

PA12 ALU

Material Data Sheet

SLS MATERIAL

APPLICATIONS

PA12 ALU, the result of combining aluminum powder and nylon, is widely used in industrial prototyping and the mass production of 3D-printed final components. Its unique properties, such as strength, rigidity, and good thermal conductivity, make it suitable for a wide range of sectors, including manufacturing, aerospace, and automotive industries.

MAIN PROPERTIES

- Excellent dimensional precision
- A balanced ratio of density and rigidity
- Good thermal conductivity
- Good workability

MECHANICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Tensile Modulus X Orientation Y Orientation	3800/- 3800/-	MPa	ISO 527-1/-2
Tensile Strength X Orientation Y Orientation	48/- 48/-	MPa	ISO 527-1/-2
Strain at break X Orientation	4/-	%	ISO 527-1/-2
Flexural Modulus X Orientation	3600	MPa	ISO 178
Flexural Strength X Orientation	72/-	-	ISO 178
Charpy Impact Strength (+23°C) X Orientation	29/-	kJ/m ²	ISO 179/1eU
Charpy Notched Impact Strength (+23°C) X Orientation	4,6/-	kJ/m ²	ISO 179/1eA
Shore D Hardness X Orientation	76/-		ISO 7619-1

PROSILAS s.r.l.

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THERMAL PROPERTIES	DRY/ CONDITIONED	UNIT	TEST STANDARD
Melting temperature	176	°C	ISO 11357-1/-3
Temperature of Deflection under Load 1.80 MPa X Orientation	144	°C	ISO 75-1/-2
Temperature of Deflection under Load 0.45 MPa X Orientation	175	°C	ISO 75-1/-2
Vicat Softening Temperature X Orientation	169	°C	ISO 306/B50

OTHER PROPERTIES	VALUE	UNIT	TEST STANDARD
Density	1.36	g/cm ³	EOS Method
Powder color	Grey		
Components color	Grey		

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