

Starflam® AFR470X2

Ascend Performance Materials Operations LLC - Polyamide 66

General Information

Product Description

Starflam AFR470X2 is a 35% glass filled, red phosphorous flame retardant PA66 for injection molded applications.

General

| | |
|------------------------|--|
| Material Status | • Commercial: Active |
| Availability | • Europe • North America |
| Filler / Reinforcement | • Glass Fiber, 35% Filler by Weight |
| Additive | • Flame Retardant • Heat Stabilizer • Mold Release |
| Features | • Flame Retardant • Halogen Free • Heat Stabilized |
| Appearance | • Natural Color |
| Forms | • Pellets |
| Processing Method | • Injection Molding |
| Resin ID | • PA66-GF35 FR |

 Properties ¹

| Physical | Dry | Conditioned | Unit | Test Method |
|---|---------|-------------|-----------------------|-------------|
| Density | 1.44 | -- | g/cm ³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow : 73°F, 0.0787 in | 0.90 | -- | % | |
| Flow : 73°F, 0.0787 in | 0.30 | -- | % | |
| Water Absorption (24 hr, 73°F) | 1.6 | -- | % | ISO 62 |
| Water Absorption (Saturation, 73°F) | 4.5 | -- | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 1.4 | -- | % | ISO 62 |
| Mechanical | Dry | Conditioned | Unit | Test Method |
| Tensile Modulus (73°F) | 1.60E+6 | 1.13E+6 | psi | ISO 527-1 |
| Tensile Stress (Break, 73°F) | 22500 | 15200 | psi | ISO 527-2 |
| Tensile Strain (Break, 73°F) | 2.4 | 3.9 | % | ISO 527-2 |
| Flexural Modulus (73°F) | 1.54E+6 | 1.09E+6 | psi | ISO 178 |
| Flexural Stress (73°F) | 31600 | 22500 | psi | ISO 178 |
| Poisson's Ratio (73°F) | 0.34 | -- | | ISO 527-2 |
| Impact | Dry | Conditioned | Unit | Test Method |
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -40°F | 4.8 | 4.2 | ft·lb/in ² | |
| -22°F | 4.8 | 4.4 | ft·lb/in ² | |
| 73°F | 5.7 | 7.1 | ft·lb/in ² | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -40°F | 28 | 26 | ft·lb/in ² | |
| -22°F | 28 | 28 | ft·lb/in ² | |
| 73°F | 34 | 36 | ft·lb/in ² | |
| Notched Izod Impact Strength | | | | ISO 180/1A |
| -40°F | 3.7 | 4.3 | ft·lb/in ² | |
| -22°F | 3.7 | 4.4 | ft·lb/in ² | |
| 73°F | 5.2 | 6.7 | ft·lb/in ² | |
| Thermal | Dry | Conditioned | Unit | Test Method |
| Deflection Temperature Under Load (66 psi, Unannealed) | 493 | 491 | °F | ISO 75-2/B |
| Deflection Temperature Under Load (264 psi, Unannealed) | 459 | 360 | °F | ISO 75-2/A |
| CLTE - Flow (73 to 131°F, 0.0787 in) | 1.1E-5 | -- | in/in/°F | ISO 11359-2 |
| CLTE - Transverse (73 to 131°F, 0.0787 in) | 5.6E-5 | -- | in/in/°F | ISO 11359-2 |



| | | | | |
|--------------------------------|------------|--------------------|-------------|--------------------|
| RTI Elec | | | | UL 746B |
| 0.030 in | 212 | -- | °F | |
| 0.12 in | 212 | -- | °F | |
| RTI Imp | | | | UL 746B |
| 0.030 in | 203 | -- | °F | |
| 0.12 in | 212 | -- | °F | |
| RTI Str | | | | UL 746B |
| 0.030 in | 212 | -- | °F | |
| 0.12 in | 221 | -- | °F | |
| Electrical | Dry | Conditioned | Unit | Test Method |
| Volume Resistivity (0.0394 in) | 1.0E+15 | -- | ohms·cm | IEC 60093 |
| Electric Strength (0.0394 in) | 690 | 640 | V/mil | IEC 60243-1 |
| Flammability | Dry | Conditioned | Unit | Test Method |
| Flame Rating | | | | UL 94 |
| 0.030 in | V-0 | -- | | |
| 0.12 in | V-0 | -- | | |

Processing Information

| Injection | Dry | Unit |
|------------------------|------------|-------------|
| Drying Temperature | 167 to 185 | °F |
| Drying Time | 4.0 | hr |
| Suggested Max Moisture | 0.10 | % |
| Rear Temperature | 527 to 545 | °F |
| Middle Temperature | 527 to 545 | °F |
| Front Temperature | 527 to 545 | °F |
| Processing (Melt) Temp | 527 to 545 | °F |
| Mold Temperature | 158 to 194 | °F |

