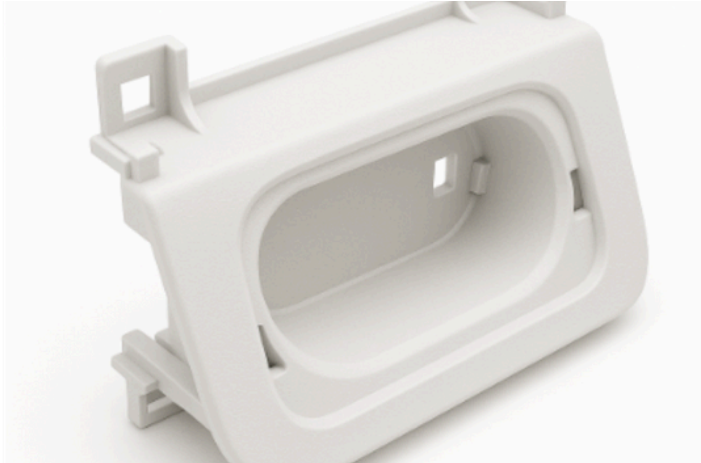


Nylon 12-FR

INDUSTRIAL GRADE MATERIALS FOR SLS 3D PRINTING



MATERIAL NAME

Nylon 12-FR

COLOR

White

PROCESS

SLS

PRODUCT DESCRIPTION

Nylon 12-FR is a specially modified flame-retardant thermoplastic polyamide material, featuring excellent mechanical properties, dimensional stability, and outstanding flame retardancy. Modified with halogen-free, eco-friendly flame retardants, the material meets international fire safety standards such as UL 94 V-0 and EN 45545. It is particularly suitable for industries with stringent fire protection requirements, including electrical, electronics, automotive, and rail transportation.

TYPICAL APPLICATIONS

- Electronic appliances
- The automotive industry
- Aerospace and military industry
- Industrial equipment and energy

PRODUCT SAFETY

Most nylon products are biocompatible materials. There is no problem with normal skin contact. Only a small number of people will experience slight skin irritation.

PRODUCT DELIVERY & WAREHOUSING

- **MOISTURE CONTROL**

Nylon is highly hygroscopic. Store in a dry environment with humidity below 50% to prevent dimensional swelling and performance degradation.

Use sealed packaging with desiccants or vacuum storage.

- **TEMPERATURE CONTROL**

Keep storage temperature between 5°C and 35°C. Avoid high temperatures (>60°C) that may cause deformation and low temperatures (<0°C) that may induce brittleness.

- **UV PROTECTION**

Avoid exposure to UV light to prevent material aging, such as yellowing, brittleness, or loss of mechanical properties.

- **PHYSICAL PROTECTION**

Prevent heavy stacking or impacts to avoid deformation or cracking.

MATERIAL PROPERTIES

Properties	Test Method	Value
Hardness	/	/
Flexural modulus (Mpa)	ASTM D790	2200 MPa
Flexural strength (Mpa)	ASTM D790	73 MPa
Tensile modulus (Mpa)	ASTM D638	2550 MPa
Tensile strength (Mpa)	ASTM D638	46 MPa
Elongation at break	ASTM D638	4%
Poisson's Ratio	/	/
Impact strength notched Izod (J/m)	ISO 179/1eA	3 kJ/m ²
Heat deflection temperature (°C)	ASTM D648	HDT @0.45 MPa: 176°C HDT @1.82 MPa: 105°C
Glass transition,Tg (°C)	/	/
Coefficient of thermal expansion(/°C)	/	/
Density (g/cm ³)	DIN 53466	1.02 g/cm ³
UL 94 Flame Rating (3 mm Thickness)	IEC 60695-11-10	V-0

Tips: Want to explore a wider range of materials? Check out <https://www.unionfab.com/materials>



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