

ZELL-METALL GMBH

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Technical Properties of: ZELLAMID® 1400 (PET)					
Edition / Date: 2 / 01-01-2016					
Characteristics		Unit	Test method	Condition of specimen	Value
MECHANICAL PROPERTIES					
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/m²	ISO 179/1eU		82
Charpy Notched Impact Strength	23 °C	kJ/m²	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
THERMAL PROPERTIES					
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 ⁻⁵	DIN 53752	dry	6
Coefficient of thermal expansion		1/K10 ⁻⁵ (-5)	DIN 53752		6
DIELECTRIC PROPERTIES					
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 ¹⁵
PHYSICAL PROPERTIES					
Density	23 °C	g/cm³	ISO 1183-1		1.36
BURNING BEHAVIOUR					
Flammability classification*			UL 94		HB
GENERAL					
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
RESISTANCE					
Chemical Resistance			-		+
MISCELLANEOUS PROPERTIES					
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/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.