Nylon PA 11 Black Datasheet

Overview

Nylon PA 11 Black is compatible with selective laser sintering (SLS) and is an environmentally friendly polyamide known for its excellent mechanical properties. It is well-suited for producing functional parts like gears, drone components, and technical components that operate in high-stress conditions.

As-printed Part's Tolerance: ±300μm or 0.3%

Maximum Printing Size: 645*325*520mm

Properties

Thermal Properties	Metric	Method
Heat Deformation (0.46 MPa)	170.5℃	ASTM D648M
Heat Deformation (1.82 MPa)	85.5℃	ASTM D648M
Mechanical Properties	**Metric**	**Method**
Tensile Strength	45MPa	ASTM D638M
Tensile Modulus	1600MPa	ASTM D638M
Elongation at Break	48%	ASTM D638M
Flexural Properties	**Metric**	**Method**
Flexural Modulus	1500MPa	ASTM D790
Flexural Strength	49MPa	ASTM D790
Impact Properties	**Metric**	**Method**
Notched Impact Strength	7 J/m	ASTM D256
Unnotched impact strength	31 J/m	ASTM D256
Other Properties	**Metric**	**Method**
Density	0.98 g/cm³	DIN 53466

Pros

SLS 3D printed Nylon PA 11 Black offers outstanding mechanical strength, flexibility, and resistance to chemicals. Its durability, flexibility, and chemical resistance make it highly suitable for industries such as automotive, aerospace, and healthcare.

Cons

This material is susceptible to shrinkage and warping and often needs significant post-processing to achieve a refined surface. Prints made from powdered materials typically have a rough, grainy texture.

Applications

Automotive Components Custom Prosthetics and Orthoses Gears

Electrical Connectors Enclosures and Housings Jigs and Fixtures

Sensor Components Surgical Tools Brackets and Gaskets