

Wolf Kunststoff ZEDEX® ZX-324 A3A PEEK

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK)

Material Notes:

Main Characteristics: Hard; Stiff; Tough; High fatigue strength; Good water resistance; Sufficient UV and weather resistance; Flame retardant; Good machinability; FDA compliant LABS; PTFE and Silicone-free; Suitable for vacuum; Stress resistant Applications: Shipbuilding; 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-324-A3A-PEEK.php

Physical Properties	Metric	English	Comments
Density	1.30 g/cc	0.0470 lb/in ³	ISO 1183
Water Absorption	0.050 % @Temperature 23.0 °C	0.050 % @Temperature 73.4 °F	RMC 93%; DIN EN ISO 62
Moisture Absorption at Equilibrium	0.50 %	0.50 %	DIN EN ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	93	93	DIN 53505
Hardness, Shore D	81	81	DIN 53505
Ball Indentation Hardness	174 MPa	25200 psi	DIN 2039
Tensile Strength at Break	84.0 MPa	12200 psi	DIN EN ISO 527
Tensile Strength	110 MPa	16000 psi	DIN EN ISO 527
Tensile Stress	43.0 MPa @Strain 1.00 %, Time 3.60e+6 sec	6240 psi @Strain 1.00 %, Time 1000 hour	DIN 53444
Tensile Strength, Yield	81.0 MPa	11700 psi	Elastic Limit
	110 MPa	16000 psi	DIN EN ISO 527
Elongation at Break	12.6 %	12.6 %	
	12.6 %	12.6 %	DIN EN ISO 527
Elongation at Yield	4.2 %	4.2 %	Elastic Yield Point
	6.3 %	6.3 %	Flexural; DIN EN ISO 178
	7.0 %	7.0 %	Elongation at Maximum Force; DIN EN ISO 527
	7.0 %	7.0 %	DIN EN ISO 527

Mechanical Properties Tensile Modulus	Metric 3.00 GPa	English 529 ksi	Comments DIN EN ISO 527
Flexural Strength	126 MPa	18300 psi	Outer Fiber Stress at 3.5% Outer Fiber Strain; DIN EN ISO 178
	168 MPa	24400 psi	DIN EN ISO 178
Flexural Modulus	4.00 GPa	580 ksi	DIN EN ISO 178
Compressive Strength	120 MPa	17400 psi	Elastic Limit
	58.0 MPa	8410 psi	
	@Time 3.60e+7 sec	@Time 10000 hour	
	107 MPa	15500 psi	
	@Time 360000 sec	@Time 100 hour	
	120 MPa	17400 psi	
	@Time 36.0 sec	@Time 0.0100 hour	
	32.0 MPa	4640 psi	DIN EN ISO 604
	@Strain 3.50 %	@Strain 3.50 %	
Compressive Modulus	4.27 GPa	619 ksi	DIN EN ISO 604
Fatigue Strength	60.0 MPa	8700 psi	1 Hz
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	
K Factor (ISO)	5.3 µm/km	5.3 µm/km	
	@Temperature 200 °C	@Temperature 392 °F	
	6.6 µm/km	6.6 µm/km	
	@Temperature 240 °C	@Temperature 464 °F	
	8.9 µm/km	8.9 µm/km	
	@Temperature 100 °C	@Temperature 212 °F	
	11.5 µm/km	11.5 µm/km	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Charpy Impact Unnotched	NB	NB	EN ISO 179/1eU
Charpy Impact, Notched	0.800 J/cm²	3.81 ft-lb/in²	EN ISO 179/1eA
Coefficient of Friction, Dynamic	0.060	0.060	Dry Operation
	@Temperature 100 °C	@Temperature 212 °F	
	0.070	0.070	Dry Operation

Mechanical Properties	@Temperature 20.0 °C Metric	@Temperature 68.0 °F English	Comments
Coefficient of Friction, Static	0.090	0.090	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Tensile Creep Modulus, 1000 hours	4300 MPa	624000 psi	At 1% Deformation; DIN 53444
Limiting Pressure Velocity	0.16666 MPa-m/sec	4758.1 psi-ft/min	v = 100m/min
	0.1667 MPa-m/sec	4758 psi-ft/min	v = 200m/min
	0.31866 MPa-m/sec	9097.7 psi-ft/min	v = 1m/min
	0.480 MPa-m/sec	13700 psi-ft/min	v = 10m/min
Compression Set	3.2 %	3.2 %	Nominal Compressive Yield Strain; DIN EN ISO 604
	6.9 %	6.9 %	Nominal Compressive Strain at Compressive Strength; DIN EN ISO 604
	8.8 %	8.8 %	Elastic Compression Limit

Thermal Properties	Metric	English	Comments
CTE, linear	51.0 µm/m-°C	28.3 µin/in-°F	ISO E 830
	@Temperature <=100 °C	@Temperature <=212 °F	
	59.0 µm/m-°C	32.8 µin/in-°F	ISO E 831
	@Temperature <=150 °C	@Temperature <=302 °F	
Specific Heat Capacity	1.35 J/g-°C	0.323 BTU/lb-°F	DSC
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft²-°F	DIN 52612
Melting Point	340 °C	644 °F	DSC
Maximum Service Temperature, Air	100 °C	212 °F	Pressed Bushings
	250 °C	482 °F	Continuous
	260 °C	500 °F	Short Term (3h)
Deflection Temperature at 1.8 MPa (264 psi)	160 °C	320 °F	DIN EN ISO 75
Glass Transition Temp, Tg	146 °C	295 °F	DSC
Flammability, UL94	V-0	V-0	
Oxygen Index	35 %	35 %	DIN EN ISO 4589

Electrical Properties	Metric	English	Comments
Volume Resistivity	5.00e+16 ohm-cm	5.00e+16 ohm-cm	IEC 93
Surface Resistance	2.80e+12 ohm	2.80e+12 ohm	IEC 93
Dielectric Constant	3.2	3.2	IEC 250
	@Frequency 110 Hz	@Frequency 110 Hz	
Dielectric Strength	22.5 kV/mm	572 kV/in	IEC 243
Dissipation Factor	0.0030	0.0030	IEC 112
	0.052	0.052	
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	
Comparative Tracking Index	150 V	150 V	IEC 112

Descriptive Properties	Value	Comments
Alignment Adjustment	4	Nominal Scale: 1, low; 10, high
Chemical Sterilization	10	Nominal Scale: 1, low; 10, high
Color	Beige	
Creep Resistance	6	Nominal Scale: 1, low; 10, high
Dimensional Stability with Thermal Expansion	6	Nominal Scale: 1, low; 10, high
FDA Compliant	Applicable	
Free from PTFE	Applicable	
Free from Silicon	Applicable	
Gamma-rays Radiation Sterilization	10	Nominal Scale: 1, low; 10, high
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	7	Nominal Scale: 1, low; 10, high
Resistance Against Hot Water	200	
Resistance to Chemicals	9	Nominal Scale: 1, low; 10, high

Descriptive Properties	Value	Comments
Resistant Against Disinfectant	Applicable	
Rods up to Øe (de)	Applicable	
ROHS/WEEE	Applicable	
Sheets up to Maximum Thickness	Applicable	
Sliding Velocity	40	
Suitable for Outdoor Use	6	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	9	Nominal Scale: 1, low; 10, high
UV-Sterilization	7	Nominal Scale: 1, low; 10, high

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