

POLYMER SOLUTIONS

PA 2241 FR

Material Data Sheet

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Product Description

PA 2241 FR is a white polyamide 12 powder for processing in laser sintering systems, which contains a halogen-based flame retardant. Due to its refreshability the material is very cost-efficient compared to other flame-retardant materials on the market. The additively manufactured parts show good tensile strength and are suited to be used for aircraft interior applications, e.g., ventilation ducts and exhaust valves.

MAIN CHARACTERISTICS

- Flame-retardant
- Halogen-based flame retardant
- Refreshable

TYPICAL APPLICATIONS

- Aircraft interior parts, e.g., ventilation ducts, exhaust valves or brackets

MECHANICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Tensile Modulus			ISO 527-1/-2
X Orientation	1900 / 1600	MPa	
Y Orientation	1900 / 1600	MPa	
Z Orientation	1900 / 1600	MPa	
Tensile Strength			ISO 527-1/-2
X Orientation	49 / 44	MPa	
Y Orientation	49 / 44	MPa	
Z Orientation	46 / 41	MPa	
Strain at Tensile Strength			ISO 527-1/-2
X Orientation	7 / 11	%	
Y Orientation	7 / 11	%	
Z Orientation	6 / 6	%	
Charpy Notched Impact Strength (+23°C)			ISO 179/1eA
X Orientation	3.87 / -	kJ/m ²	
Strain at Break			ISO 527-1/-2
X Orientation	15 / 22	%	
Y Orientation	15 / 22	%	
Z Orientation	6 / 9	%	

THERMAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Melting Temperature	185	°C	ISO 11357-1/-3
Temperature of Deflection under Load 1.80 MPa			ISO 75-1/-2
X Orientation	84	°C	
Temperature of Deflection under Load 0.45 MPa			ISO 75-1/-2
X Orientation	154	°C	
Flammability			CS 25 / JAR25 / FAR 25 § 25-853
Test Passed, 12s ignition time	1.0	mm	
Test Passed, 12s ignition time	1.5	mm	
Test Passed, 12s ignition time	2.0	mm	
Test Passed, 60s ignition time	1.0	mm	
Test Passed, 60s ignition time	1.5	mm	
Test Passed, 60s ignition time	2.0	mm	
Smoke Density			ABD 0031 (Issue:F), method: AITM 2.0007
Test Passed	1.0	mm	
Test Passed	1.5	mm	
Test Passed	2.0	mm	
Toxicity			ABD 0031 (Issue:F), method: AITM 3.0005
Test Passed	1.0	mm	
Test Passed	1.5	mm	
Test Passed	2.0	mm	

OTHER PROPERTIES	VALUE	UNIT	TEST STANDARD
Density	1.00	g/cm ³	EOS Method
Powder Color	white	-	-
Components Color	white	-	-

HEADQUARTERS

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