

## Wolf Kunststoff ZEDEX® ZX-324V1T A3H PEEK Polymer, Reinforced

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

### Material Notes:

Main Characteristics: High resilience; High elasticity; Low permanent deformation; Stress resistant; High strength at temperatures above

140 °C Applications: Shipbuilding; Chemical Engineering; Automitve Technology; Machine Tools Information provided by Zedex

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Wolf-Kunststoff-ZEDEX-ZX-324V1T-A3H-PEEK-Polymer-Reinforced.php](http://www.lookpolymers.com/polymer_Wolf-Kunststoff-ZEDEX-ZX-324V1T-A3H-PEEK-Polymer-Reinforced.php)

Physical Properties	Metric	English	Comments
Density	1.33 g/cc	0.0480 lb/in <sup>3</sup>	ISO 1183
Water Absorption	0.10 % @Temperature 23.0 °C	0.10 % @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	>= 100	>= 100	DIN 53505
Hardness, Shore D	86	86	DIN 53505
Ball Indentation Hardness	175 MPa	25400 psi	DIN 2039
Tensile Strength at Break	117 MPa	17000 psi	DIN EN ISO 527
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Tensile Stress	32.0 MPa @Strain 1.00 %, Time 3.60e+6 sec	4640 psi @Strain 1.00 %, Time 1000 hour	DIN 53444
Tensile Strength, Yield	74.0 MPa	10700 psi	Elastic Limit
Elongation at Break	10.1 %	10.1 %	
	10.1 %	10.1 %	DIN EN ISO 527
Elongation at Yield	5.0 %	5.0 %	Elastic Yield Point
	6.2 %	6.2 %	Flexural; DIN EN ISO 178
	10.1 %	10.1 %	Elongation at Maximum Force; DIN EN ISO 527
Tensile Modulus	3.50 GPa	508 ksi	DIN EN ISO 527
Flexural Strength	117.5 MPa	17040 psi	Outer Fiber Stress at 3.5% Outer Fiber Strain; DIN EN ISO 178

Mechanical Properties	Metric <sup>1</sup>	English <sup>2</sup>	Comments <sup>178</sup>
Flexural Modulus	3.90 GPa	566 ksi	DIN EN ISO 178
Compressive Yield Strength	145 MPa	21000 psi	DIN EN ISO 604
Compressive Strength	119 MPa	17300 psi	Elastic Limit
	43.0 MPa	6240 psi	
	@Time 3.60e+7 sec	@Time 10000 hour	
	102 MPa	14800 psi	
	@Time 360000 sec	@Time 100 hour	
	127 MPa	18400 psi	
	@Time 36.0 sec	@Time 0.0100 hour	
	145 MPa	21000 psi	DIN EN ISO 604
	@Strain 3.50 %	@Strain 3.50 %	
Compressive Modulus	3.70 GPa	537 ksi	DIN EN ISO 604
Fatigue Strength	70.0 MPa	10200 psi	1 Hz
	@# of Cycles 1.00e+6	@# of Cycles 1.00e+6	
K Factor (ISO)	1.0 µm/km	1.0 µm/km	
	@Temperature 200 °C	@Temperature 392 °F	
	1.4 µm/km	1.4 µm/km	
	@Temperature 100 °C	@Temperature 212 °F	
	2.4 µm/km	2.4 µm/km	
	@Temperature 240 °C	@Temperature 464 °F	
	3.4 µm/km	3.4 µm/km	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Charpy Impact Unnotched	NB	NB	EN ISO 179/1eU
Charpy Impact, Notched	0.630 J/cm <sup>2</sup>	3.00 ft-lb/in <sup>2</sup>	EN ISO 179/1eA
Coefficient of Friction, Dynamic	0.13	0.13	Dry Operation
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.20	0.20	Dry Operation
	@Temperature 100 °C	@Temperature 212 °F	
	0.11	0.11	

Coefficient of Friction, Static Mechanical Properties	Metric @ Temperature 20.0 °C	English @ Temperature 68.0 °F	Dry Operation Comments
Tensile Creep Modulus, 1000 hours	3040 MPa	441000 psi	At 1% Deformation; DIN 53444
Limiting Pressure Velocity	0.350 MPa-m/sec	9990 psi-ft/min	v = 10m/min
	0.400 MPa-m/sec	11400 psi-ft/min	v = 100m/min
	0.400 MPa-m/sec	11400 psi-ft/min	v = 200m/min
	0.8455 MPa-m/sec	24140 psi-ft/min	v = 1m/min
Compression Set	1.7 %	1.7 %	Elastic Compression Limit
	2.5 %	2.5 %	Nominal Compressive Yield Strain; DIN EN ISO 604

Thermal Properties	Metric	English	Comments
CTE, linear	47.0 µm/m-°C	26.1 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	1.09 J/g-°C	0.261 BTU/lb-°F	DSC
Melting Point	340 °C	644 °F	DSC
Maximum Service Temperature, Air	140 °C	284 °F	Pressed Bushings
	250 °C	482 °F	Continuous
	260 °C	500 °F	Short Term (3h)
Deflection Temperature at 1.8 MPa (264 psi)	170 °C	338 °F	DIN EN ISO 75
Glass Transition Temp, Tg	170 °C	338 °F	DSC
Flammability, UL94	V-0	V-0	
Oxygen Index	16 %	16 %	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	3.20e+12 ohm	3.20e+12 ohm	IEC 93
	3.1	3.1	

Dielectric Constant Electrical Properties	Metric @Frequency 110 Hz	English @Frequency 110 Hz	IEC 250 Comments
Dielectric Strength	25.0 kV/mm	635 kV/in	IEC 243
Dissipation Factor	0.0020	0.0020	IEC 112
	0.061 @Frequency 1.00 Hz	0.061 @Frequency 1.00 Hz	

Descriptive Properties	Value	Comments
Alignment Adjustment	4	Nominal Scale: 1, low; 10, high
Chemical Sterilization	7	Nominal Scale: 1, low; 10, high
Color	Beige	
Creep Resistance	5	Nominal Scale: 1, low; 10, high
Dimensional Stability with Thermal Expansion	5	Nominal Scale: 1, low; 10, high
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	140	
Resistance to Chemicals	7	Nominal Scale: 1, low; 10, high
Resistant Against Disinfectant	Applicable	
Rods up to Øe (de)	Applicable	
Sheets up to Maximum Thickness	Applicable	
Sliding Velocity	100	
Suitable for Outdoor Use	7	Nominal Scale: 1, low; 10, high
Suitable for Use in Water	Applicable	

Suitable for Vacuum Descriptive Properties	Applicable Value	Comments
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

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China