# Starflam® PK0052E

polyamide 6

Starflam PK0052E is a 25% mineral filled, flame retardant PA6 for injection molded applications. The material is halogen free and red phosphorus free.

## General

| | | | |
|---|---|---|---|
| Regional Availability | • North America | • Europe | |
| Additive | • Flame Retarding Agent | • Heat Stabilizer | • Release agent |
| Features | • Flame Retardant | • Halogen Content, None | |
| Uses | • Mineral Reinforced | | |
| Agency Rating | • ISO, 1043 PA6 GF25 FR(30) | • ISO, 1043 PA6 MD25 FR(30) | |
| Appearance | • Natural Color | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

| Physical | dry | cond. | Unit | Test Standard |
|---|---|---|---|---|
| Density | 1.38 | - | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow : 23°C, 2.00 mm | 0.9 | * | % | |
| Flow : 23°C, 2.00 mm | 0.9 | * | % | |
| Water Absorption | | | | ISO 62 |
| 23°C, 24 hr | 0.9 | * | % | |
| Equilibrium, 23°C, 50% RH | 1.4 | * | % | |

| Mechanical | dry | cond. | Unit | Test Standard |
|---|---|---|---|---|
| Tensile Modulus (23°C) | 6200 | 3700 | MPa | ISO 527-2 |
| Tensile Stress (Break, 23°C) | 69 | 39 | MPa | ISO 527-2 |
| Tensile Strain (Break, 23°C) | 3 | 4 | % | ISO 527-2 |
| Flexural Modulus (23°C) | 6900 | 2500 | MPa | ISO 178 |
| Flexural Strength (23°C) | 119 | 44 | MPa | ISO 178 |

| Impact | dry | cond. | Unit | Test Standard |
|---|---|---|---|---|
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| +23°C | 3.2 | 4.7 | kJ/m² | |
| -30°C | 2.8 | 2.5 | kJ/m² | |
| -40°C | 3.4 | 2.2 | kJ/m² | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| +23°C | 32 | 41 | kJ/m² | |
| -30°C | 32 | 37 | kJ/m² | |

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|---|---|---|---|---|
| -40°C | 35 | 33 | kJ/m² | |
| Notched Izod Impact Strength | | | | ISO 180/1A |
| +23°C | 3 | 3.3 | kJ/m² | |
| -30°C | 3.4 | 2.8 | kJ/m² | |
| -40°C | 2.8 | 2.2 | kJ/m² | |

| Thermal | dry | cond. | Unit | Test Standard |
|---|---|---|---|---|
| Heat Deflection Temperature | | | | ISO 75-2/A |
| 1.80 MPa, Unannealed | 119 | 111 | °C | |
| 0.45 MPa, Unannealed | 201 | 193 | °C | |
| Melting Temperature | 221 | * | °C | ISO 11357-3 |
| RTI Elec | | | | UL 746 |
| 0.800 mm | 65 | | °C | |
| RTI Imp | | | | UL 746 |
| 0.800 mm | 65 | | °C | |
| RTI Str | | | | UL 746 |
| 0.800 mm | 65 | | °C | |

| Electrical | dry | cond. | Unit | Test Standard |
|---|---|---|---|---|
| Volume Resistivity (1.00 mm) | 1E13 | - | Ohm*m | IEC 60093 |
| Dielectric Strength (1.00 mm) | 29 | 29 | kV/mm | IEC 60243 |

| Flammability | Value | Test Standard |
|---|---|---|
| Flammability | | UL 94 |
| 0.800 mm | V-2 | |

| Injection | Value | Unit |
|---|---|---|
| Drying Temperature | 80 | °C |
| Drying Time | 4 | h |
| Suggested Max Moisture | 0.2 | % |
| Rear Temperature | 240 - 250 | °C |
| Middle Temperature | 250 - 260 | °C |
| Front Temperature | 250 - 270 | °C |
| Processing (Melt) Temperature | 250 - 270 | °C |
| Mold Temperature | 50 - 90 | °C |