

Wolf Kunststoff ZEDEX® ZX-550 A5L Polymer Alloy

Category : Polymer , Thermoplastic

Material Notes:

Main Characteristics: Strong anti-adhesive; Low creep; Weather resistant; No water absorption; Good machinability; Strongly viscoelastic;
Stress resistant 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-550-A5L-Polymer-Alloy.php

Physical Properties	Metric	English	Comments
Density	2.06 g/cc	0.0744 lb/in ³	ISO 1183
Water Absorption	0.010 % @Temperature 23.0 °C	0.010 % @Temperature 73.4 °F	RMC 93%; DIN EN ISO 62
Moisture Absorption at Equilibrium	0.020 %	0.020 %	DIN EN ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	>= 100	>= 100	DIN 53505
Hardness, Shore D	65	65	DIN 53505
Ball Indentation Hardness	36.0 MPa	5220 psi	DIN 2039
Tensile Strength at Break	10.8 MPa	1570 psi	DIN EN ISO 527
Tensile Strength	12.7 MPa	1840 psi	DIN EN ISO 527
Tensile Stress	0.800 MPa @Strain 1.00 %, Time 3.60e+6 sec	116 psi @Strain 1.00 %, Time 1000 hour	DIN 53444
Tensile Strength, Yield	9.80 MPa	1420 psi	Elastic Limit
	12.7 MPa	1840 psi	DIN EN ISO 527
Elongation at Break	92 %	92 %	
	92 %	92 %	DIN EN ISO 527
Elongation at Yield	1.3 %	1.3 %	Elastic Yield Point
	2.3 %	2.3 %	Elongation at Maximum Force; DIN EN ISO 527
	2.3 %	2.3 %	DIN EN ISO 527
	4.2 %	4.2 %	Flexural; DIN EN ISO 178

Mechanical Properties	Metric	English	Comments
Tensile Modulus	0.800 GPa	116 ksi	DIN EN ISO 527
Flexural Strength	18.9 MPa	2740 psi	DIN EN ISO 178
	19.0 MPa	2760 psi	Outer Fiber Stress at 3.5% Outer Fiber Strain; DIN EN ISO 178
Flexural Modulus	1.17 GPa	170 ksi	DIN EN ISO 178
Compressive Strength	16.0 MPa	2320 psi	Elastic Limit
	1.00 MPa	145 psi	
	@Time 3.60e+7 sec	@Time 10000 hour	
	12.0 MPa	1740 psi	
	@Time 360000 sec	@Time 100 hour	
	15.0 MPa	2180 psi	
	@Time 36.0 sec	@Time 0.0100 hour	
	16.0 MPa	2320 psi	DIN EN ISO 604
	@Strain 3.50 %	@Strain 3.50 %	
Compressive Modulus	1.49 GPa	216 ksi	DIN EN ISO 604
Fatigue Strength	7.00 MPa	1020 psi	1 Hz
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	
K Factor (ISO)	0.50 $\mu\text{m}/\text{km}$	0.50 $\mu\text{m}/\text{km}$	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.60 $\mu\text{m}/\text{km}$	0.60 $\mu\text{m}/\text{km}$	
	@Temperature 100 °C	@Temperature 212 °F	
	4.9 $\mu\text{m}/\text{km}$	4.9 $\mu\text{m}/\text{km}$	
	@Temperature 200 °C	@Temperature 392 °F	
	5.6 $\mu\text{m}/\text{km}$	5.6 $\mu\text{m}/\text{km}$	
	@Temperature 240 °C	@Temperature 464 °F	
Charpy Impact Unnotched	NB	NB	EN ISO 179/1eU
Charpy Impact, Notched	12.3 J/cm ²	58.5 ft-lb/in ²	EN ISO 179/1eA
Coefficient of Friction, Dynamic	0.070	0.070	Dry Operation
	@Temperature 100 °C	@Temperature 212 °F	
	0.11	0.11	Dry Operation

Mechanical Properties	@Temperature 20.0 °C Metric	@Temperature 68.0 °F English	Comments
Coefficient of Friction, Static	0.12	0.12	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Tensile Creep Modulus, 1000 hours	60.0 MPa	8700 psi	At 1% Deformation; DIN 53444
Limiting Pressure Velocity	0.0347 MPa-m/sec	991 psi-ft/min	v = 1m/min
	0.233 MPa-m/sec	6650 psi-ft/min	v = 200m/min
	0.285 MPa-m/sec	8140 psi-ft/min	v = 10m/min
	0.3167 MPa-m/sec	9042 psi-ft/min	v = 100m/min
Compression Set	3.5 %	3.5 %	Elastic Compression Limit

Thermal Properties	Metric	English	Comments
CTE, linear	120 µm/m-°C	66.7 µin/in-°F	ISO E 830
	@Temperature <=100 °C	@Temperature <=212 °F	
	160 µm/m-°C	88.9 µin/in-°F	ISO E 831
	@Temperature <=150 °C	@Temperature <=302 °F	
Specific Heat Capacity	0.760 J/g-°C	0.182 BTU/lb-°F	DSC
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ft ² -°F	DIN 52612
Melting Point	327 °C	621 °F	DSC
Maximum Service Temperature, Air	240 °C	464 °F	Continuous
	260 °C	500 °F	Short Term (3h)
Glass Transition Temp, Tg	-20.0 °C	-4.00 °F	DSC
Flammability, UL94	V-0	V-0	
Oxygen Index	95 %	95 %	DIN EN ISO 4589

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+19 ohm-cm	1.00e+19 ohm-cm	IEC 93
Surface Resistance	5.50e+12 ohm	5.50e+12 ohm	IEC 93
Dielectric Constant	2.7	2.7	IEC 250
	@Frequency 110 Hz	@Frequency 110 Hz	

Dielectric Strength Electrical Properties	14.0 kV/mm Metric	356 kV/in English	IEC 243 Comments
Dissipation Factor	0.00030	0.00030	IEC 112
	0.103	0.103	
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	

Descriptive Properties	Value	Comments
Alignment Adjustment	2	Nominal Scale: 1, low; 10, high
Chemical Sterilization	10	Nominal Scale: 1, low; 10, high
Color	Brown	
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	
Injection Molded Parts	Applicable	
Machined Parts	Applicable	
Moist Heat Sterilization	10	Nominal Scale: 1, low; 10, high
Plastic Granules	Applicable	
Resistance Against dust, Dirt, Abrasive Substances	2	Nominal Scale: 1, low; 10, high
Resistance Against Hot Water	250	
Resistance to Chemicals	10	Nominal Scale: 1, low; 10, high
Resistant Against Disinfectant	Applicable	
Rods up to Øe (de)	Applicable	
ROHS/WEEE	Applicable	
Sheets up to Maximum Thickness	Applicable	
Sliding Velocity	250	
Suitable for Outdoor Use	10	Nominal Scale: 1, low; 10, high
Suitable for Use in Water	Applicable	
Suitable for Vacuum	Applicable	
Tubes (hollow rods) up to Øe (de)	Applicable	

Descriptive Properties UV Rays Resistance	Value	Comments Nominal Scale: 1, low; 10, high
UV-Sterilization	7	Nominal Scale: 1, low; 10, high

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