

Nylon 6 Cast (Natural)

The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from injection moulding samples. We reserve the right of technical alterations.

Properties	Unit	Test method DIN EN ISO / ASTM	
Mechanical			
Density	g/cm ³	527 / D 792	1.15
Tensile strength at yield	MPa	527 / D 638	85 / 60 ***
Tensile strength at break	MPa	527 / D 638	
Elongation at break	%	527 / D 638	3 / 50 ***
Modulus of elasticity in tension	MPa	527 / D 638	3300 / 1700 ***
Modulus of elasticity in flexure	MPa	178 / D 790	
Ball indentation hardness	MPa	2039 / 1	90 -160
Impact strength	kJ/m ²	179 / D 256	no br.
Creep rupture strength after 1000 hrs with static load	MPa		50
Time yield limit for 1% elongation after 1000 hrs	MPa		5
Coefficient of friction against hardened and ground steel p = 0.05 N/mm ² , v = 0.6 m/s	-		0.4
Wear conditions as above	µm/km		
Thermal			
Crystalline melting point	°C	DIN 53 736	220
Glass transition temperature	°C	DIN 53 736	40 / 5 ***
Heat distortion temperature Method A	°C	R 75	95
Method B	°C	R 75	195
Max. service temperature short term	°C		180
long term	°C		100
Coefficient of thermal conductivity	W/(m K)		0.24
Specific heat	J/(g K)		1.7
Coefficient of thermal expansion	10 ⁻⁵ /K	DIN 53 483 / D 696	6
Electrical			
Dielectric constant at 10 ⁵ Hz		DIN 53 483	3.7
Dielectric loss factor at 10 ⁵ Hz		DIN 53 483	0.03 – 0.30
Specific volume resistance	Ω cm	DIN 60093	10 ¹² - 5 x 10 ¹⁴
Surface resistance	Ω	DIN 60093	5 x 10 ¹²
Dielectric strength 1 mm	kV/mm	ASTM 149	50
Tracking resistance		53 480	KA 3c KA 3b
Miscellaneous			
Moisture absorption: Equilibrium in standard atmosphere (23 °C / 50 % relative humidity)	%	62	2.5
Water absorption at saturation at 23°C	%	62	6 – 7
Resistance to hot water, washing soda			limited resistance
Flammability according to UL standard 94			HB
Resistance to weathering			not resistant

*** after storage in a standard 23/50 atmosphere (DIN 50 014) to equilibrium