

Wolf Kunststoff ZEDEX® ZX-100K A1K Polymer Alloy

Category : Polymer , Thermoplastic

Material Notes:

Main Characteristics: Hard; Stiff; Tough; High fatigue strength; Good weather resistance; Good machinability; FDA compliant LABS; PTFE and silicone-free; KTW approved; Stress resistant
 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-100K-A1K-Polymer-Alloy.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|--------------------------------|--------------------------------|------------------------|
| Density | 1.35 g/cc | 0.0488 lb/in ³ | ISO 1183 |
| Water Absorption | 0.30 % @Temperature 23.0 °C | 0.30 % @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 | 84 | 84 | DIN 53505 |
| Ball Indentation Hardness | 136 MPa | 19700 psi | DIN 2039 |
| Tensile Strength at Break | 70.0 MPa | 10200 psi | DIN EN ISO 527 |
| Tensile Strength | 78.0 MPa | 11300 psi | DIN EN ISO 527 |
| Tensile Stress | 22.0 MPa @Strain 1.00 %, Time 3.60e+6 sec | 3190 psi @Strain 1.00 %, Time 1000 hour | DIN 53444 |
| Tensile Strength, Yield | 65.0 MPa | 9430 psi | Elastic Limit |
| | 78.0 MPa | 11300 psi | DIN EN ISO 527 |
| Elongation at Break | 9.5 % | 9.5 % | |
| | 9.5 % | 9.5 % | DIN EN ISO 527 |
| Elongation at Yield | 1.6 % | 1.6 % | Elastic Yield Point |
| | 4.0 % | 4.0 % | DIN EN ISO 527 |
| | 6.0 % | 6.0 % | Elongation at Maximum Force; DIN EN ISO 527 |
| | 6.1 % | 6.1 % | Flexural; DIN EN ISO 178 |

| Mechanical Properties <i>Tensile Modulus</i> | Metric <i>2.90 GPa</i> | English <i>421 ksi</i> | Comments <i>DIN EN ISO 527</i> |
|---|--|--|---|
| Flexural Strength | 96.0 MPa | 13900 psi | Outer Fiber Stress at 3.5% Outer Fiber Strain; DIN EN ISO 178 |
| | 117 MPa | 17000 psi | DIN EN ISO 178 |
| Flexural Modulus | 3.30 GPa | 479 ksi | DIN EN ISO 178 |
| Compressive Strength | 75.0 MPa | 10900 psi | Elastic Limit |
| | 30.0 MPa @Time 3.60e+7 sec | 4350 psi @Time 10000 hour | |
| | 60.0 MPa @Time 360000 sec | 8700 psi @Time 100 hour | |
| | 75.0 MPa @Time 36.0 sec | 10900 psi @Time 0.0100 hour | |
| | 30.0 MPa @Strain 3.50 % | 4350 psi @Strain 3.50 % | DIN EN ISO 604 |
| Compressive Modulus | 3.15 GPa | 457 ksi | DIN EN ISO 604 |
| Fatigue Strength | 52.0 MPa @# of Cycles 1.00e+6 | 7540 psi @# of Cycles 1.00e+6 | 1 Hz |
| K Factor (ISO) | 0.70 $\mu\text{m}/\text{km}$ @Temperature 20.0 °C | 0.70 $\mu\text{m}/\text{km}$ @Temperature 68.0 °F | |
| | 2.1 $\mu\text{m}/\text{km}$ @Temperature 100 °C | 2.1 $\mu\text{m}/\text{km}$ @Temperature 212 °F | |
| Charpy Impact Unnotched | 5.40 J/cm ² | 25.7 ft-lb/in ² | EN ISO 179/1eU |
| Charpy Impact, Notched | 0.600 J/cm ² | 2.86 ft-lb/in ² | EN ISO 179/1eA |
| Coefficient of Friction, Dynamic | 0.080 @Temperature 20.0 °C | 0.080 @Temperature 68.0 °F | Dry Operation |
| | 0.15 @Temperature 100 °C | 0.15 @Temperature 212 °F | Dry Operation |
| Coefficient of Friction, Static | 0.11 @Temperature 20.0 °C | 0.11 @Temperature 68.0 °F | Dry Operation |
| Tensile Creep Modulus, 1000 hours | 2000 MPa | 290000 psi | At 1% Deformation; DIN 53444 |

