

PA11-GF 3450

Polyamide 11 reinforced with glass beads



The PA11-GF 3450 is a polyamide powder reinforced with glass beads allowing to open the scope of additive manufacturing possibility in terms of application and properties.

Characterized by its low shrinkage, the PA11-GF 3450 is suitable for the preparation of massive parts to be used at high temperatures. This material is ideal for mechanical parts in the engine compartment or complex end-use parts for a wide range of applications in industrial sectors such as Automotive, Aerospace or Defense.

The PA11-GF 3450 can be processed with any ProMaker P series printers.



KEY FEATURES & BENEFITS

- Good resistance in extreme temperatures
- Low shrinkage
- Adapted to print high stiffness parts



TYPICAL APPLICATIONS

- Large and massive parts
- Mechanical parts in the engine compartment
- Complex end-use parts
- Military applications parts

MATERIAL PROPERTIES

	TEST METHOD	VALUE
Base material		Polyamide 11, reinforced with glass beads
Appearance		Light grey
Bulk density [g/cm ³]	ISO 1068-1975	0.95
Sintered part density [g/cm ³]	Prodways Method	1.40
Average particle size (µm)	Laser diffraction	55
Melting point [°C]	ISO 11357-3	198 - 205

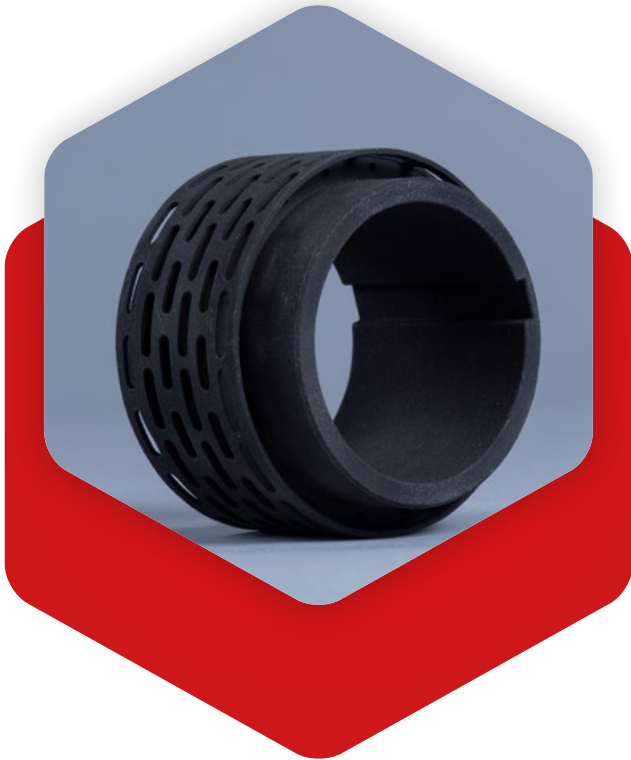
MECHANICAL PROPERTIES*

	TEST METHOD	VALUE
Tensile strength [MPa]	ISO 527	30 - 45
Young modulus [MPa]	ISO 527	2900 - 3450
Tensile elongation at break [%]	ISO 527	5 - 9
Flexural modulus (MPa)	ISO 178	2200 - 2300
HDT/A (1.8 MPa) [°C]	ISO 75	133

* Performance characteristics may change according to product application, operating conditions or level of refresh.

PA11-SX 1350

Black Polyamide 11 powder for Laser Sintering



The PA11-SX 1350 is a high-performance polyamide. It is characterized by an outstanding impact resistance, high ductility and a good temperature resistance. This material is particularly adapted for mechanical parts in engine, fuel or oil tanks and for the creation of complex end-use parts with snap fit and living hinges.

Due to its good mechanical strength and durability, the PA11-SX 1350 is suitable for additive manufacturing projects in a wide range of industries such as automotive or aerospace.

The PA11-SX 1350 can be processed with the ProMaker P1000 printer.



