

Technical Properties of:		ZELLAMID® 1100 Natural (PA6C)			
Edition / Date:		2/ 22.08.2025			
Characteristics		Unit	Test method	Condition of specimen	Value
MECHANICAL PROPERTIES					
Yield stress	23°C	MPa	ISO 527		80
Tensile strength	23 °C	MPa	ISO 527		---
Elongation at break	23°C	%	ISO 527		40,0
Tensile E-Modulus		MPa	ISO 527		3100
Bending Modulus		MPa	ISO 178		3400
Flexural Strength		MPa	ISO 178		140
Charpy impact strength	23 °C	kJ/m²	ISO 179/1eU		no break
Charpy Notched Impact Strength	23 °C	kJ/m²	ISO 179/1eA		> 4
Shore D hardness			ISO 868		---
Ball Hardness		MPa	ISO 2039-1		160
Compressive modulus		MPa	ISO 604		---
Compressive Stress	1%/2%/5% Nominal Strain	MPa	ISO 604		---
THERMAL PROPERTIES					
HDT-A	1,82 MPa	°C	ISO 75		---
Glass Transition Temperature		°C	ISO 3146		---
Melting Temperature		°C	ISO 3146		220
Maximum Service Temperature for Few Hours Operation		°C	-		170
Service temperature long term		°C	-		105
Minimum service temperature		°C	-		-40
Specific Heat Capacity		J/(g.K)	IEC 1006	dry	1,7
Coefficient of thermal expansion		1/K10 ⁻⁶ (-5)	DIN 53752		7 - 8
Thermal Conductivity	Method A	W/(K.m)	-	dry	0,230
DIELECTRIC PROPERTIES					
Dielectric Constant	1 MHz		IEC 60250		3,7
Dissipation Factor Tan δ	1 MHz		IEC 60250		0,0300
Dielectric Strength		kV/mm	IEC 60243		50
Volume Resistivity		Ω.cm	IEC 60093		10 ¹⁵
Surface Resistivity		Ω	IEC 60093		10 ¹⁴
Resistance to Tracking (CTI)			IEC 60112		600
PHYSICAL PROPERTIES					
Density	23°C	g/cm³	ISO 1183-1		1,15
BURNING BEHAVIOUR					
Flammability classification*			UL 94		HB
GENERAL					
Water Absorption	23°C, saturation	%	ISO 62		6,5
	23°C / 50% RH	%	ISO 62		2,2
Food contact	-		-		+
Food contact approval			FDA		+
			EU 10/2011		+
Dimensional Stability			-		-
Coefficient of Friction			-		+
Wear Resistance			-		+
RESISTANCE					
Chemical Resistance			-		+
Verschleißrate		µm/km	ISO 7148-2	trocken	---

Resistance to wear tested by a pin / rotating disc test according DIN ISO 7148-2 under following conditions: Ra = 0.35 - 0.45 µm (steel disc), v = 0.3 m/s, p = 3 N/mm², time T > 16 h

Explanation Symbols: + good 0 neutral - not good / actually not available Tests are done under dry conditions at room temperature

All statements, technical information and recommendations contained in this data sheet are presented in good faith, but all information given is without warranty and liability. Properties of the delivered products can verify because of differences to the testing samples. Non-tested values are fulfilled with raw material datas and literature information. The reader is cautioned, however that

Zell-Metall cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of Zell-Metall products in any given application.

PLEASE RECONFIRM THE DATA SHEET BEFORE USE WITH ZELL MATERIALS, qm@zellamid.com