

# PA12 GF

Material Data Sheet

**SLS MATERIAL**

## APPLICATIONS

Glass-filled Polyamide is widely used, especially in automotive and industrial sectors. In thermal and electric vehicle engines, it enables mass production of components requiring high mechanical and thermal resistance. It's also ideal for manufacturing robotic grippers, positioning equipment, jigs, and fixtures, offering abrasion resistance, dimensional stability, and high deformation temperature.

## MAIN PROPERTIES

- **High Rigidity:** Glass spheres enhance rigidity, making PA12 GF suitable for structural applications.
- **Mechanical and Wear Resistance:** Offers strong resistance to stress and abrasion.
- **Thermal Load Capacity:** Handles temperature variations well.
- **Surface Resolution:** SLS technology enables high-quality surfaces, enhancing performance and aesthetics.
- **Dimensional Accuracy:** SLS processing ensures precision for tight-tolerance applications.
- **Workability:** Easy to handle, ideal for complex, detailed components.
- **Long-Term Stability:** Provides durable, reliable performance over time.

MECHANICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Tensile Modulus X Orientation Y Orientation Z Orientation	3200/- 3200/- 2500/-	MPa	ISO 527-1/-2
Tensile Strength X Orientation Y Orientation Z Orientation	51/- 51/- 47/-	MPa	ISO 527-1/-2
Strain at break X Orientation Y Orientation Z Orientation	9/- 9/- 5.5/-	%	ISO 527-1/-2
Flexural Modulus X Orientation	2900	MPa	ISO 178
Flexural Strength X Orientation	73/-	-	ISO 178
Charpy Impact Strength (+23°C) X Orientation	35/-	kJ/m <sup>2</sup>	ISO 179

PROSILAS s.r.l.

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MECHANICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Charpy Notched Impact Strength (+23°C) X Orientation	5.4/-	kJ/m <sup>2</sup>	ISO 179
Izod Impact Strength (+23°C) X Orientation	21/-	kJ/m <sup>2</sup>	ISO 179
Izod Notched Impact Strength (+23°C) X Orientation	4,2/-	kJ/m <sup>2</sup>	ISO 179
Ball Indentation Hardness X Orientation	98/-	Mpa	ISO 2039-1
Shore D Hardness X Orientation	80/-	-	ISO 7619-1

THERMAL PROPERTIES	DRY/ CONDITIONED	UNIT	TEST STANDARD
Melting temperature	-	°C	ISO 11357-1/-3
Temperature of Deflection under Load 1.80 MPa X Orientation	96	°C	ISO 75-1/-2
Temperature of Deflection under Load 0.45 MPa X Orientation	157	°C	ISO 75-1/-2

OTHER PROPERTIES	VALUE	UNIT	TEST STANDARD
Density	1.22	g/cm <sup>3</sup>	EOS Method
Powder color	Whitish		
Components color	Whitish		

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