KEY FEATURES & BENEFITS

- Good ductility and shock resistance
- Good temperature resistance
- Excellent stability over time and under difficult conditions



TYPICAL APPLICATIONS

- Mechanical parts
- Snap fit
- Living hinges

MATERIAL PROPERTIES

	TEST METHOD	VALUE
Base material		Polyamide 11
Appearance		Matte black
Bulk density [g/cm ³]	ISO 1068-1975	0.66
Sintered part density [g/cm ³]	Prodways Method	1.02
Average particle size (µm)	Laser diffraction	50
Melting point [°C]	ISO 11357-3	199 - 203

MECHANICAL PROPERTIES*

	TEST METHOD	VALUE
Tensile strength [MPa]	ISO 527	40 - 45
Young modulus [MPa]	ISO 527	1300 - 1350
Tensile elongation at break [%]	ISO 527	40 - 45
Flexural modulus (MPa)	ISO 178	1150 - 1250
HDT/A (1.8 MPa) [°C]	ISO 75	44

* Performance characteristics may change according to product application, operating conditions or level of refresh.

PA11-SX 1450

Polyamide 11 - 100% bio-based powder for Laser Sintering



The PA11-SX 1450 is a high-performance polyamide 100% sourced from a renewable raw material. It is characterized by an outstanding impact resistance, high ductility and elasticity.

This material meets the **USP Class VI requirements*** that makes it particularly suitable for end-use parts in **medical and dental industries** (orthotics, surgical tools, drill guides...). Due to its unparalleled mechanical strength and durability, the PA11-SX 1450 is also suitable for additive manufacturing projects in other industries such as automotive or aerospace.

The PA11-SX 1450 can be processed with any ProMaker P series printers.



KEY FEATURES & BENEFITS

- Meet USP Class VI requirements**
- Ductility, elongation and shock resistance
- Excellent resistance and durability over time



TYPICAL APPLICATIONS

- Orthotics
- Surgical tools or drill guides
- Snap fit
- Living hinges

MATERIAL PROPERTIES

	TEST METHOD	VALUE
Base material		Polyamide 11
Appearance		White- cream
Bulk density [g/cm ³]	ISO 1068-1975	0.62
Sintered part density [g/cm ³]	Prodways Method	1.02
Average particle size (µm)	Laser diffraction	46
Melting point [°C]	ISO 11357-3	198 - 205

MECHANICAL PROPERTIES*

	TEST METHOD	VALUE
Tensile strength [MPa]	ISO 527	40 - 50
Young modulus [MPa]	ISO 527	1300 - 1700
Tensile elongation at break [%]	ISO 527	35 - 45
Flexural modulus (MPa)	ISO 178	1200 - 1300
HDT/A (1.8 MPa) [°C]	ISO 75	44

* Performance characteristics may change according to product application, operating conditions or level of refresh.
**For more information: [contact our experts](#)

PA12- L 1600

Polyamide 12

powder for Laser Sintering



The PA12- L1600 is characterized by its excellent mechanical properties and a high elongation at break. This material is easy to process, presents a low water absorption and a good recyclability.

The PA12-L1600 meets the high expectations of the **manufacture functional prototypes and end-use parts with high mechanical properties and toughness**. It is also suitable for complex production and prototype plastic parts in the automotive or aerospace industry.

The PA12-L1600 can be processed with any ProMaker P series printers.



KEY FEATURES & BENEFITS

- Excellent mechanical properties
- Good part surface ease of post-processing
- Low water absorption



TYPICAL APPLICATIONS

- Functional prototypes and end-use parts with high mechanical properties and toughness
- Alternative for complex spare parts production
- Multi-purpose industrial applications

MATERIAL PROPERTIES

	TEST METHOD	VALUE
Base material		Polyamide 12
Appearance		White
Bulk density [g/cm ³]	Prodways Method	0.48
Sintered part density [g/cm ³]	Prodways Method	0.95
Average particle size (µm)	Laser diffraction	60
Melting point [°C]	ISO 11357-3	179 - 187

MECHANICAL PROPERTIES*

	TEST METHOD	VALUE
Tensile strength [MPa]	ISO 527	40 - 45
Young modulus [MPa]	ISO 527	1450 - 1600
Tensile elongation at break [%]	ISO 527	30 - 36
Flexural modulus (MPa)	ISO 178	1200 - 1300
HDT/A (1.8 MPa) [°C]	ISO 75	83,5

* Performance characteristics may change according to product application, operating conditions or level of refresh.

