

Technical Properties of:		ZELLAMID® 1500 X (PEEK)			
Edition / Date:		3 / 21-01-2019			
Characteristics	Unit	Test method	Condition of specimen	Value	
MECHANICAL PROPERTIES					
Yield stress	23 °C	MPa	ISO 527		105
Tensile strength	23 °C	MPa	ISO 527		105
Elongation at break	23 °C	%	ISO 527		20
Tensile E-Modulus		MPa	ISO 527		4 200
Bending Modulus		MPa	ISO 178		3 900
Flexural Strength		MPa	ISO 178		160
Charpy impact strength	23 °C	kJ/m ²	ISO 179/1eU		no break
Charpy Notched Impact Strength	23 °C	kJ/m ²	ISO 179/1eA		3.5
Shore D hardness			ISO 868		86
Ball Hardness		MPa	ISO 2039-1		229
Compressive modulus		MPa	ISO 604		3 500
Compressive Stress	1 % Nominal Strain	MPa	ISO 604		35
	2 % Nominal Strain	MPa	ISO 604		69
	5 % Nominal Strain	MPa	ISO 604		130
THERMAL PROPERTIES					
HDT-A	1,82 MPa	°C	ISO 75		160
Glass Transition Temperature		°C	ISO 3146		150
Melting Temperature		°C	ISO 3146		340
Maximum Service Temperature for Few Hours Operation		°C	-		300
Service temperature long term		°C	-		260
Minimum service temperature		°C	-		-60
Coefficient of thermal expansion		1/K10 ⁻⁵	DIN 53752		5.8
DIELECTRIC PROPERTIES					
Dielectric Constant	1 MHz		IEC 60250		3.05
Dissipation Factor			IEC 60250		0.003
Dielectric Strength		KV/mm	IEC 60243		15
Volume Resistivity		Ω.cm	IEC 60093		10 ¹⁵
Surface Resistivity		Ω	IEC 60093		10 ¹⁴
PHYSICAL PROPERTIES					
Density	23 °C	g/cm ³	ISO 1183-1		1.3
BURNING BEHAVIOUR					
Flammability classification*			UL 94		V-0
GENERAL					
Water Absorption	23 °C, saturation	%	ISO 62		0.4
Food contact			-		+
Food contact approval			FDA		+
			EU 10/2011		+
Dimensional Stability			-		+
Coefficient of Friction			-		-
Wear Resistance			-		-
RESISTANCE					
Chemical Resistance			-		+
MISCELLANEOUS PROPERTIES					
Resistance to Wear		µm/km	ISO 7148-2	dry	2.3

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