

Wolf Kunststoff ZEDEX® ZX-530KF15 A5M Polymer Alloy

Category : Polymer , Thermoplastic

Material Notes:

Main Characteristics: High elongation; High impact strength; 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-530KF15-A5M-Polymer-Alloy.php

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 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	0.050 %	0.050 %	DIN EN ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	>= 100	>= 100	DIN 53505
Hardness, Shore D	81	81	DIN 53505
Ball Indentation Hardness	107 MPa	15500 psi	DIN 2039
Tensile Strength at Break	50.0 MPa	7250 psi	DIN EN ISO 527
Tensile Strength	50.0 MPa	7250 psi	DIN EN ISO 527
Tensile Stress	14.0 MPa @Strain 1.00 %, Time 3.60e+6 sec	2030 psi @Strain 1.00 %, Time 1000 hour	DIN 53444
Tensile Strength, Yield	38.0 MPa	5510 psi	Elastic Limit
Elongation at Break	19.9 %	19.9 %	DIN EN ISO 527
Elongation at Yield	3.4 %	3.4 %	Elastic Yield Point
	5.6 %	5.6 %	Flexural; DIN EN ISO 178
	19.9 %	19.9 %	Elongation at Maximum Force; DIN EN ISO 527
Tensile Modulus	1.50 GPa	218 ksi	DIN EN ISO 527
Flexural Strength	63.0 MPa	9140 psi	Outer Fiber Stress at 3.5% Outer Fiber Strain; DIN EN ISO 178

Mechanical Properties	Metric	English	Comments
Flexural Modulus	2.32 GPa	336 ksi	DIN EN ISO 178
Compressive Strength	50.4 MPa	7310 psi	Elastic Limit
	19.0 MPa	2760 psi	
	@Time 3.60e+7 sec	@Time 10000 hour	
	43.0 MPa	6240 psi	
	@Time 360000 sec	@Time 100 hour	
	54.0 MPa	7830 psi	
	@Time 36.0 sec	@Time 0.0100 hour	
	40.5 MPa	5870 psi	DIN EN ISO 604
	@Strain 3.50 %	@Strain 3.50 %	
Compressive Modulus	1.748 GPa	253.5 ksi	DIN EN ISO 604
Fatigue Strength	6.00 MPa	870 psi	1 Hz
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	
K Factor (ISO)	0.30 µm/km	0.30 µm/km	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	1.0 µm/km	1.0 µm/km	
	@Temperature 100 °C	@Temperature 212 °F	
Charpy Impact Unnotched	NB	NB	EN ISO 179/1eU
Charpy Impact, Notched	2.35 J/cm ²	11.2 ft-lb/in ²	EN ISO 179/1eA
Coefficient of Friction, Dynamic	0.080	0.080	Dry Operation
	@Temperature 100 °C	@Temperature 212 °F	
	0.13	0.13	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Coefficient of Friction, Static	0.21	0.21	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Tensile Creep Modulus, 1000 hours	1300 MPa	189000 psi	At 1% Deformation; DIN 53444
Limiting Pressure Velocity	0.150 MPa-m/sec	4280 psi-ft/min	v = 100m/min
	0.16667 MPa-m/sec	4758.4 psi-ft/min	v = 200m/min
	0.35583 MPa-m/sec	10159 psi-ft/min	v = 1m/min

Mechanical Properties	Metric	English	Comments
Compression Set	4.5 %	4.5 %	Elastic Compression Limit

Thermal Properties	Metric	English	Comments
CTE, linear	60.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO E 830
	@Temperature ≤ 100 $^{\circ}\text{C}$	@Temperature ≤ 212 $^{\circ}\text{F}$	
	67.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	37.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO E 831
	@Temperature ≤ 150 $^{\circ}\text{C}$	@Temperature ≤ 302 $^{\circ}\text{F}$	
Specific Heat Capacity	1.81 J/g- $^{\circ}\text{C}$	0.433 BTU/lb- $^{\circ}\text{F}$	DSC
Melting Point	320 $^{\circ}\text{C}$	608 $^{\circ}\text{F}$	DSC
Maximum Service Temperature, Air	70.0 $^{\circ}\text{C}$	158 $^{\circ}\text{F}$	Pressed Bushings
	160 $^{\circ}\text{C}$	320 $^{\circ}\text{F}$	Short Term (3h)
	170 $^{\circ}\text{C}$	338 $^{\circ}\text{F}$	Continuous
Deflection Temperature at 1.8 MPa (264 psi)	117 $^{\circ}\text{C}$	243 $^{\circ}\text{F}$	DIN EN ISO 75
Glass Transition Temp, Tg	90.0 $^{\circ}\text{C}$	194 $^{\circ}\text{F}$	DSC

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 93
Surface Resistance	6.50e+12 ohm	6.50e+12 ohm	IEC 93
Dielectric Constant	4.1	4.1	IEC 250
	@Frequency 110 Hz	@Frequency 110 Hz	
Dielectric Strength	21.5 kV/mm	546 kV/in	IEC 243
Dissipation Factor	0.030	0.030	IEC 112
	0.11	0.11	
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	
Comparative Tracking Index	130 V	130 V	IEC 112

Descriptive Properties	Value	Comments
Alignment Adjustment	5	Nominal Scale: 1, low; 10, high

Chemical Sterilization Descriptive Properties	Value	Nominal Scale: 1, low; 10, high Comments
Color	Beige	
Creep Resistance	2	Nominal Scale: 1, low; 10, high
Dimensional Stability with Thermal Expansion	5	Nominal Scale: 1, low; 10, high
FDA Compliant	Applicable	
Free from Silicon	Applicable	
Gamma-rays Radiation Sterilization	4	Nominal Scale: 1, low; 10, high
Injection Molded Parts	Applicable	
Machined Parts	Applicable	
Moist Heat Sterilization	7	Nominal Scale: 1, low; 10, high
Plastic Granules	Applicable	
Resistance Against dust, Dirt, Abrasive Substances	7	Nominal Scale: 1, low; 10, high
Resistance Against Hot Water	140	
Resistance to Chemicals	5	Nominal Scale: 1, low; 10, high
Resistant Against Disinfectant	Applicable	
Rods up to Øe (de)	Applicable	
Sheets up to Maximum Thickness	Applicable	
Sliding Velocity	50	
Suitable for Outdoor Use	7	Nominal Scale: 1, low; 10, high
Suitable for Vacuum	Applicable	
Tubes (hollow rods) up to Øe (de)	Applicable	
UV Rays Resistance	8	Nominal Scale: 1, low; 10, high
UV-Sterilization	7	Nominal Scale: 1, low; 10, high

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