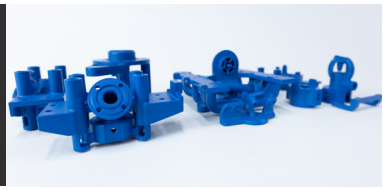

Metal and X-ray detection

Have a look at the tables below for the results of our detection tests. It's important to know that these tests were done to compare, so think of them as a useful reference. Results may vary with factors like aperture size, shape, specifics of the food product and machine settings (calibration, phase control, speed, frequency etc.). The results shown below should regarded as an indication.

When it comes to detection, it's best to test case by case, with actual food products on the specific equipment under real-life conditions. If you need material samples for testing, just let us know and we'll get them to you!

Ferrous steel sphere equivalent	PA12 Blue MD sample size
ø1,0mm	11mm x 2mm x 4mm
ø1,2mm	15mm x 2mm x 4mm
ø1,5mm	40mm x 2mm x 4mm

Sphere size	X-ray detection PA12BMD	X-ray detection regular PA12
Ø2,0mm	Reliably detected	Not detected
Ø3,0mm	Reliably detected	Not detected
Ø4,0mm	Reliably detected	Not detected
Ø6,0mm	Reliably detected	Detected under certain conditions

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