

Wolf Kunststoff ZEDEX® ZX-550PV A7A Polymer Alloy

Category : Polymer , Thermoplastic

Material Notes:

Main Characteristics: Modified friction wear; Tough; Soft; Reduced wear at temperatures at 100 °C Applications: Chemical Engineering; Laboratory Technology; Automotive Technology; Machine Tools Information provided by Zedex

Order this product through the following link:

http://www.lookpolymers.com/polymer_Wolf-Kunststoff-ZEDEX-ZX-550PV-A7A-Polymer-Alloy.php

Physical Properties	Metric	English	Comments
Density	1.86 g/cc	0.0672 lb/in ³	ISO 1183
Water Absorption	0.020 % @Temperature 23.0 °C	0.020 % @Temperature 73.4 °F	RMC 93%; DIN EN ISO 62
Moisture Absorption at Equilibrium	0.040 %	0.040 %	DIN EN ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	>= 100	>= 100	DIN 53505
Hardness, Shore D	60	60	DIN 53505
Ball Indentation Hardness	32.0 MPa	4640 psi	DIN 2039
Tensile Strength at Break	12.0 MPa	1740 psi	DIN EN ISO 527
Tensile Strength	12.0 MPa	1740 psi	DIN EN ISO 527
Tensile Stress	0.600 MPa @Strain 1.00 %, Time 3.60e+6 sec	87.0 psi @Strain 1.00 %, Time 1000 hour	DIN 53444
Tensile Strength, Yield	6.80 MPa	986 psi	Elastic Limit
Elongation at Break	192 %	192 %	
	192 %	192 %	DIN EN ISO 527
Elongation at Yield	3.3 %	3.3 %	Flexural; DIN EN ISO 178
	4.2 %	4.2 %	Elastic Yield Point
Tensile Modulus	0.850 GPa	123 ksi	DIN EN ISO 527
Flexural Strength	15.0 MPa	2180 psi	Outer Fiber Stress at 3.5% Outer Fiber Strain; DIN EN ISO 178
	15.0 MPa	2180 psi	DIN EN ISO 178

Flexural Modulus Mechanical Properties	1.19 GPa Metric	173 ksi English	DIN EN ISO 178 Comments
Compressive Strength	11.0 MPa	1600 psi	Elastic Limit
	0.800 MPa	116 psi	
	@Time 3.60e+7 sec	@Time 10000 hour	
	8.00 MPa	1160 psi	
	@Time 360000 sec	@Time 100 hour	
	10.0 MPa	1450 psi	
	@Time 36.0 sec	@Time 0.0100 hour	
	19.0 MPa	2760 psi	DIN EN ISO 604
	@Strain 3.50 %	@Strain 3.50 %	
Compressive Modulus	1.15 GPa	167 ksi	DIN EN ISO 604
Fatigue Strength	4.00 MPa	580 psi	1 Hz
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	
K Factor (ISO)	0.60 µm/km	0.60 µm/km	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.80 µm/km	0.80 µm/km	
	@Temperature 200 °C	@Temperature 392 °F	
	2.7 µm/km	2.7 µm/km	
	@Temperature 100 °C	@Temperature 212 °F	
	6.4 µm/km	6.4 µm/km	
	@Temperature 240 °C	@Temperature 464 °F	
Charpy Impact Unnotched	NB	NB	EN ISO 179/1eU
Charpy Impact, Notched	11.3 J/cm²	53.8 ft-lb/in²	EN ISO 179/1eA
Coefficient of Friction, Dynamic	0.10	0.10	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.10	0.10	Dry Operation
	@Temperature 100 °C	@Temperature 212 °F	
Coefficient of Friction, Static	0.17	0.17	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Tensile Creep Modulus, 1000 hours	61.0 MPa	8850 psi	At 1% Deformation; DIN 53444

Limiting Pressure Velocity Mechanical Properties	0.02783 MPa-m/sec Metric	794.5 psi-ft/min English	v = 1m/min Comments
	0.100 MPa-m/sec	2860 psi-ft/min	v = 200m/min
	0.20833 MPa-m/sec	5947.8 psi-ft/min	v = 10m/min
	0.43333 MPa-m/sec	12372 psi-ft/min	v = 100m/min
Compression Set	1.4 %	1.4 %	Elastic Compression Limit

Thermal Properties	Metric	English	Comments
CTE, linear	144 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	80.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO E 830
	@Temperature <= 100 $^{\circ}\text{C}$	@Temperature <= 212 $^{\circ}\text{F}$	
	192 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	107 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO E 831
	@Temperature <= 150 $^{\circ}\text{C}$	@Temperature <= 302 $^{\circ}\text{F}$	
Specific Heat Capacity	0.930 J/g- $^{\circ}\text{C}$	0.222 BTU/lb- $^{\circ}\text{F}$	DSC
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ft ² - $^{\circ}\text{F}$	DIN 52612
Melting Point	323 $^{\circ}\text{C}$	613 $^{\circ}\text{F}$	DSC
Maximum Service Temperature, Air	70.0 $^{\circ}\text{C}$	158 $^{\circ}\text{F}$	Pressed Bushings
	240 $^{\circ}\text{C}$	464 $^{\circ}\text{F}$	Continuous
	260 $^{\circ}\text{C}$	500 $^{\circ}\text{F}$	Short Term (3h)
Glass Transition Temp, Tg	-20.0 $^{\circ}\text{C}$	-4.00 $^{\circ}\text{F}$	DSC
Flammability, UL94	V-0	V-0	
Oxygen Index	75 %	75 %	DIN EN ISO 4589

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+18 ohm-cm	1.00e+18 ohm-cm	IEC 93
Surface Resistance	>= 1.00e+13 ohm	>= 1.00e+13 ohm	IEC 93
Dielectric Constant	2.7	2.7	IEC 250
	@Frequency 110 Hz	@Frequency 110 Hz	
Dielectric Strength	21.0 kV/mm	533 kV/in	IEC 243
Dissipation Factor	0.00030	0.00030	IEC 112
	0.175	0.175	

Electrical Properties	Metric @ Frequency 1.00 Hz	English @ Frequency 1.00 Hz	Comments
Comparative Tracking Index	42 V	42 V	IEC 112

Descriptive Properties	Value	Comments
Alignment Adjustment	2	Nominal Scale: 1, low; 10, high
Chemical Sterilization	10	Nominal Scale: 1, low; 10, high
Color	Green	
Creep Resistance	1	Nominal Scale: 1, low; 10, high
Dimensional Stability with Thermal Expansion	1	Nominal Scale: 1, low; 10, high
Free from Silicon	Applicable	
High Precision Bushings (negative clearance)	Applicable	
Machined Parts	Applicable	
Moist Heat Sterilization	10	Nominal Scale: 1, low; 10, high
Resistance Against dust, Dirt, Abrasive Substances	2	Nominal Scale: 1, low; 10, high
Resistance Against Hot Water	150	
Resistance to Chemicals	9	Nominal Scale: 1, low; 10, high
Resistant Against Disinfectant	Applicable	
Rods up to Øe (de)	Applicable	
Sheets up to Maximum Thickness	Applicable	
Sliding Velocity	150	
Suitable for Outdoor Use	10	Nominal Scale: 1, low; 10, high
Suitable for Use in Water	Applicable	
Suitable for Vacuum	Applicable	
UV Rays Resistance	9	Nominal Scale: 1, low; 10, high
UV-Sterilization	7	Nominal Scale: 1, low; 10, high

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