

TECHNICAL DATA - PETP
NATURAL

MATERIAL PROPERTIES	STANDARD	UNIT	VALUE
DENSITY	ISO 1183	g/cm ³	1.38
WATER ABSORPTION (@23 °C / 50% RH)	ISO 62	%	0.25
MECHANICAL			
TENSILE STRESS AT BREAK	ISO 527	MPa	85
MODULUS OF ELASTICITY	ISO 527	MPa	3000
IMPACT STRENGTH	DIN 53453	(kJ/m ²)	>50
NOTCHED IMPACT STRENGTH	DIN 53453	(kJ/m ²)	3.5
BALL INDENTATION HARDNESS	ISO2039-1	(N/mm ²)	170
ROCKWELL HARDNESS	ISO2039-2	-	M84
COEFFICIENT OF FRICTION (DRY vs STEEL)			0.2-0.3
THERMAL			
MELTING POINT	DIN5376	°C	255
COEFFICIENT OF LINEAR THERMAL EXPANSION (23-60 °C)	ISO 11359	m/(m-K) 60*10 ⁻⁶	
MAX WORK TEMP	-	°C	115
MAX BRIEF TEMP	-	°C	180
MIN TEMP	-	°C	-20
FLAMMABILITY OXYGEN INDEX UL94 (3MM/6MM)	4589	%	25 HB/HB
ELECTRICAL			
DIELECTRIC CONSTANT	DIN 53483	@50HZ DRY	3.4
VOLUME RESISTIVITY	DIN 53482	Ohm*cm	10 ¹⁸
SURFACE RESISTIVITY	DIN 53482	Ohm	10 ¹⁶
TRACKING RESISTANCE	DIN 53480		600
DIELECTRIC STRENGTH	DIN 53481	kV/mm	20
PHYSIOLOGICAL			
FOOD CONFORMITY TO			
EU		YES	
FDA		YES	

The following applies to Polyamides Under the influence of moisture absorption, the mechanical properties change. The material becomes tougher and more resistant to impact, the modulus of elasticity declines. Depending on the environmental atmosphere, the temperature and the period of moisture absorption, only the surface layer is affected by alterations of property to a certain depth. On thick walled parts, the centre area remains unaffected.

The short-term application temperature only applies to low mechanical stress for a few hours. The long-term maximum application temperature is based on the thermal aging of plastics by oxidation, resulting in a decrease of the mechanical properties. This applies to an exposure to temperatures for at least 5,000 hours causing a 50% loss of the tensile strength from the original value (measured at room temperature). This value says nothing about the mechanical strength of the material at high application temperatures. In the case of thick walled parts, only the surface layer is affected by oxidation from higher temperatures. With the addition of antioxidants, a better protection of the surface layer is achieved. In any case the centre area of the material remains unaffected.

The minimum application temperature is basically influenced by possible stress factors such as shock and or impact under application. The values stated refer to a minimum degree of impact stress.

The electrical properties as stated result from measurements on natural, dry material. With other colours (in particular Black) or saturated material, there may be a clear difference in the electrical properties.

All information given is in good faith and without warranty

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