

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	• Chemical Resistant • Flame Retardant • 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 ³	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

Amodel® AFA-6145 V0 Z

polyphthalamide

Impact	Typical Value	Unit	Test method
Notched Izod Impact	110	J/m	ASTM D256
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	ohms	ASTM D257
Volume Resistivity	1.0E+15	ohms·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 746A
0.75 mm	PLC 1		
1.5 mm	PLC 1		
3.0 mm	PLC 1		
Hot-wire Ignition (HWI)			UL 746A
0.75 mm	PLC 0		
1.5 mm	PLC 0		
3.0 mm	PLC 0		
Flammability	Typical Value	Unit	Test method
Flame Rating ¹ (0.79 mm)	V-0		UL 94
Injection	Typical Value	Unit	
Drying Temperature	120	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.030 to 0.060	%	
Rear Temperature	316 to 324	°C	
Front Temperature	327 to 332	°C	
Processing (Melt) Temp	321 to 338	°C	
Mold Temperature	66 to 93	°C	
Injection Rate	Fast		

Amodel® AFA-6145 V0 Z

polyphthalamide

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.

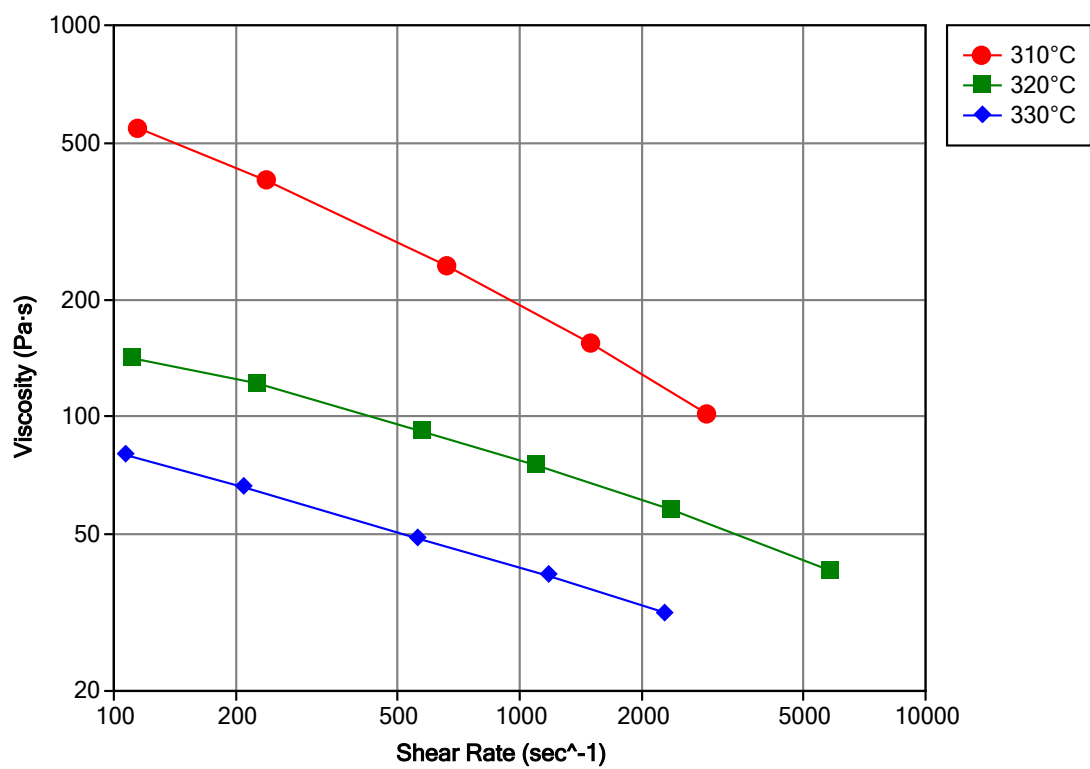
Storage:

- 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)



Amodel® AFA-6145 V0 Z polyphthalamide

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.syensqo.com

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

Neither Syensqo nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Syensqo's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Syensqo's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Syensqo or their respective owners.

© 2024 2023 Syensqo. All rights reserved.