PP 1200

Polypropylene powder for Laser Sintering



DEVELOPED WITH:



The PP 1200 is a versatile material characterized by an excellent plasticity, a good elongation at break, a low moisture absorption and a great durability.

Because of its high chemical resistance to most acids and bases and its welding capabilities, the PP 1200 is particularly suitable for fuel or oil tanks, shock resistant parts, complex end-use parts with snap fit and hinges covering a wide range of industrial applications.

The PP 1200 is an **interesting material to expand 3D printing applications and volumes.**

The PP 1200 can be processed with any ProMaker Pseries printers as a good alternative to PA12 for Additive Manufacturing applications.



KEY FEATURES & BENEFITS

- Unmatched dimensional stability over time and under difficult conditions
- Good welding capabilities
- Suitable for translucent and shock resistance parts



TYPICAL



APPLICATIONS

- Pipes and ducts
- Reservoirs and manifolds
- Economic and functional prototypes
- Multi-purpose industrial goods
- Durable jigs & fixtures

MATERIAL PROPERTIES

	TEST METHOD	VALUE
Base material		Polypropylene composite
Appearance		Translucent
Bulk density [g/cm ³]	DIN EN ISO 60	0.3 - 0.45
Sintered part density [g/cm ³]	ISO 61	0.89
Average particle size (µm)	Laser diffraction	60 - 70
Melting point [°C]	ISO 11357 (10 K/min)	136 - 143

MECHANICAL PROPERTIES*

	TEST METHOD	VALUE
Tensile strength [MPa]	ISO 527	20 - 25
Young modulus [MPa]	ISO 527	1150 - 1500
Tensile elongation at break [%]	ISO 527	20 - 25
Flexural modulus (MPa)	ISO 178	1050 - 1150
HDT/A (1.8 MPa) [°C]	ISO 75	55 - 65

* Performance characteristics may change according to product application, operating conditions or level of refresh.

TPU-70A

Thermoplastic urethane powder for Laser Sintering



The TPU-70A is elastomeric material characterized by a high elongation at break. This particularly suitable for prototypes and final parts for elastic structures, hoses, grips, bellows, bumpers, gaskets and seals, tubes, toys and modeling for Footwear, Automotive, Aerospace and Luxury industry.

Due to its very good powder properties and processability, the TPU is suitable for the creation of flexible parts with a good surface quality and a long life.

The TPU-70A can be processed with any ProMaker Pseries printers.



KEY FEATURES & BENEFITS

- High elongation break up to 300
- Good chemical resistance
- Excellent shock absorption or rebound capabilities



TYPICAL APPLICATIONS

- Flexible parts
- Sealings (windows, automotive...)
- Automation (grippers, tubes)
- Flexible pipes
- Orthopedic components

MATERIAL PROPERTIES

	TEST METHOD	VALUE
Base material		Polyurethane
Appearance		White
Bulk density [g/cm ³]	Prodways method	1.2
Sintered part density [g/cm ³]	ISO 1183	>1.10
Average particle size (µm)	Laser diffraction	60 - 65
Melting point [°C]	ISO 11357	105 - 125

MECHANICAL PROPERTIES*

	TEST METHOD	VALUE
Tensile strength [MPa]	DIN 53504	6 - 12
Young modulus [MPa]	DIN 53504	40 - 65
Tensile elongation at break [%]	DIN 53504	>300

* Performance characteristics may change according to product application, operating conditions or level of refresh.