

# Amodel® AFA-6145 V0 Z

## polyphthalamide

Amodel® AFA-6145 V0 Z is a 45% glass-fiber reinforced, flame retardant grade of polyphthalamide (PPA) resin specifically formulated for connector applications requiring compatibility with both infrared and vapor phase soldering operations typically used by the electronics industry.

- Black: AFA-6145 V0 Z BK 324
- Natural: AFA-6145 V0 Z NT

Amodel® AFA-6145 V0 Z offers high flow and short molding cycles, thereby enhancing molding productivity and lowering costs.

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 45% Filler by Weight		
Additive	• Flame Retardant		
Features	• Flame Retardant • Good Chemical Resistance • Good Dimensional Stability	• Good Electrical Properties • Good Stiffness • High Flow	• High Strength • Hot Water Moldability
Uses	• Automotive Applications • Automotive Electronics • Automotive Under the Hood	• Cell Phones • Connectors • Housings	• Industrial Applications • Industrial Parts
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• ASTM D6779 PA104G45		
Appearance	• Black	• Natural Color	
Forms	• Pellets		
Processing Method	• Water-Heated Mold Injection Molding		

Physical	Typical Value	Unit	Test method
Density	1.80	g/cm <sup>3</sup>	ISO 1183/A
Molding Shrinkage			ASTM D955
Flow	0.20	%	
Across Flow	0.40	%	

Mechanical	Typical Value	Unit	Test method
Tensile Strength (Break)	193	MPa	ASTM D638
Tensile Elongation (Break)	1.5	%	ASTM D638
Flexural Modulus	15500	MPa	ASTM D790
Flexural Strength	276	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	110	J/m	ASTM D256

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Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed	277	°C	ASTM D648
Peak Melting Temperature	310	°C	ASTM D3418

Electrical	Typical Value	Unit	Test method
Surface Resistivity	1.0E+13	ohm	ASTM D257
Volume Resistivity	1.0E+15	ohm·cm	ASTM D257
Dielectric Strength (1.59 mm)	23	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	4.10		ASTM D150
Dissipation Factor (1 MHz)	0.011		ASTM D150
Comparative Tracking Index (CTI)	PLC 1		UL 746
High Amp Arc Ignition (HAI)			UL 746
0.749 mm	PLC 1		
1.50 mm	PLC 1		
3.00 mm	PLC 1		
Hot-wire Ignition (HWI)			UL 746
0.749 mm	PLC 0		
1.50 mm	PLC 0		
3.00 mm	PLC 0		

Flammability	Typical Value	Unit	Test method
Flame Rating <sup>1</sup> (0.794 mm)	V-0		UL 94

Injection	Typical Value	Unit
Drying Temperature	120	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.045	%
Rear Temperature	316 to 324	°C
Front Temperature	327 to 332	°C
Processing (Melt) Temp	321 to 338	°C
Mold Temperature	65.6 to 93.3	°C
Injection Rate	Fast	

## Injection Notes

Injection Rate: 3 to 4 in/sec  
Adjust holding pressure to 1/2 injection pressure.  
Set hold time to maximize part weight.  
A general purpose screw is recommended, with minimum back pressure.

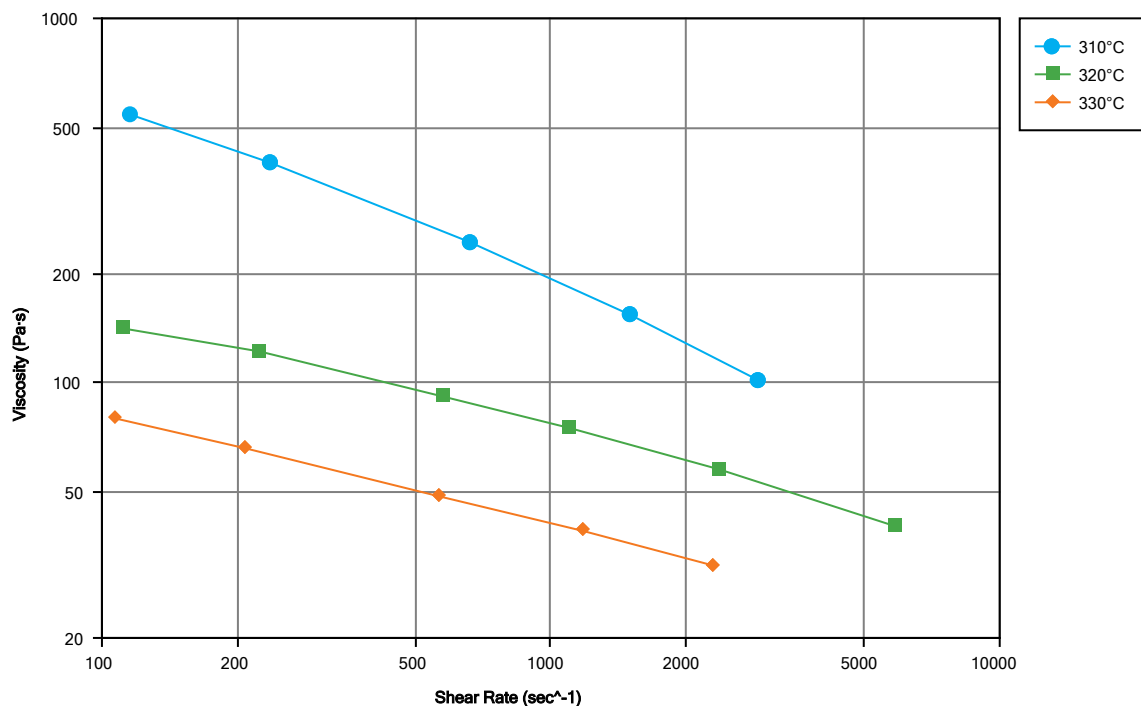
## Storage:

- 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.

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## Viscosity vs. Shear Rate (ISO 11403-2)



### Notes

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

<sup>1</sup> This flammability rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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