

Technical Properties of:		<b>ZELLAMID® 1400 (PET)</b>			
Edition / Date:		2 / 01-01-2016			
Characteristics	Unit	Test method	Condition of specimen	Value	
<b>MECHANICAL PROPERTIES</b>					
Yield stress	23 °C	MPa	ISO 527	88	
Tensile strength	23 °C	MPa	ISO 527	88	
Elongation at break	23 °C	%	ISO 527	10	
Tensile E-Modulus		MPa	ISO 527	3 400	
Bending Modulus		MPa	ISO 178	3 300	
Flexural Strength		MPa	ISO 178	130	
Charpy impact strength	23 °C	kJ/m <sup>2</sup>	ISO 179/1eU	82	
Charpy Notched Impact Strength	23 °C	kJ/m <sup>2</sup>	ISO 179/1eA	2.8	
Shore D hardness			ISO 868	81	
Ball Hardness		MPa	ISO 2039-1	177	
Compressive modulus		MPa	ISO 604	2 400	
Compressive Stress	1 % Nominal Strain	MPa	ISO 604	28	
	2 % Nominal Strain	MPa	ISO 604	53	
	5 % Nominal Strain	MPa	ISO 604	100	
<b>THERMAL PROPERTIES</b>					
HDT-A	1,82 MPa	°C	ISO 75	100	
Melting Temperature		°C	ISO 3146	255	
Maximum Service Temperature for Few Hours Operation		°C	-	160	
Service temperature long term		°C	-	100	
Minimum service temperature		°C	-	-20	
Thermal Coefficient of Linear Expansion		1/K.10 <sup>-5</sup>	DIN 53752	dry	6
Coefficient of thermal expansion		1/K10 <sup>^(-5)</sup>	DIN 53752		6
<b>DIELECTRIC PROPERTIES</b>					
Dielectric Constant	1 MHz		IEC 60250	3.3	
Dissipation Factor			IEC 60250	0.02	
Dielectric Strength		KV/mm	IEC 60243	20	
Volume Resistivity		Ω.cm	IEC 60093	10 <sup>15</sup>	
<b>PHYSICAL PROPERTIES</b>					
Density	23 °C	g/cm <sup>3</sup>	ISO 1183-1	1.36	
<b>BURNING BEHAVIOUR</b>					
Flammability classification*			UL 94	HB	
<b>GENERAL</b>					
Water Absorption	23 °C, saturation	%	ISO 62	0.5	
	23 °C / 50% RH	%	ISO 62	0.23	
Food contact			-	+	
Food contact approval			FDA	+	
			EU 10/2011	+	
Dimensional Stability			-	+	
Coefficient of Friction			-	+	
Wear Resistance			-	O	
<b>RESISTANCE</b>					
Chemical Resistance			-	+	
<b>MISCELLANEOUS PROPERTIES</b>					
Resistance to Wear		µm/km	ISO 7148-2	dry	2.5

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/mm<sup>2</sup>, 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-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.