

Amodel® AT-6130 HS

polyphthalamide

Amodel® AT-6130 HS is a 30% glass-reinforced, toughened polyphthalamide (PPA) resin that has more elongation than other 30% glass-reinforced grades of Amodel® resin. This grade was developed for automotive snap-fit electronic connectors. It offers high flow and short molding cycles. The processing window is relatively broad and mold temperatures as low as 150°F (65°C) can be used.

- Black: AT-6130 HS BK 324
- Natural: AT-6130 HS NT

General

| | | |
|---------------------------|---|---|
| Material Status | <ul style="list-style-type: none"> • Commercial: Active | |
| Availability | <ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe | <ul style="list-style-type: none"> • Latin America • North America |
| Filler / Reinforcement | <ul style="list-style-type: none"> • Glass Fiber, 30% Filler by Weight | |
| Additive | <ul style="list-style-type: none"> • Heat Stabilizer • Impact Modifier | <ul style="list-style-type: none"> • Lubricant • Mold Release |
| Features | <ul style="list-style-type: none"> • Chemical Resistant • Good Flow • Heat Stabilized • High Heat Resistance • High Strength | <ul style="list-style-type: none"> • Hot Water Moldability • Impact Modified • Low Friction • Lubricated • Wear Resistant |
| Uses | <ul style="list-style-type: none"> • Automotive Applications • Automotive Electronics • Automotive Under the Hood • Bearings • Connectors • Fuel Lines • General Purpose | <ul style="list-style-type: none"> • Housings • Industrial Applications • Industrial Parts • Lawn and Garden Equipment • Machine/Mechanical Parts • Metal Replacement • Valves/Valve Parts |
| RoHS Compliance | <ul style="list-style-type: none"> • RoHS Compliant | |
| Automotive Specifications | <ul style="list-style-type: none"> • ASTM D4000 PPA0123 G30 KD150 KN080 PM095 PN095 YI255 LD002 Color: BK-324 Black • ASTM D4000 PPA0123 G30 KD150 KN080 PM095 PN095 YI255 LD002 Color: NT Natural • ASTM D6779 PA103G30 • DELPHI MS 5218 Color: BK-324 Black • DELPHI MS 5218 Color: NT Natural • GM GMP.PPA.017 Color: BK-324 Black • GM GMP.PPA.017 Color: NT Natural • GM GMW16363P-PPA-GF30 Color: Black • GM GMW16363P-PPA-GF30 Color: Natural • ISO 1874-PA 6T/66-HI, MH, 11-090, GF30 | |
| Appearance | <ul style="list-style-type: none"> • Black | <ul style="list-style-type: none"> • Natural Color |
| Forms | <ul style="list-style-type: none"> • Pellets | |
| Processing Method | <ul style="list-style-type: none"> • Water-Heated Mold Injection Molding | |

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| Physical | Dry | Conditioned | Unit | Test method |
|--------------------------|------------|--------------------|-------------------|--------------------|
| Density | 1.34 | -- | g/cm ³ | ISO 1183/A |
| Molding Shrinkage | | | | ASTM D955 |
| Flow | 0.50 | -- | % | |
| Across Flow | 0.80 | -- | % | |
| Water Absorption (24 hr) | 0.15 | -- | % | ASTM D570 |

| Mechanical | Dry | Conditioned | Unit | Test method |
|--------------------|------------|--------------------|-------------|--------------------|
| Tensile Modulus | 9310 | -- | MPa | ISO 527-2 |
| Tensile Strength | | | | |
| Break | 167 | -- | MPa | ASTM D638 |
| Break | 170 | -- | MPa | ISO 527-2 |
| Tensile Elongation | | | | |
| Break | 3.2 | -- | % | ASTM D638 |
| Break | 3.3 | -- | % | ISO 527-2 |
| Flexural Modulus | | | | |
| -- | 7860 | -- | MPa | ASTM D790 |
| -- | 7580 | -- | MPa | ISO 178 |
| Flexural Stress | | | | |
| -- | 225 | -- | MPa | ISO 178 |
| Yield | 236 | -- | MPa | ASTM D790 |

| Impact | Dry | Conditioned | Unit | Test method |
|--------------------------------|------------|--------------------|-------------------|--------------------|
| Charpy Notched Impact Strength | 13 | -- | kJ/m ² | ISO 179/1eA |
| Notched Izod Impact | 130 | -- | J/m | ASTM D256 |
| Unnotched Izod Impact | 1400 | -- | J/m | ASTM D256 |

