Material data sheet

PA 2210 FR for EOSINT P

General

Typical application of PA 2210 FR is the manufacture of flame resistant parts with high mechanical properties.

PA 2210 FR contains a chemical flame retardant. In case of fire a carbonating coating arises at the surface of the part, isolating the plastic below. PA 2210 FR is free of halogens.

PA 2210 FR is tested successfully on the following EOSINT P systems:

- P 385, P 380, P 360 with upgrade S&P, P350/2 + upgrade 99 + upgrade S&P, without powder conveying system.
- P 700

The recommended layer thickness is 0.15 mm. To assure a consistent quality of parts, it is recommended only to use new powder.

Technical data

General material properties

Bulk density	DIN 53466	0.52	g/cm³
Density of laser-sintered part	EOS-method	1.05 ± 0.05	g/cm³

Mechanical properties

Tensile modulus	DIN EN ISO 527	2250 ± 150	MPa
Tensile strength	DIN EN ISO 527	45 ± 3	MPa
Elongation at break	DIN EN ISO 527	5.0 ± 1	%
Flexural modulus	DIN EN ISO 178	1750 ± 100	MPa
Flexural strength	DIN EN ISO 178	45 ± 2	MPa

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Thermal properties

Melting point	DIN 53736	172 – 180	°C

Burning behaviour

Flammability for parts in devices and appliances	UL 94 / HB	1.1	mm
	UL 94 / V-0	2.0	mm
Flammability properties (Aircraft)	FAR 25.853 b(4)	1.5 / 2.0	mm
	ABD 0031 / AITM 2.0002	1.5 / 2.0	mm
	BSS 7230 F2	0.06 / 0.08	inches
Smoke generation (Aircraft)	FAR 25.853 (d), Appendix F - Part V	1.5 / 2.0	mm
	ABD 0031 / AITM 2.0007	1.5 / 2.0	mm
	BSS 7238	0.06 / 0.08	inches
Toxic gas generation (Aircraft)	ABD 0031 / AITM 3.0005	1.5 / 2.0	mm
	BSS 7239	0.06 / 0.08	inches

Conversion of units: 1.0 mm is equivalent to 0.03937 inches

Tests for burning behaviours have been conducted by certified and accredited test laboratories. Ask for the test reports at EOS GmbH, feel free to contact us for further information. The burning behaviours have been tested with specimens manufactured in accordance with the instruction of PA 2210 FR (exposure parameters, use of new powder). Parts made of re-used powder do not have the identical burning behaviours than parts made of new powder! You can further improve the fire resistancy by using a fire retardant coating.

The mechanical properties depend on the x-, y-, z-position of the test parts and on the exposure parameters used.

The data is based on our latest knowledge and is subject to changes without notice. They do not guarantee properties for a particular part and in a particular application.

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