

PA 2241 FR

PA12

EOS GmbH - Electro Optical Systems

Product Texts
Product Texts

Product information

PA 2241 FR is a flame retardant polyamide 12 for processing in laser sintering systems. It contains a halogen-based flame retardant. Mainly due to its recyclability the material is economical, enabling low-cost part production.

Properties

- flame retardant
- economic
- high strain at tensile strength

Acceptance criteria

- JAR 25 (aviation)

Typical applications

- aviation (interior, e.g. air ducts and air outlet valves)

[Product Information](#)

3D Data	dry / cond	Unit	Test Standard
The properties of parts manufactured using additive manufacturing technology (e.g. laser sintering, stereolithography, Fused Deposition Modelling, 3D printing) are, due to their layer-by-layer production, to some extent direction dependent. This has to be considered when designing the part and defining the build orientation.			
Tensile Modulus			ISO 527-1/-2
X Direction	1900 / 1600	MPa	
Y Direction	1900 / 1600	MPa	
Z Direction	1900 / 1600	MPa	
Tensile Strength			ISO 527-1/-2
X Direction	49 / 44	MPa	
Y Direction	49 / 44	MPa	
Z Direction	46 / 41	MPa	
Strain at Tensile Strength			ISO 527-1/-2
X Direction	7 / 11	%	
Y Direction	7 / 11	%	
Z Direction	6 / 8	%	
Strain at break			ISO 527-1/-2
X Direction	15 / 22	%	
Y Direction	15 / 22	%	
Z Direction	6 / 9	%	
Temp. of deflection under load			ISO 75-1/-2
1.80 MPa, X Direction	84 / *	°C	
0.45 MPa, X Direction	154 / *	°C	

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature (20°C/min)	185 / *	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
1.80 MPa	84 / *	°C	
0.45 MPa	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	dry / cond	Unit	Test Standard
Density (lasersintered)	1000 / -	kg/m ³	EOS Method
Bulk density	0.45	g/cm ³	EN ISO 60
Powder colour (ac. to safety data sheet)	White	-	-
Colour of the components	White	-	-

Characteristics

Processing

3D Printing, Additive Manufacturing, Laser Sintering, Rapid Prototyping

Delivery form

Powder

Special Characteristics

Flame retardant

Features

High Crystallinity, Thermal Stability, Homopolymer

Chemical Resistance

General Chemical Resistance, Grease Resistance, Oil Resistance

Applications

Aircraft and Aerospace