

Solvay Specialty Polymers Amodel® A-8422 LS WH159 Polyphthalamide (PPA), 22% Mineral

Category : Polymer , Thermoplastic , Polyphthalamide (PPA)

Material Notes:

Amodel® A-8422 LS is a light-stabilized, high-reflectivity, 22%-reinforced white polyphthalamide (PPA) that exhibits high heat resistance, high strength and stiffness over a broad temperature range, low moisture absorption, excellent chemical resistance, and excellent electrical properties. Features: Good Chemical Resistance; Good Color Stability; High Reflectivity; Light Stabilized; Low Moisture Absorption. Uses: LEDs. Injection Molding Notes: A general purpose screw is recommended, with minimum back pressure. Additional Properties: Mold Shrinkage - 1.0 %; Mold Shrinkage - 0.55 %; Optical Reflectivity - ASTM E1331 > 90 %; Optical Reflectivity - ASTM E1331 > 90 %; Optical Reflectivity - ASTM E1331 > 90 %; Tensile Strain at Break - ASTM D638 0.95 % Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-A-8422-LS-WH159-Polyphthalamide-PPA-22-Mineral.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|---------------------------|----------|
| Density | 1.68 g/cc | 0.0607 lb/in ³ | ISO 1183 |
| Filler Content | 22 % | 22 % | Mineral |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|------------------------|----------------------------|--------------------------|
| Tensile Strength | 95.1 MPa | 13800 psi | ASTM D638 |
| Tensile Stress | 102 MPa | 14800 psi | ISO 527-2 |
| Elongation at Break | 1.1 % | 1.1 % | ISO 527-2 |
| Tensile Modulus | 10.9 GPa | 1580 ksi | ISO 527-2 |
| | 11.0 GPa | 1600 ksi | ASTM D638 |
| Flexural Strength | 145 MPa | 21000 psi | ISO 178 |
| | 168 MPa | 24400 psi | ASTM D790 |
| Flexural Modulus | 9.93 GPa | 1440 ksi | ISO 178 |
| | 10.2 GPa | 1480 ksi | ASTM D790 |
| Izod Impact, Notched (ISO) | 2.70 kJ/m ² | 1.28 ft-lb/in ² | Type 1, Notch A; ISO 180 |

| Thermal Properties | Metric | English | Comments |
|-------------------------------|----------------------------|----------------------------|----------|
| CTE, linear, Parallel to Flow | 21.0 Åµm/m-Å°C | 11.7 Åµin/in-Å°F | 4 |
| | @Temperature 150 - 200 Å°C | @Temperature 302 - 392 Å°F | |

| Thermal Properties | Metric $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | English $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | Comments |
|---|--|---|----------------|
| | @Temperature 100 - 150 $\text{Å}^\circ\text{C}$ | @Temperature 212 - 302 $\text{Å}^\circ\text{F}$ | 4 |
| | 26.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 14.4 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | |
| | @Temperature 50.0 - 100 $\text{Å}^\circ\text{C}$ | @Temperature 122 - 212 $\text{Å}^\circ\text{F}$ | 4 |
| | 27.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 15.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | |
| | @Temperature 200 - 250 $\text{Å}^\circ\text{C}$ | @Temperature 392 - 482 $\text{Å}^\circ\text{F}$ | 4 |
| CTE, linear, Transverse to Flow | 51.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 28.3 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | |
| | @Temperature 50.0 - 100 $\text{Å}^\circ\text{C}$ | @Temperature 122 - 212 $\text{Å}^\circ\text{F}$ | TMA; ASTM E831 |
| | 73.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 40.6 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | |
| | @Temperature 100 - 150 $\text{Å}^\circ\text{C}$ | @Temperature 212 - 302 $\text{Å}^\circ\text{F}$ | TMA; ASTM E831 |
| | 110 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 61.1 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | |
| | @Temperature 150 - 200 $\text{Å}^\circ\text{C}$ | @Temperature 302 - 392 $\text{Å}^\circ\text{F}$ | TMA; ASTM E831 |
| | 130 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ | 72.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ | |
| | @Temperature 200 - 250 $\text{Å}^\circ\text{C}$ | @Temperature 392 - 482 $\text{Å}^\circ\text{F}$ | TMA; ASTM E831 |
| Melting Point | 327 $\text{Å}^\circ\text{C}$ | 621 $\text{Å}^\circ\text{F}$ | ISO 11357-3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 280 $\text{Å}^\circ\text{C}$ | 536 $\text{Å}^\circ\text{F}$ | |

| Processing Properties | Metric | English | Comments |
|--------------------------|------------------------------------|------------------------------------|----------|
| Rear Barrel Temperature | 304 - 318 $\text{Å}^\circ\text{C}$ | 579 - 604 $\text{Å}^\circ\text{F}$ | |
| Front Barrel Temperature | 316 - 329 $\text{Å}^\circ\text{C}$ | 601 - 624 $\text{Å}^\circ\text{F}$ | |
| Melt Temperature | 321 - 343 $\text{Å}^\circ\text{C}$ | 610 - 649 $\text{Å}^\circ\text{F}$ | |
| Mold Temperature | 135 $\text{Å}^\circ\text{C}$ | 275 $\text{Å}^\circ\text{F}$ | |
| Drying Temperature | 120 $\text{Å}^\circ\text{C}$ | 248 $\text{Å}^\circ\text{F}$ | |
| | @Time 14400 sec | @Time 4.00 hour | |
| Moisture Content | $\leq 0.045\%$ | $\leq 0.045\%$ | |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
|------------------------|-------|----------|

| Availability Descriptive Properties | Africa & Middle East Value | Comments |
|--|-------------------------------|----------|
| | Asia Pacific | |
| | Europe | |
| | Latin America | |
| | North America | |
| Color | White | |
| Form | Pellets | |
| Processing Technique | Injection Molding | |

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