# Eurostar Starflam AFR450X2 PA66, 25% Glass Filled, Injection Molded

**Category :** Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 30% Glass Fiber Filled

**Material Notes:**

AFR450X2 is a Red Phosphorous, Flame Retardant, 25% Glass Fiber Reinforced, Polyamide 66 Injection Molding ResinInformation provided by Polymer Technology & Services, the North American exclusive supplier.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Eurostar-Starflam-AFR450X2-PA66-25-Glass-Filled-Injection-Molded.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Density | 1.33 g/cc | 0.0480 lb/in³ | ISO 1183 |
| Moisture Absorption | 1.20 %<br>@Temperature 23.0 °C | 1.20 %<br>@Temperature 73.4 °F | 50% RH; ISO 62 |
| Water Absorption at Saturation | 6.0 %<br>@Temperature 23.0 °C | 6.0 %<br>@Temperature 73.4 °F | ISO 62-1 |
| Linear Mold Shrinkage, Flow | 0.0030 - 0.0050 cm/cm | 0.0030 - 0.0050 in/in | on Tensile Bar; ISO 294 |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Hardness, Rockwell L | 108 | 108 | ISO 2039-2 |
| Tensile Strength at Break | 160 MPa | 23200 psi | 5 mm/min; ISO 527 |
| Elongation at Break | 2.0 % | 2.0 % | 5 mm/min; ISO 527 |
| Tensile Modulus | 8.70 GPa | 1260 ksi | 1 mm/min; ISO 527 |
| Flexural Strength | 210 MPa | 30500 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 8.00 GPa | 1160 ksi | 2 mm/min; ISO 178 |
| Izod Impact, Notched (ISO) | 8.00 kJ/m²<br>@Temperature -40.0 °C | 3.81 ft-lb/in²<br>@Temperature -40.0 °F | 80x10x4; ISO 180/1A |
| | 9.00 kJ/m²<br>@Temperature -20.0 °C | 4.28 ft-lb/in²<br>@Temperature -4.00 °F | 80x10x4; ISO 180/1A |
| | 12.0 kJ/m²<br>@Temperature 23.0 °C | 5.71 ft-lb/in²<br>@Temperature 73.4 °F | 80x10x4; ISO 180/1A |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| | 28.0 µm/m-°C | 15.6 µin/in-°F | |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| CTE, linear, Parallel to Flow | @Temperature 23.0 - 60.0 °C | @Temperature 73.4 - 140 °F | ISO 11359-2 |
| CTE, linear, Transverse to Flow | 90.0 µm/m-°C<br>@Temperature 23.0 - 60.0 °C | 50.0 µin/in-°F<br>@Temperature 73.4 - 140 °F | ISO 11359-2 |
| Deflection Temperature at 0.46 MPa (66 psi) | 250 °C | 482 °F | Edgew 120x10x4, sp=100 mm; ISO 75/Bf |
| Deflection Temperature at 1.8 MPa (264 psi) | 248 °C | 478 °F | Edgew 120x10x4, sp=100 mm; ISO 75/Af |
| Vicat Softening Point | 245 °C | 473 °F | B/120; ISO 306 |
| | 245 °C | 473 °F | B/50; ISO 306 |
| UL RTI, Electrical | 110 °C<br>@Thickness 0.750 mm | 230 °F<br>@Thickness 0.0295 in | |
| | 110 °C<br>@Thickness 1.50 mm | 230 °F<br>@Thickness 0.0591 in | |
| | 110 °C<br>@Thickness 3.00 mm | 230 °F<br>@Thickness 0.118 in | |
| UL RTI, Mechanical with Impact | 110 °C<br>@Thickness 0.750 mm | 230 °F<br>@Thickness 0.0295 in | |
