

What is PA 6 G PD 120 blue

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PA 6 G, impact-modified (special compound PD 120)

PA 6 G PD 120 blue is a cast, impact-modified polyamide 6 special compound. It combines the high strength and wear resistance of cast polyamide with excellent damping properties and remains break-proof even at sub-zero temperatures – designed for impact-loaded components such as damping buffers and pile pads.

Properties

PA 6 G PD 120 blue is a cast, semi-crystalline polyamide with a balanced combination of toughness and strength. The impact modification allows the material to absorb shock and impact loads with a damping effect, reduces operating noise and prevents brittle fracture even below zero degrees. At the same time, the good sliding and wear properties of the PA6 G base material are retained.

Like all polyamides, PA 6 G PD 120 blue absorbs moisture from the environment (up to approx. 3 % in standard atmosphere); this makes the material tougher and more impact-resistant, while stiffness and dimensional stability decrease somewhat.

Advantages

- Break-proof even at sub-zero temperatures
- Excellent damping properties, noise-reducing
- Good sliding and wear properties
- Balanced combination of toughness and strength

Disadvantages

- Moisture absorption up to approx. 3 % in standard atmosphere, causing dimensional and property changes
- Not resistant to strong acids and permanently hot water (hydrolysis)
- Not generally declared for food contact (see FDA declaration)

Processing

PA 6 G PD 120 blue can be machined like standard PA6 G using all conventional cutting methods; HSS or carbide tools are sufficient. Good cooling via chip removal remains important to avoid softening or smearing of the surface caused by heat build-up.

For tight tolerances, we take swelling and shrinkage behaviour into account and condition the semi-finished product where required.

Typical Applications

PA 6 G PD 120 blue is used wherever shocks must be damped and impact loads absorbed safely – classically as a pile pad between the pile driver and the pile, but also as a buffer and stop element in conveyor technology and mechanical engineering.

- Pile pads for pile driving equipment
- Damping buffers and stop elements
- Impact-loaded bearing and guide elements

Typical Properties

- Break-proof even at sub-zero temperatures
- Excellent damping
- Good sliding and wear properties

Product Examples

- Pile pads
- Damping buffers
- Stop elements

Typical Industries

- Conveyor Technology & Automation
- Mechanical Engineering
- Building Industry

	Test Method	Unit	Value
General Properties			

	Test Method	Unit	Value
Density	DIN EN ISO 1183-1	g / cm ³	1.14
Water absorption	DIN EN ISO 62	%	2.50
Flammability (Thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical Properties			
Yield stress	DIN EN ISO 527	MPa	72
Elongation at break	DIN EN ISO 527	%	50
Tensile modulus of elasticity	DIN EN ISO 527	MPa	3.100
Notched impact strength	DIN EN ISO 179	kJ / m ²	3.5
Ball indentation hardness	DIN EN ISO 2039-1	MPa	172
Shore hardness	DIN EN ISO 868	scale D	82
Thermal Properties			
Melting temperature	ISO 11357-3	°C	215
Thermal conductivity	DIN 52612-1	W / (m * K)	0.25
Coefficient of linear thermal expansion	DIN 53752	10 ⁻⁶ / K	80
Service temperature, long term	Average	°C	-40 ... 110
Service temperature, short term (max.)	Average	°C	160
Heat deflection temperature	DIN EN ISO 75, Method A, HDT	°C	90