

MATERIAL DATA SHEET

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Material Data Sheet: Z-PCABS

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cm ³	9.514 lbs/gal	ASTM D792
Density	1.14 g/cm ³	9.514 lbs/gal	ISO 1183
Moisture Absorption	0.1%	0.1%	23°C / sat ISO 62
Water Absorption	0.1%	0.1%	23°C / 50% RH ISO 62
Mold Shrinkage, flow	0.5 – 0.7 %	0.5 – 0.7 %	3,2mm (0.125 inch) [5] SABIC Method
Melt Flow Rate	8.5 g/10 min	0.0187 lbs/10 min	ASTM D1238
Mechanical Properties	Metric	English	Comments
Tensile Strength at Yield	58 MPa Thickness 3.20 mm	8200 psi Thickness 0.126 in	50mm/min (2 inch/min); ASTM D638
Tensile Strength at Break	57 MPa Thickness 3.20 mm	8100 psi Thickness 0.126 in	50mm/min (2 inch/min); ASTM D638
Tensile modulus	2.21 GPa	320 ksi psi	1mm/min ASTM D790
Elongation at Yield	4.9 %	4.9 %	50mm/min (2 inch/min); ASTM D638
Elongation at Break	125 % Thickness 3.20 mm	152 % Thickness 0.126 in	50mm/min (2 inch/min); ASTM D638
Flexural Strength	86 MPa Thickness 3.20 mm	12470 psi Thickness 0.126 in	1.27mm/min (0.05 inch/min); ASTM D790
Flexural Modulus	2.39 GPa Thickness 3.20 mm	347 ksi psi Thickness 0.126 in	1.27mm/min (0.05 inch/min); ASTM D790
Tensile Strength at Yield	50 MPa Thickness 3.20 mm	7250 psi Thickness 0.126 in	50mm/min (2 inch/min); ISO 527
Tensile Strength at Break	45 MPa Thickness 3.20 mm	6525 psi Thickness 0.126 in	50mm/min (2 inch/min); ISO 527
Tensile modulus	2.25 GPa	326 ksi	1mm/min ISO 527
Elongation at Yield	4 %	4 %	50mm/min (2 inch/min); ISO 527
Elongation at Break	>50 % Thickness 3.20 mm	>50 % Thickness 0.126 in	50mm/min (2 inch/min); ISO 527

Flexural Strength	85 MPa Thickness 3.20 mm	12325 psi Thickness 0.126 in	1.27mm/min (0.05 inch/min); ISO 178
Flexural Modulus	2.3 GPa Thickness 3.20 mm	334 ksi Thickness 0.126 in	1.27mm/min (0.05 inch/min); ISO 178
Rockwell Hardness	108	108	ASTM D785
Izod Impact, Notched	54 J/cm Thickness 3.20 mm, Temperature -30.0 °C	9.9 ft-lb/in Thickness 0.126 in, Temperature -22 °F	ASTM D256
	66 J/cm Thickness 3.20 mm, Temperature 23.0 °C	12.1 ft-lb/in Thickness 0.126 in, Temperature 73.4 °F	ASTM D256
	35 kJ/m ² 80x10x3 mm, Temperature -30.0 °C	6.4 ft-lb/in ² 80x10x3 mm, Temperature -30.0 °C	ISO 180/1A
	50 kJ/m ² 80x10x3 mm, Temperature 23.0 °C	9.3 ft-lb/in ² 80x10x3 mm, Temperature 23.0 °C	ISO 180/1A
Thermal Properties	Metric	English	Comments
Melting Point	225 °C	437 °F	ASTM D3418
	118 °C	244 °F	B/50 ASTM D1525
Vicat Softening Temperature	118 °C	244 °F	B/50 ISO 306
	122 °C	252 °F	B/120 ISO 306
Heat Distortion Temperature	107 °C	225 °F	1.82 MPa, 3.2 mm unannealed ASTM D648
	124 °C	255 °F	0.45 MPa, 3.2 mm unannealed ASTM D648
	120 °C	248 °F	1.8 MPa, 80x10x4 sp = 64 mm ISO 75/Af
Thermal Expansion Coefficient	7.2E-05 1/°C	4.E-05 1/°F	-40°C to 40°C, flow ISO 11359-2
			-40°C to 100°F, flow ASTM E831

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Final properties of the material can be impacted (+/-) by part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions. Product specifications are subject to change without notice.

The performance characteristics of these materials may vary according to application, operating conditions, or enduse. Each user is responsible for determining that the Zortrax material is safe, lawful and technically suitable for the intended application, as well as for identifying the proper disposal (or recycling) method consistent with applicable environmental laws and regulations. Zortrax makes no warranties of any kind, express or implied including but not limited to the warranties of merchantability, fitness for a particular use.

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Entered in the Register of Entrepreneurs of the National Court Register kept by the District Court in Olsztyn, VIII Commercial Division of the National Court Register, under KRS number 0000564079, with a share capital of PLN 7 462 500 paid in full.