

Vydyne® ECO315

polyamide 66/6 copolymer



Vydyne ECO315 is a non-halogenated, unfilled, flame-retardant PA66/6 copolymer with excellent toughness and ductility. It is lubricated for machine feed and easy mold release and has an

Underwriters Laboratories UL 94 flammability classification of V-0 at 0.4 mm (0.016") thick.

| General | | | | |
|------------------------------|---|---|---|-------------|
| Material Status | • Commercial: Active | | | |
| Availability | • Asia Pacific | • Europe | • North America | |
| Additive | • Flame Retardant | • Lubricant | | |
| Features | • Crack Resistant • Ductile • Flame Retardant | • Good Mold Release • Good Toughness • Halogen Free | • High Elongation • Low Density • Lubricated | |
| Uses | • Appliances • Automotive Electronics • Bobbins • Connectors • Electrical Housing | • Electrical Parts • Electrical/Electronic Applications • Fasteners • Industrial Applications • Lighting Applications | • Living Hinges • Printed Circuit Boards • Switches | |
| UL File Number | • E70062 | | | |
| Appearance | • Natural Color | | | |
| Forms | • Pellets | | | |
| Processing Method | • Injection Molding | | | |
| Physical | Dry | Conditioned | Unit | Test Method |
| Density | 1.16 | -- | g/cm ³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow : 23°C, 2.00 mm | 1.4 | -- | % | |
| Flow : 23°C, 2.00 mm | 1.2 | -- | % | |
| Water Absorption | | | | ISO 62 |
| 24 hr, 23°C | 0.80 | -- | % | |
| Equilibrium, 23°C, 50% RH | 2.3 | -- | % | |
| Mechanical | Dry | Conditioned | Unit | Test Method |
| Tensile Modulus (23°C) | 3250 | 1200 | MPa | ISO 527-2 |
| Tensile Stress (Yield, 23°C) | 75.0 | 42.0 | MPa | ISO 527-2 |
| Tensile Strain | | | | ISO 527-2 |
| Yield, 23°C | 3.5 | 23 | % | |
| Break, 23°C | 22 | 140 | % | |
| Flexural Modulus (23°C) | 3200 | 1560 | MPa | ISO 178 |
| Flexural Strength (23°C) | 92.0 | 45.0 | MPa | ISO 178 |
| Poisson's Ratio | 0.40 | -- | | ISO 527-2 |

| Impact | Dry | Conditioned | Unit | Test Method |
|-------------------------------------|----------|-------------|-------------------|-------------|
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -30°C | 5.4 | -- | kJ/m ² | |
| 23°C | 5.4 | -- | kJ/m ² | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -30°C | No Break | -- | | |
| 23°C | No Break | -- | | |
| Notched Izod Impact Strength (23°C) | 6.0 | -- | kJ/m ² | ISO 180 |
| Thermal | Dry | Conditioned | Unit | Test Method |
| Heat Deflection Temperature | | | | |
| 0.45 MPa, Unannealed | 225 | -- | °C | ISO 75-2/B |
| 1.8 MPa, Unannealed | 65.0 | -- | °C | ISO 75-2/A |
| Melting Temperature | 244 | -- | °C | ISO 11357-3 |
| CLTE | | | | ISO 11359-2 |
| Flow : 23 to 55°C, 2.00 mm | 1.1E-4 | -- | cm/cm/°C | |
| Transverse : 23 to 55°C, 2.00 mm | 1.1E-4 | -- | cm/cm/°C | |
| RTI Elec | | | | UL 746 |
| 0.40 mm | 130 | -- | °C | |
| 0.75 mm | 130 | -- | °C | |
| 1.5 mm | 130 | -- | °C | |
| 3.0 mm | 130 | -- | °C | |
| RTI Imp | | | | UL 746 |
| 0.40 mm | 65.0 | -- | °C | |
| 0.75 mm | 65.0 | -- | °C | |
| 1.5 mm | 85.0 | -- | °C | |
| 3.0 mm | 85.0 | -- | °C | |
| RTI Str | | | | UL 746 |
| 0.40 mm | 100 | -- | °C | |
| 0.75 mm | 100 | -- | °C | |
| 1.5 mm | 100 | -- | °C | |
| 3.0 mm | 110 | -- | °C | |

| Electrical | Dry | Conditioned | Unit | Test Method |
|---------------------------------------|---------|-------------|---------|----------------|
| Volume Resistivity (0.750 mm) | 1.0E+11 | -- | ohms-cm | IEC 60093 |
| Dielectric Strength (1.00 mm) | 13 | -- | kV/mm | IEC 60243 |
| Arc Resistance (3.00 mm) | PLC 5 | -- | | ASTM D495 |
| Comparative Tracking Index (3.00 mm) | 600 | -- | V | IEC 60112 |
| High Amp Arc Ignition (HAI) | | | | UL 746 |
| 0.40 mm | PLC 0 | -- | | |
| 0.75 mm | PLC 0 | -- | | |
| 1.5 mm | PLC 0 | -- | | |
| 3.0 mm | PLC 0 | -- | | |
| High Voltage Arc Tracking Rate (HVTR) | PLC 1 | -- | | UL 746 |
| Hot-wire Ignition (HWI) | | | | UL 746 |
| 0.40 mm | PLC 4 | -- | | |
| 0.75 mm | PLC 4 | -- | | |
| 1.5 mm | PLC 4 | -- | | |
| 3.0 mm | PLC 3 | -- | | |
| Flammability | Dry | Conditioned | Unit | Test Method |
| Flame Rating | | | | UL 94 |
| 0.40 mm | V-0 | -- | | |
| 0.75 mm | V-0 | -- | | |
| 1.5 mm | V-0 | -- | | |
| 3.0 mm | V-0 | -- | | |
| Glow Wire Flammability Index | | | | IEC 60695-2-12 |
| 0.40 mm | 960 | -- | °C | |
| 0.75 mm | 960 | -- | °C | |
| 1.5 mm | 960 | -- | °C | |
| 3.0 mm | 960 | -- | °C | |
| Glow Wire Ignition Temperature | | | | IEC 60695-2-13 |
| 0.40 mm | 875 | -- | °C | |
| 0.75 mm | 875 | -- | °C | |
| 1.5 mm | 775 | -- | °C | |
| 3.0 mm | 725 | -- | °C | |
| Oxygen Index | 29 | -- | % | ISO 4589-2 |

| Injection | Dry Unit |
|------------------------|---------------|
| Drying Temperature | 80 °C |
| Drying Time | 4.0 hr |
| Suggested Max Regrind | 50 % |
| Rear Temperature | 240 to 270 °C |
| Middle Temperature | 240 to 270 °C |
| Front Temperature | 240 to 270 °C |
| Nozzle Temperature | 240 to 270 °C |
| Processing (Melt) Temp | 250 to 270 °C |
| Mold Temperature | 65 to 95 °C |

Notes

Typical properties: these are not to be construed as specifications.

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