| Thermal | Dry | Conditioned | Unit | Test method |
|-----------------------------|------------|--------------------|-------------|--------------------|
| Heat Deflection Temperature | | | | |
| 0.45 MPa, Unannealed | 298 | -- | °C | ISO 75-2/B |
| 1.8 MPa, Unannealed | 276 | -- | °C | ISO 75-2/A |
| Melting Temperature | | | | |
| -- | 310 | -- | °C | ISO 11357-3 |
| -- | 306 | -- | °C | ASTM D3418 |

| Injection | Dry | Unit |
|------------------------|------------|-------------|
| Drying Temperature | 121 | °C |
| Drying Time | 4.0 | hr |
| Suggested Max Moisture | 0.15 | % |
| Rear Temperature | 316 to 324 | °C |
| Front Temperature | 327 to 332 | °C |
| Processing (Melt) Temp | 321 to 335 | °C |
| Mold Temperature | 66 to 93 | °C |
| Injection Rate | Fast | |

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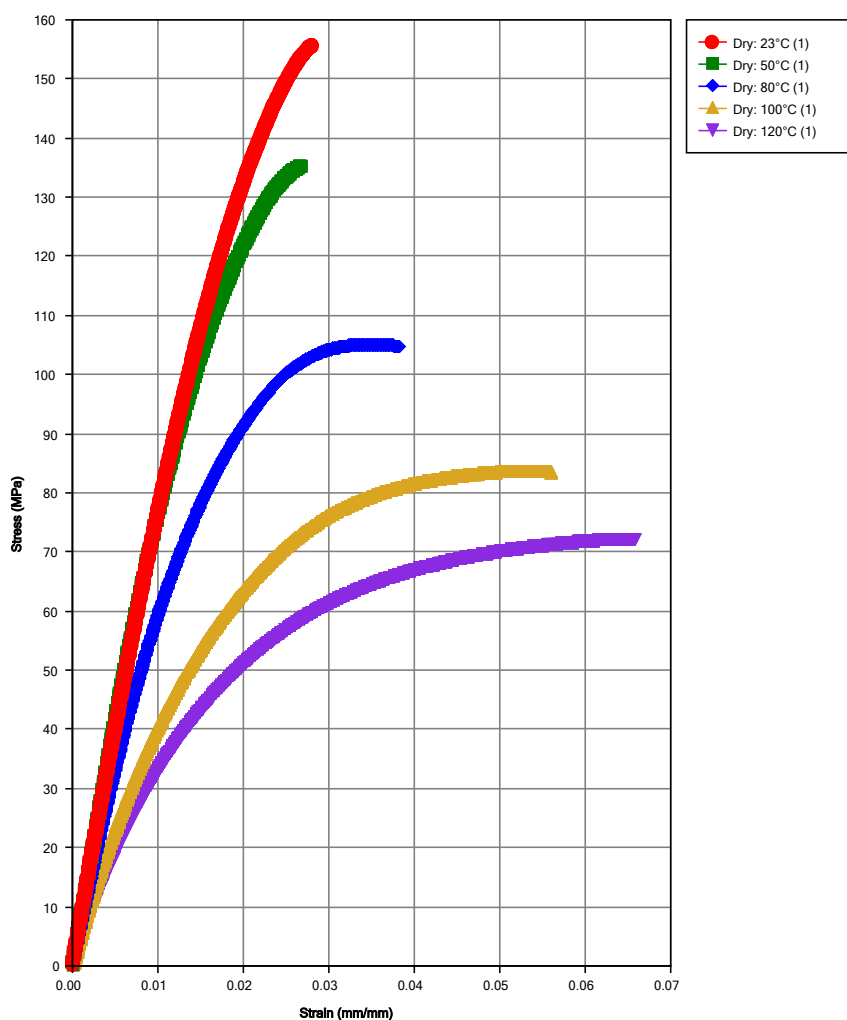
Injection Notes

Injection pressure between 2-4 in/sec (5-10 cm/sec). Adjust the holding pressure to one-half the injection pressure.

Storage:

- Amodel® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Amodel® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Amodel® processing guide.

Isothermal Stress vs. Strain (ISO 11403-1)



Data Notes
(1) - ISO Protocol

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Notes

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

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