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*Manufacturing On Demand*

# Data Sheet: Nylon PA12

## Details

Nylon PA 12 is one of the most popular 3D printing materials. It has good mechanical properties such as toughness, tensile strength and impact strength. This material can also be flexed without fracture. It has a melting point of 178°C with low water absorption. It is broadly used for sterilized films for packaging materials in the food and pharmaceutical fields.

## Key Features

Good impact strength • Tough • Can be flexed without fracture

## Thermal Properties

| Property | Value |
|---|---|
| Heat deflection [°C] | 97 |
| Glass transition temperature [°C] | 75.2 |
| Vicat softening temperature [°C] | 155 |
| Coefficient of thermal expansion [K-1 · 10-6] | 111 |
| Thermal conductivity [W/m · K] | 2.96 |
| Specific heat capacity [J/kg · K] | 1185 |
| Melting point [°C] | 178 |

## Mechanical Properties

| Property | Value |
|---|---|
| Tensile strength [MPa] | 53 |
| Modulus of elasticity [GPa] | 1.31 |

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| | |
|---|---|
| Flexural strength [MPa] | 68.9 |
| Flexural modulus [GPa] | 1.31 |
| IZOD Impact [J/m] | 150 |
| Elongation at break [%] | 9.5 |

## Physical Properties

| Property | Value |
|---|---|
| Density [g/cm³] | 1.0 |
| Water Absorption [%] | 0.9 |
| Electrical Resistivity [ohm-cm] | $2.32 \times 10^{14}$ |

## 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.