Selective Laser Sintering (SLS)

Nylon 11 / PA 11

Key Features

Impact resistance • Biocompatibility • High ductility

Applications

Prototyping • End-use parts • Machine building • Medicine, dentistry • Consumer goods

Product Description

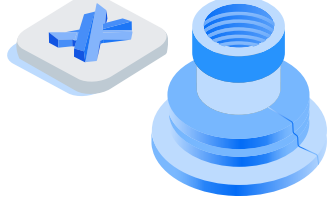
Nylon 11 powder stands out as a high-performance, bio-based nylon material ideal for creating highly ductile and robust parts in functional prototyping and small batch production. Offering superior flexibility and impact resistance compared to Nylon 12 powder, it excels in printing thin walls and parts that require resilience to bending or impact, ensuring durability and reliability in various applications.

Properties

Tensile modulus	1,600 MPa
Tensile strength	49 MPa
Elongation at break	40%
Flexural strength	55 MPa
Flexural modulus	1,400 MPa
Heat deflection temperature (0.45 MPa)	182°C
Heat deflection temperature (1.80 MPa)	46°C
Softening temperature	189°C
Density	1.03 g/cm^3
Hardness	75D
Flame retardancy (thickness of the sample tested = 3.00 mm)	UL 94 HB

Reference

For more detailed source information, please consult the original document linked here. We encourage users to verify the data's relevance and suitability for their specific needs.



HP Multi Jet Fusion (MJF)

Nylon 11 / PA 11

Key Features

Chemical resistance • High ductility • Biocompatibility

Applications

Prototyping • End-use parts • Medicine, dentistry • Consumer goods

Product Description

This thermoplastic material delivers optimal mechanical properties, including excellent strength and ductility, ideal for functional parts like prostheses and sports equipment. Derived from renewable vegetable castor oil, it minimizes environmental impact and waste by reusing surplus powder batch after batch, achieving up to 70% reusability. This cost-efficient solution ensures consistent performance while providing industry-leading surplus powder reusability, optimizing both cost and part quality.

Properties

Tensile modulus	1,800 MPa
Tensile strength	52 MPa
Elongation at break (XY/XZ/YX/YZ, ZX/ZY)	50, 35%
Flexural strength @5%	70 MPa
Flexural modulus	1,800 MPa
Powder melting point (DSC)	202°C
Heat deflection temperature (0.45 MPa)	185C
Heat deflection temperature (1.80 MPa)	54°C
Density	1.05 g/cm^3
Hardness	80D

Reference

For more detailed source information, please consult the original document linked here. We encourage users to verify the data's relevance and suitability for their specific needs.