

Wolf Kunststoff ZEDEX® ZX-100EL55 A1F Polymer Alloy, Elastomer Modified

Category : Polymer , Thermoplastic

Material Notes:

Main Characteristics: Rubbery; Soft; High shock absorption; High impact resistance; Elongation > 300% Applications: Handling, Vessel and Pump, Steel and Water, Chemical Engineering, Automotive Technology, Machine Tools Information provided by Zedex

Order this product through the following link:

http://www.lookpolymers.com/polymer_Wolf-Kunststoff-ZEDEX-ZX-100EL55-A1F-Polymer-Alloy-Elastomer-Modified.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Water Absorption	0.20 % @Temperature 23.0 °C	0.20 % @Temperature 73.4 °F	RMC 93%; DIN EN ISO 62
Moisture Absorption at Equilibrium	0.65 %	0.65 %	DIN EN ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	>= 100	>= 100	DIN 53505
Hardness, Shore D	56	56	DIN 53505
Ball Indentation Hardness	49.0 MPa	7110 psi	DIN 2039
Tensile Strength at Break	30.0 MPa	4350 psi	DIN EN ISO 527
Tensile Strength	37.0 MPa	5370 psi	DIN EN ISO 527
Tensile Stress	4.00 MPa @Strain 1.00 %, Time 3.60e+6 sec	580 psi @Strain 1.00 %, Time 1000 hour	DIN 53444
Tensile Strength, Yield	4.00 MPa	580 psi	Elastic Limit
	14.0 MPa	2030 psi	DIN EN ISO 527
Elongation at Break	>= 300 %	>= 300 %	DIN EN ISO 527
Elongation at Yield	2.0 %	2.0 %	Elastic Yield Point
	9.0 %	9.0 %	Flexural; DIN EN ISO 178
	20 %	20 %	DIN EN ISO 527
Tensile Modulus	0.200 GPa	29.0 ksi	DIN EN ISO 527
Flexural Strength	11.0 MPa	1600 psi	Outer Fiber Stress at 3.5% Outer Fiber Strain; DIN EN ISO 178

Mechanical Properties	17.0 MPa Metric	2470 psi English	DIN EN ISO 178 Comments
Flexural Modulus	0.350 GPa	50.8 ksi	DIN EN ISO 178
Compressive Strength	14.0 MPa	2030 psi	Elastic Limit
	5.50 MPa	798 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	
	6.00 MPa	870 psi	DIN EN ISO 604
	@Strain 3.50 %	@Strain 3.50 %	
Compressive Modulus	0.334 GPa	48.4 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)	2.3 µm/km	2.3 µm/km	
	@Temperature 100 °C	@Temperature 212 °F	
	5.4 µm/km	5.4 µm/km	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Charpy Impact Unnotched	NB	NB	EN ISO 179/1eU
Charpy Impact, Notched	NB	NB	EN ISO 179/1eA
Coefficient of Friction, Dynamic	0.080	0.080	Dry Operation
	@Temperature 100 °C	@Temperature 212 °F	
	0.80	0.80	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Coefficient of Friction, Static	0.25	0.25	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Tensile Creep Modulus, 1000 hours	400 MPa	58000 psi	At 1% Deformation; DIN 53444
Limiting Pressure Velocity	0.0140 MPa-m/sec	400 psi-ft/min	v = 1m/min
	0.02833 MPa-m/sec	808.8 psi-ft/min	v = 10m/min
Compression Set	7.1 %	7.1 %	Elastic Compression Limit

Thermal Properties	Metric	English	Comments
CTE, linear	162 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	90.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO E 831
	@Temperature ≤ 150 $^{\circ}\text{C}$	@Temperature ≤ 302 $^{\circ}\text{F}$	
	168 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	93.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO E 830
	@Temperature ≤ 100 $^{\circ}\text{C}$	@Temperature ≤ 212 $^{\circ}\text{F}$	
Specific Heat Capacity	1.75 J/g- $^{\circ}\text{C}$	0.418 BTU/lb- $^{\circ}\text{F}$	DSC
Melting Point	207 $^{\circ}\text{C}$	405 $^{\circ}\text{F}$	DSC
Maximum Service Temperature, Air	50.0 $^{\circ}\text{C}$	122 $^{\circ}\text{F}$	Pressed Bushings
	75.0 $^{\circ}\text{C}$	167 $^{\circ}\text{F}$	Continuous
	80.0 $^{\circ}\text{C}$	176 $^{\circ}\text{F}$	Short Term (3h)
Deflection Temperature at 1.8 MPa (264 psi)	110 $^{\circ}\text{C}$	230 $^{\circ}\text{F}$	DIN EN ISO 75
Glass Transition Temp, Tg	-64.0 $^{\circ}\text{C}$	-83.2 $^{\circ}\text{F}$	DSC
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+14 ohm-cm	2.00e+14 ohm-cm	IEC 93
Surface Resistance	4.00e+12 ohm	4.00e+12 ohm	IEC 93
Dielectric Constant	4.4	4.4	IEC 250
	@Frequency 110 Hz	@Frequency 110 Hz	
Dielectric Strength	21.0 kV/mm	533 kV/in	IEC 243
Dissipation Factor	0.011	0.011	IEC 112
	0.141	0.141	
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	

Descriptive Properties	Value	Comments
Alignment Adjustment	10	Nominal Scale: 1, low; 10, high
Color	Black	
Creep Resistance	2	Nominal Scale: 1, low; 10, high
Dimensional Stability with Thermal Expansion	2	Nominal Scale: 1, low; 10, high

Descriptive Properties	Value	Comments
Free from PTFE	Applicable	
Free from Silicon	Applicable	
Gamma-rays Radiation Sterilization	3	Nominal Scale: 1, low; 10, high
High Precision Bushings (negative clearance)	Applicable	
Injection Molded Parts	Applicable	
Machined Parts	Applicable	
Moist Heat Sterilization	6	Nominal Scale: 1, low; 10, high
Plastic Granules	Applicable	
Resistance Against dust, Dirt, Abrasive Substances	8	Nominal Scale: 1, low; 10, high
Resistance Against Hot Water	70	
Resistance to Chemicals	5	Nominal Scale: 1, low; 10, high
Rods up to Øe (de)	Applicable	
Sheets up to Maximum Thickness	Applicable	
Sliding Velocity	10	
Suitable for Outdoor Use	7	Nominal Scale: 1, low; 10, high
Suitable for Use in Water	Applicable	
Suitable for Vacuum	Applicable	
Tubes (hollow rods) up to Øe (de)	Applicable	
UV Rays Resistance	8	Nominal Scale: 1, low; 10, high

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