| Limitation Pressure Velocity Mechanical Properties | 0.133 MPa-m/sec Metric | 3800 psi-ft/min English | v = 100m/min Comments |
|---|---------------------------|----------------------------|---------------------------|
| | 0.133 MPa-m/sec | 3800 psi-ft/min | v = 200m/min |
| | 0.432 MPa-m/sec | 12300 psi-ft/min | v = 10m/min |
| | 0.583 MPa-m/sec | 16600 psi-ft/min | v = 1m/min |
| Compression Set | 6.0 % | 6.0 % | Elastic Compression Limit |

| Thermal Properties | Metric | English | Comments |
|---|---|--|------------------|
| CTE, linear | 80.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 44.4 $\mu\text{in}/\text{in}\cdot\text{°F}$ | ISO E 830 |
| | @Temperature \leq 100 °C | @Temperature \leq 212 °F | |
| | 120 $\mu\text{m}/\text{m}\cdot\text{°C}$ | 66.7 $\mu\text{in}/\text{in}\cdot\text{°F}$ | ISO E 831 |
| | @Temperature \leq 150 °C | @Temperature \leq 302 °F | |
| Specific Heat Capacity | 1.06 J/g- °C | 0.253 BTU/lb- °F | DSC |
| Thermal Conductivity | 0.240 W/m-K | 1.67 BTU-in/hr-ft ² - °F | DIN 52612 |
| Melting Point | 250 °C | 482 °F | DSC |
| Maximum Service Temperature, Air | 65.0 °C | 149 °F | Pressed Bushings |
| | 110 °C | 230 °F | Continuous |
| | 140 °C | 284 °F | Short Term (3h) |
| Deflection Temperature at 1.8 MPa (264 psi) | 75.0 °C | 167 °F | DIN EN ISO 75 |
| Glass Transition Temp, Tg | 78.0 °C | 172 °F | DSC |
| Flammability, UL94 | HB | HB | |
| Oxygen Index | 24 % | 24 % | DIN EN ISO 4589 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-------------------|-------------------|----------|
| Volume Resistivity | 2.00e+14 ohm-cm | 2.00e+14 ohm-cm | IEC 93 |
| Surface Resistance | 6.00e+10 ohm | 6.00e+10 ohm | IEC 93 |
| Dielectric Constant | 3.4 | 3.4 | IEC 250 |
| | @Frequency 110 Hz | @Frequency 110 Hz | |
| Dielectric Strength | 21.5 kV/mm | 546 kV/in | IEC 243 |
| Dissipation Factor | 0.015 | 0.015 | IEC 112 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|--------------------|--------------------|----------|
| | @Frequency 1.00 Hz | @Frequency 1.00 Hz | |
| Comparative Tracking Index | 305 V | 305 V | IEC 112 |

| Descriptive Properties | Value | Comments |
|--|------------|---------------------------------|
| Alignment Adjustment | 5 | Nominal Scale: 1, low; 10, high |
| Chemical Sterilization | 7 | Nominal Scale: 1, low; 10, high |
| Color | White | |
| Creep Resistance | 3 | Nominal Scale: 1, low; 10, high |
| Dimensional Stability with Thermal Expansion | 3 | Nominal Scale: 1, low; 10, high |
| FDA Compliant | Applicable | |
| 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 | Limited | |
| Machined Parts | Applicable | |
| Moist Heat Sterilization | 6 | Nominal Scale: 1, low; 10, high |
| Plastic Granules | Limited | |
| Rate of Desorption | 1.83E-06 | a = .44 |
| Resistance Against dust, Dirt, Abrasive Substances | 6 | Nominal Scale: 1, low; 10, high |
| Resistance Against Hot Water | 80 | |
| Resistance to Chemicals | 7 | 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 | 100 | |

| Suitable for Outdoor Use Descriptive Properties | Value | Nominal Scale: 1, low; 10, high Comments |
|--|------------|---|
| 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 |

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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