

SUSTAMID® 12

Product characteristics

- Low moisture absorption
- Very good stress cracking resistance
- Good impact strength

Product applications

- Mechanical engineering
- Aircraft construction
- Apparatus construction

	Test method	Unit	Value
General properties			
Density	DIN EN ISO 1183-1	g / cm ³	1,02
Water absorption	DIN EN ISO 62	%	0,8
Flammability (Thickness 3 mm / 6 mm)	UL 94		HB / HB
Mechanical properties			
Yield stress	DIN EN ISO 527	MPa	50
Elongation at break	DIN EN ISO 527	%	200
Tensile modulus of elasticity	DIN EN ISO 527	MPa	1800
Notched impact strength	DIN EN ISO 179	kJ / m ²	20
Shore hardness	DIN EN ISO 868	scale D	78
Thermal properties			
Crystalline grain melting range	ISO 11357-3	°C	178
Thermal conductivity	DIN 52612-1	W / (m * K)	0,3
Thermal capacity	DIN 52612	kJ / (kg * K)	1,70
Coefficient of linear thermal expansion	DIN 53752	10 ⁻⁶ / K	100
Service temperature, long term	Average	°C	-50 ... 80
Service temperature, short term (max.)	Average	°C	140
Heat deflection temperature	DIN EN ISO 75, Verf. A, HDT	°C	50
Electrical properties			
Dielectric constant	IEC 60250		3,8
Dielectric dissipation factor (50 Hz)	IEC 60250		0,04
Volume resistivity	IEC 60093	Ω * cm	10 ¹⁵
Surface resistivity	IEC 60093	Ω	10 ¹³
Comparative tracking index	IEC 60112		600
Dielectric strength	IEC 60243	kV / mm	26

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 center area remains unaffected