



## Material Data Sheet: **Nylon 12**

### Typical Properties: **Mechanical Properties**

#### **General material properties**

Average grain size	Laser diffraction	60	μm
Bulk density	DIN 53466	0.435 – 0.445	g/cm <sup>3</sup>
Density of laser-sintered part	EOS method	0.9 – 0.95	g/cm <sup>3</sup>

#### **Mechanical properties**

Tensile Modulus	DIN EN ISO 527	1700 ± 150	N/mm <sup>2</sup>
Tensile strength	DIN EN ISO 527	45 ± 3	N/mm <sup>2</sup>
Elongation at break	DIN EN ISO 527	20 ± 5	%
Flexural Modulus	DIN EN ISO 178	1240 ± 130	N/mm <sup>2</sup>
Charpy - Impact strength	DIN EN ISO 179	53 ± 3.8	kJ/m <sup>2</sup>
Charpy - Notched impact strength	DIN EN ISO 179	4.8 ± 0.3	kJ/m <sup>2</sup>
Izod – Impact Strength	DIN EN ISO 180	32.8 ± 3.4	kJ/m <sup>2</sup>
Izod – Notched Impact Strength	DIN EN ISO 180	4.4 ± 0.4	kJ/m <sup>2</sup>
Ball indentation hardness	DIN EN ISO 2039	77.6 ± 2	
Shore D - hardness	DIN 53505	75 ± 2	

#### **Thermal properties**

Melting point	DIN 53736	172 – 180	°C
Vicat softening temperature B/50	DIN EN ISO 306	163	°C
Vicat softening temperature A/50	DIN EN ISO 306	181	°C