| | 110 °C<br>@Thickness 1.50 mm | 230 °F<br>@Thickness 0.0591 in | |
| | 110 °C<br>@Thickness 3.00 mm | 230 °F<br>@Thickness 0.118 in | |
| UL RTI, Mechanical without Impact | 115 °C<br>@Thickness 0.750 mm | 239 °F<br>@Thickness 0.0295 in | |
| | 115 °C<br>@Thickness 1.50 mm | 239 °F<br>@Thickness 0.0591 in | |
| | 120 °C<br>@Thickness 3.00 mm | 248 °F<br>@Thickness 0.118 in | |
| Flammability, UL94 | V-2<br>@Thickness 0.750 mm | V-2<br>@Thickness 0.0295 in | IEC 60695-11-10 |
| | V-0<br>@Thickness 1.50 mm | V-0<br>@Thickness 0.0591 in | IEC 60695-11-10 |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| | V-0<br>@Thickness 3.00 mm | V-0<br>@Thickness 0.118 in | IEC 60695-11-10 |
| Glow Wire Test | 960 °C<br>@Thickness 2.00 mm | 1760 °F<br>@Thickness 0.0787 in | IEC 60695-2-12 |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| Volume Resistivity | >= 1.00e+15 ohm-cm | >= 1.00e+15 ohm-cm | IEC 60093 |
| Surface Resistance | >= 1.00e+16 ohm | >= 1.00e+16 ohm | ROA; IEC 60093 |
| Dielectric Constant | 2.8<br>@Frequency 1.00e+6 Hz | 2.8<br>@Frequency 1.00e+6 Hz | IEC 60250 |
| | 3.0<br>@Frequency 50.0 - 60.0 Hz | 3.0<br>@Frequency 50.0 - 60.0 Hz | IEC 60250 |
| Dielectric Strength | 17.0 kV/mm<br>@Thickness 3.20 mm | 432 kV/in<br>@Thickness 0.126 in | in oil; IEC 60243-1 |
| Dissipation Factor | 0.0054<br>@Frequency 50.0 - 60.0 Hz | 0.0054<br>@Frequency 50.0 - 60.0 Hz | IEC 60250 |
| | 0.0119<br>@Frequency 1.00e+6 Hz | 0.0119<br>@Frequency 1.00e+6 Hz | IEC 60250 |
| Comparative Tracking Index | 600 V | 600 V | IEC 60112 |
| Hot Wire Ignition, HWI | >= 120 sec<br>@Thickness 0.750 mm | >= 120 sec<br>@Thickness 0.0295 in | PLC 0 |
| | >= 120 sec<br>@Thickness 1.50 mm | >= 120 sec<br>@Thickness 0.0591 in | PLC 0 |
| | >= 120 sec<br>@Thickness 3.00 mm | >= 120 sec<br>@Thickness 0.118 in | PLC 0 |
| High Amp Arc Ignition, HAI | >= 120 arcs<br>@Thickness 0.750 mm | >= 120 arcs<br>@Thickness 0.0295 in | PLC 0 |
| | >= 120 arcs<br>@Thickness 1.50 mm | >= 120 arcs<br>@Thickness 0.0591 in | PLC 0 |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| | >= 120 arcs | >= 120 arcs | PLC 0 |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |

| Processing Properties | Metric | English | Comments |
|---|---|---|---|
| Rear Barrel Temperature | 275 - 285 °C | 527 - 545 °F | Zone 1 |
| Middle Barrel Temperature | 275 - 285 °C | 527 - 545 °F | Zone 2 |
| Front Barrel Temperature | 275 - 285 °C | 527 - 545 °F | Zone 3 |
| Melt Temperature | 275 - 285 °C | 527 - 545 °F | |
| Mold Temperature | 60.0 - 90.0 °C | 140 - 194 °F | |
| Drying Temperature | 75.0 - 85.0 °C | 167 - 185 °F | |
| Dry Time | 4.00 - 6.00 hour | 4.00 - 6.00 hour | |
| Moisture Content | 0.10 % | 0.10 % | |

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