



Nylon 12 / PA 12 (FDM)

Alternative Designations

Polyamide 12

Key Features

Mechanical resilience • Impact and fatigue resistant
• Tough • Chemical resistant

Description

It is a versatile, strong, and durable thermoplastic. It is frequently used in the production of 3D printed parts and products. Nylon 12 has a wide range of applications, including in the automotive, aerospace, and medical industries. It also possesses low coefficient of friction. However, rough surfaces are produced due to the initial powdery state of nylon.

Mechanical Properties

Tensile modulus	1250 – 1510 MPa
Tensile strength	41.8 – 49.3 MPa
Elongation at break	6.5 – 30%
Flexural strength	54.5 – 56.5 MPa
Flexural modulus	1.20 – 1.26 GPa
Hardness (Shore D)	75

Thermal Properties

Melting temperature (20°C/min)	172 – 180°C
Heat deflection temperature (1.80 MPa)	75.3 – 84.3°C
Heat deflection temperature (0.45 MPa)	91.9 – 94.7°C
Softening temperature	163°C

Physical Properties

Density	1.01 g/cm ³
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Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit Materialdatacenter.com for further information on this material.