

Technical Properties of:		ZELLAMID® 1500 XT (PEEK filled)			
Edition / Date:		2 / 01-01-2016			
Characteristics	Unit	Test method	Condition of specimen	Value	
MECHANICAL PROPERTIES					
Yield stress	23 °C	MPa	ISO 527	120	
Elongation at break	23 °C	%	ISO 527	2	
Tensile E-Modulus		MPa	ISO 527	9 000	
Bending Modulus		MPa	ISO 178	9 100	
Flexural Strength		MPa	ISO 178	190	
Charpy impact strength	23 °C	kJ/m ²	ISO 179/1eU	40	
Charpy Notched Impact Strength	23 °C	kJ/m ²	ISO 179/1eA	5	
Shore D hardness			ISO 868	85	
Ball Hardness		MPa	ISO 2039-1	242	
Compressive modulus		MPa	ISO 604	2 800	
Compressive Stress	1 % Nominal Strain	MPa	ISO 604	33	
	2 % Nominal Strain	MPa	ISO 604	66	
	5 % Nominal Strain	MPa	ISO 604	115	
THERMAL PROPERTIES					
HDT-A	1,82 MPa	°C	ISO 75	315	
Melting Temperature		°C	ISO 3146	340	
Maximum Service Temperature for Few Hours Operation		°C	-	300	
Service temperature long term		°C	-	250	
Minimum service temperature		°C	-	-30	
Coefficient of thermal expansion		1/K10 ⁻⁵	DIN 53752	2.2	
Thermal Conductivity	Method A	W/(K.m)	-	dry 0.24	
DIELECTRIC PROPERTIES					
Dielectric Constant	1 MHz		IEC 60250	4.9	
Dissipation Factor			IEC 60250	0.02	
Volume Resistivity		Ω.cm	IEC 60093	≥ 10 ³ ≤ 10 ⁷	
Surface Resistivity		Ω	IEC 60093	10 ⁵	
PHYSICAL PROPERTIES					
Density	23 °C	g/cm ³	ISO 1183-1	1.45	
BURNING BEHAVIOUR					
Flammability classification*			UL 94	V-0	
GENERAL					
Water Absorption	23 °C, saturation	%	ISO 62	0.4	
	23 °C / 50% RH	%	ISO 62	0.06	
Food contact			-	+	
Food contact approval			FDA	+	
			EU 10/2011	+	
Dimensional Stability			-	+	
Coefficient of Friction			-	+	
Wear Resistance			-	O	
RESISTANCE					
Chemical Resistance			-	+	
MISCELLANEOUS PROPERTIES					
Resistance to Wear		µm/km	ISO 7148-2	dry 1.27	

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

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