

MurSint® PA12 blue

Production based on PA12


Technical properties	Standard	Unit	Characteristics
Material color	-	-	blue
Density (laser sintered)	DIN EN ISO 1183-1	kg/m ³	930
Water absorption ¹⁾	ISO 62 / DIN 53495		
100°C, storage in water		%	1.93
23°C, 96% RH		%	1.33
23°C, 50% RH		%	0.52

Mechanical properties ²⁾	Standard	Unit	Characteristics
Izod notched impact strength (23°C)	ISO 180/1A	kJ/m ²	4.4
Shore hardness D (15s)	ISO 7619-1	-	75

Mechanical properties - 3D ^{2),3)}	Standard	Unit	Characteristics
Tensile modulus	ISO 527-1/-2		
X-Direction		MPa	1800
Y-Direction		MPa	1800
Z-Direction		MPa	1750
Tensile strength	ISO 527-1/-2		
X-Direction		MPa	52
Y-Direction		MPa	52
Z-Direction		MPa	52
Breaking elongation	ISO 527-1/-2		
X-Direction		%	20
Y-Direction		%	20
Z-Direction		%	7
Charpy – Impact strength (X-Direction)	ISO 179/1eU	kJ/m ²	53
Charpy – notched impact strength (X-Direction)	ISO 179/1eU	kJ/m ²	4.8
Flexural Modulus (X-Direction)	ISO 178	MPa	1500

Thermal properties	Standard	Unit	Characteristics
Heat conductivity	DIN 52616		
perpendicular to sintered layers		W/mK	0.144
parallel to sintered layers		W/mK	0.127
Linear thermal coefficient of expansion ¹⁾	ISO 11359 DIN 53752-A	10 ⁻⁴ /K	1.09
Melting temperature (20°C/min)	ISO 306	°C	163
Vicat softening temperature (50°C/h 50N)	ISO 306	°C	163

Electrical properties ²⁾	Standard	Unit	Characteristics
Dielectric strength	DIN 53481	kV/mm	92
Volume resistivity	DIN 53482 IEC-Publ. 93	Ω x cm	10 ¹³ - 10 ¹⁵
Surface resistance	DIN 53482 IEC-Publ. 93	Ω	10 ¹³
Dielectric value (at 1 kHz)	DIN 53483 IEC-Publ. 250	10 ² Hz	3.8
Dielectric dissipation factor (at 1 kHz)	DIN 53483 IEC-Publ. 250	-	0.05 – 0.09

Approved for use in the food industry	Yes/No
FDA	yes
(EG) No. 1935/2004 - (EU) No. 10/2011	no
In combination with our smoothing process JOMA-PEARL® 	yes
Also available as food compliant according to (EG) No. 1935/2004 - (EU) No. 10/2011	yes

Legend

The material characteristic tables, which are based on data from our suppliers of raw materials, are intended to help you to quickly compare/select a material. The values stated are short-term values that can be affected by processing, environmental, and application conditions. The user is solely responsible for the suitability of the selected material for the specific application

MurSint® PA12 blue is a powder based on polyamide 12. Laser-sintered components made from MurSint® PA12 blue have excellent material properties.

RH relative humidity

- 1) General properties of polyamide 12, which are to be understood as orientation values for laser-sintered components made of MurSint® PA12 blue.
- 2) The mechanical and electrical characteristic values refer to a test in a normal climate of 23 °C/ 50% RF.
- 3) The properties of components from additive manufacturing processes are partly directional due to the layered structure. This must be taken into account for the design and orientation of the component.

For further information, such as details on the chemical resistance of our plastics, please feel free to contact us.