

Eurostar Staramide A28K PA66, Heat Stabilized, Injection Molding

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66 , Unreinforced

Material Notes:

Staramide A28K is an Unreinforced and Heat Stabilized, Polyamide 66, Injection Molding Resin. Information provided by Eurostar.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eurostar-Staramide-A28K-PA66-Heat-Stabilized-Injection-Molding.php

| Physical Properties | Metric | English | Comments |
|--------------------------------|--------------------------------|--------------------------------|----------------------------|
| Density | 1.14 g/cc | 0.0412 lb/in ³ | ISO 1183 |
| Moisture Absorption | 2.00 % @Temperature 23.0 °C | 2.00 % @Temperature 73.4 °F | 50% RH; ISO 62 |
| Water Absorption at Saturation | 8.5 % @Temperature 23.0 °C | 8.5 % @Temperature 73.4 °F | ISO 62-1 |
| Linear Mold Shrinkage, Flow | 0.016 - 0.020 cm/cm | 0.016 - 0.020 in/in | on Tensile Bar; E2P method |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|---|---|---------------------|
| Hardness, Rockwell L | 118 | 118 | ISO 2039-2 |
| Tensile Strength, Yield | 85.0 MPa | 12300 psi | 50 mm/min; ISO 527 |
| Elongation at Break | >= 20 % | >= 20 % | 50 mm/min; ISO 527 |
| Elongation at Yield | 3.8 % | 3.8 % | 50 mm/min; ISO 527 |
| Tensile Modulus | 3.00 GPa | 435 ksi | 1 mm/min; ISO 527 |
| Flexural Yield Strength | 105 MPa | 15200 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 2.80 GPa | 406 ksi | 2 mm/min; ISO 178 |
| Izod Impact, Notched (ISO) | 3.00 kJ/m ² @Temperature -30.0 °C | 1.43 ft-lb/in ² @Temperature -22.0 °F | 80x10x4; ISO 180/1A |
| | 3.00 kJ/m ² @Temperature -40.0 °C | 1.43 ft-lb/in ² @Temperature -40.0 °F | 80x10x4; ISO 180/1A |
| | 4.00 kJ/m ² @Temperature -20.0 °C | 1.90 ft-lb/in ² @Temperature -4.00 °F | 80x10x4; ISO 180/1A |
| | 5.00 kJ/m ² @Temperature 23.0 °C | 2.38 ft-lb/in ² @Temperature 73.4 °F | 80x10x4; ISO 180/1A |

| Mechanical Properties | Metric | English | Comments |
|------------------------|---|---|----------------------------------|
| | $\geq 10.0 \text{ J/cm}^2$ @Temperature -30.0 °C | $\geq 47.6 \text{ ft-lb/in}^2$ @Temperature -22.0 °F | 10x4 sp=62; ISO 179/1eU |
| | $\geq 27.0 \text{ J/cm}^2$ @Temperature 23.0 °C | $\geq 128 \text{ ft-lb/in}^2$ @Temperature 73.4 °F | Edgew 80x10x4 sp=62; ISO 179/1eU |
| Charpy Impact, Notched | 0.300 J/cm ² @Temperature -30.0 °C | 1.43 ft-lb/in ² @Temperature -22.0 °F | Edgew 80x10x4 sp=62; ISO 179/1eA |
| | 0.500 J/cm ² @Temperature 23.0 °C | 2.38 ft-lb/in ² @Temperature 73.4 °F | Edgew 80x10x4 sp=62; ISO 179/1eA |

| Thermal Properties | Metric | English | Comments |
|---|--|---|--------------------------------------|
| CTE, linear, Parallel to Flow | 80.0 $\mu\text{m/m-}^\circ\text{C}$ @Temperature 23.0 - 60.0 °C | 44.4 $\mu\text{in/in-}^\circ\text{F}$ @Temperature 73.4 - 140 °F | ISO 11359-2 |
| CTE, linear, Transverse to Flow | 80.0 $\mu\text{m/m-}^\circ\text{C}$ @Temperature 23.0 - 60.0 °C | 44.4 $\mu\text{in/in-}^\circ\text{F}$ @Temperature 73.4 - 140 °F | ISO 11359-2 |
| Thermal Conductivity | 0.290 W/m-K | 2.01 BTU-in/hr-ft ² -°F | ISO 8302 |
| Hot Ball Pressure Test | 123 - 127 °C | 253 - 261 °F | IEC 60695-10-2 |
| Deflection Temperature at 0.46 MPa (66 psi) | 210 °C | 410 °F | Edgew 120x10x4, sp=100 mm; ISO 75/Be |
| Deflection Temperature at 1.8 MPa (264 psi) | 90.0 °C | 194 °F | Edgew 120x10x4, sp=100 mm; ISO 75/Ae |
| Vicat Softening Point | 240 °C | 464 °F | B/120; ISO 306 |
| | 243 °C | 469 °F | B/50; ISO 306 |
| Flammability, UL94 | V-2 @Thickness 1.60 mm | V-2 @Thickness 0.0630 in | |
| Oxygen Index | 26 % | 26 % | ISO 4589 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|---------------------------------------|---------------------------------------|----------------|
| Volume Resistivity | $\geq 1.00\text{e}+16 \text{ ohm-cm}$ | $\geq 1.00\text{e}+16 \text{ ohm-cm}$ | IEC 60093 |
| Surface Resistance | $\geq 1.00\text{e}+16 \text{ ohm}$ | $\geq 1.00\text{e}+16 \text{ ohm}$ | ROA; IEC 60093 |
| Dielectric Constant | 2.9 @Frequency 1.00e+6 Hz | 2.9 @Frequency 1.00e+6 Hz | IEC 60250 |

| Electrical Properties | Metric | English | Comments |
|----------------------------|-------------------------------------|-------------------------------------|---------------------|
| | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz | IEC 60250 |
| Dielectric Strength | 16.0 kV/mm @Thickness 3.20 mm | 406 kV/in @Thickness 0.126 in | in oil; IEC 60243-1 |
| Dissipation Factor | 0.0055 @Frequency 50.0 - 60.0 Hz | 0.0055 @Frequency 50.0 - 60.0 Hz | IEC 60250 |
| | 0.017 @Frequency 1.00e+6 Hz | 0.017 @Frequency 1.00e+6 Hz | IEC 60250 |
| Comparative Tracking Index | 600 V | 600 V | IEC 60112 |
| | 600 V | 600 V | M; IEC 60112 |

| Processing Properties | Metric | English | Comments |
|-----------------------|---|--|----------|
| Zone 1 | 260 - 270 °C | 500 - 518 °F | |
| Zone 2 | 270 - 280 °C | 518 - 536 °F | |
| Zone 3 | 270 - 290 °C | 518 - 554 °F | |
| Melt Temperature | 270 - 290 °C | 518 - 554 °F | |
| Mold Temperature | 60.0 - 90.0 °C | 140 - 194 °F | |
| Drying Temperature | 75.0 - 85.0 °C @Time 14400 - 21600 sec | 167 - 185 °F @Time 4.00 - 6.00 hour | |
| Moisture Content | 0.20 % | 0.20 % | |

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