

Material Portrait

PA 66 HS natural

PA 66, heat-stabilised

PA 66 HS natural is a material of the PA 66, heat-stabilised type. Heat-stabilised for increased thermo-oxidative resistance, high rigidity.

Properties

Advantages

- Heat-stabilised for increased thermo-oxidative resistance
- High rigidity
- Good machinability

Processing

Like other engineering thermoplastics, PA 66 HS natural can be machined using all conventional cutting methods (sawing, turning, drilling, milling, planing, grinding).

Unreinforced grades can be machined with HSS tools; glass-fibre reinforced or filled grades require carbide tools. Good cooling via chip removal is important to avoid softening or smearing of the surface caused by heat build-up.

Typical Applications

PA 66 HS natural is mainly used wherever the properties listed above are required, including in mechanical engineering, electrical industry.

- Mechanical Engineering
- Electrical Industry

Typical Properties

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- High rigidity
- Good machinability

Typical Industries

- Mechanical Engineering
- Electrical Industry

	Test Method	Unit	Value
General Properties			
Density	DIN EN ISO 1183-1	g / cm ³	1.15
Water absorption	DIN EN ISO 62	%	2.80
Flammability (Thickness 3 mm / 6 mm)	UL 94		HB / V2
Mechanical Properties			
Yield stress	DIN EN ISO 527	MPa	85
Elongation at break	DIN EN ISO 527	%	50

	Test Method	Unit	Value
Tensile modulus of elasticity	DIN EN ISO 527	MPa	3.300
Notched impact strength	DIN EN ISO 179	kJ / m ²	>3.0
Ball indentation hardness	DIN EN ISO 2039-1	MPa	170
Shore hardness	DIN EN ISO 868	scale D	82
Thermal Properties			
Melting temperature	ISO 11357-3	°C	260
Thermal conductivity	DIN 52612-1	W / (m * K)	0.23
Thermal capacity	DIN 52612	kJ / (kg * K)	1.70
Coefficient of linear thermal expansion	DIN 53752	10 ⁻⁶ / K	80
Service temperature, long term	Average	°C	-30 ... 120
Service temperature, short term (max.)	Average	°C	170
Heat deflection temperature	DIN EN ISO 75, Verf. A, HDT	°C	100