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.

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

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

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/cm³	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

Amodel® AFA-6145 V0 Z
polyphthalamide

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	277	°C	
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 [1] (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

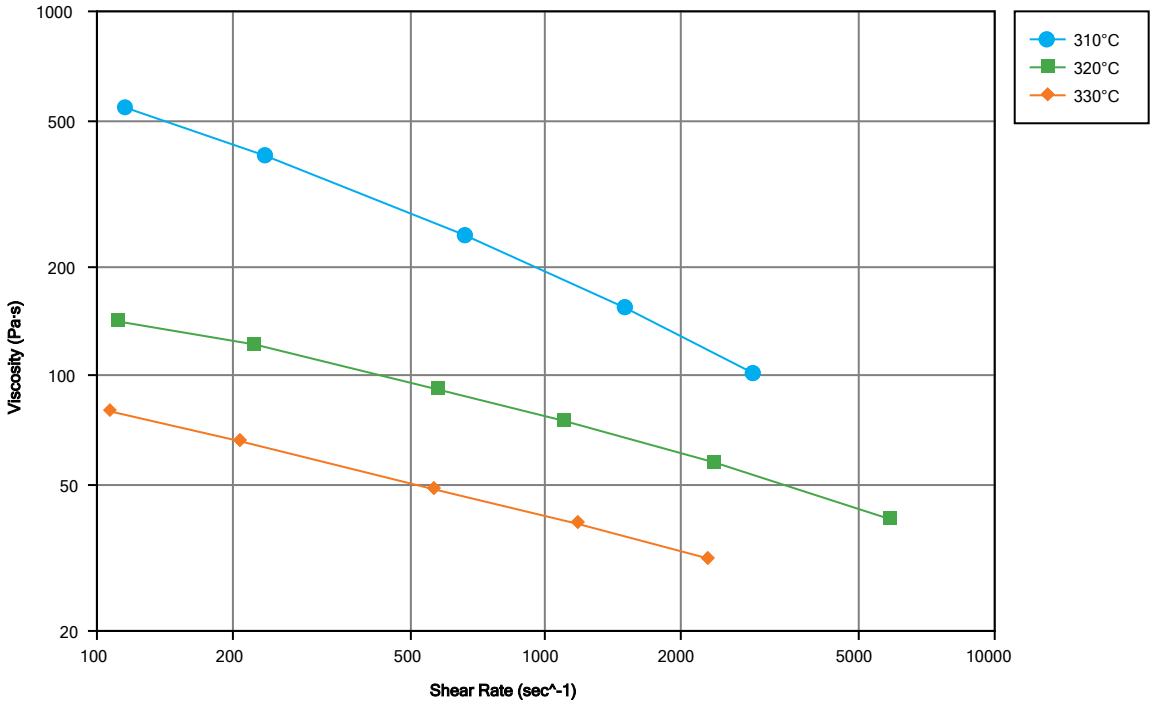
Injection Rate: 3 to 4 in/sec
Adjust holding pressure to 1/2 injection pressure.
Set hold time to maximize part weight.
A general purpose screw is recommended, with minimum back pressure.

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.

Amodel® AFA-6145 V0 Z
polyphthalamide

Viscosity vs. Shear Rate (ISO 11403-2)



Notes

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

[1] This flammability rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

www.solvay.com

SpecialtyPolymers.EMEA@solvay.com | Europe, Middle East and Africa
SpecialtyPolymers.Americas@solvay.com | Americas
SpecialtyPolymers.Asia@solvay.com | Asia and Australia

SOLVAY
asking more from chemistry®