

Amodel® A-6135 HN polyphthalamide

Amodel® A-6135 HN polyphthalamide (PPA) is a 35% glass reinforced resin that is heat stabilized, non-lubricated and hot-water moldable. Key properties of the resin are high heat resistance, high strength and stiffness over a broad temperature range. It also exhibits low moisture absorption, excellent chemical resistance and excellent electrical properties.

connectors, sockets, switches and sensors. It is also a good choice for under-hood enclosures that protect critical control systems such as anti-lock brakes, traction control, steering, electronic engine control, transmission and chassis control units.

- Black: A-6135 HN BK 324

Amodel® A-6135 HN resin is ideal for automotive electrical and electronic applications, including

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 35% Filler by Weight	
Additive	• Heat Stabilizer	
Features	• Chemical Resistant • Creep Resistant • Good Flow • Good Stiffness • Heat Stabilized	• High Heat Resistance • High Stiffness • High Strength • Hot Water Moldability • Low Moisture Absorption
Uses	• Automotive Applications • Automotive Electronics • Automotive Under the Hood • Connectors • Electrical Housing • Electrical/Electronic Applications • General Purpose • Housings	• Industrial Applications • Industrial Parts • Lawn & Garden Equipment • Machine/Mechanical Parts • Metal Replacement • Power/Other Tools • Valves/Valve Parts
RoHS Compliance	• Contact Manufacturer	
Automotive Specifications	• ASTM D6779 PA101G35 • DELPHI M-2396 M2396202 Color: 202 Black, BK-324	• GM GMW16362P-PPA-GF35 Color: Black
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Water-Heated Mold Injection Molding	

Amodel® A-6135 HN

polyphthalamide

Physical	Dry	Conditioned	Unit	Test method
Density	1.45	--	g/cm ³	ISO 1183/A
Molding Shrinkage				
Flow	0.60	--	%	ASTM D955
Across Flow	0.90	--	%	ASTM D955
Across Flow	1.0	--	%	ISO 294-4
Flow	0.50	--	%	ISO 294-4
Water Absorption				
24 hr	0.30	--	%	ASTM D570
24 hr, 23°C	0.29	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus				
--	13800	12200	MPa	ASTM D638
23°C	11500	--	MPa	ISO 527-1
100°C	7310	--	MPa	ISO 527-1
150°C	6270	--	MPa	ISO 527-1
175°C	5310	--	MPa	ISO 527-1
Tensile Stress				
Break, 23°C	211	--	MPa	ISO 527-2
Break, 100°C	121	--	MPa	ISO 527-2
Break, 150°C	92.4	--	MPa	ISO 527-2
Break, 175°C	82.0	--	MPa	ISO 527-2
--	203	176	MPa	ASTM D638
Tensile Elongation				
Break	1.9	2.1	%	ASTM D638
Break, 23°C	2.0	--	%	ISO 527-2
Break, 100°C	4.3	--	%	ISO 527-2
Break, 150°C	4.9	--	%	ISO 527-2
Break, 175°C	4.7	--	%	ISO 527-2
Flexural Modulus				
--	11400	11000	MPa	ASTM D790
23°C	11400	--	MPa	ISO 178
100°C	6600	--	MPa	ISO 178
150°C	4900	--	MPa	ISO 178
175°C	4600	--	MPa	ISO 178
Flexural Strength				
--	310	249	MPa	ASTM D790
3.5% Strain, 23°C	300	--	MPa	ISO 178
3.5% Strain, 100°C	170	--	MPa	ISO 178
3.5% Strain, 150°C	123	--	MPa	ISO 178
3.5% Strain, 175°C	112	--	MPa	ISO 178
Compressive Strength	148	--	MPa	ASTM D695
Shear Strength	87.6	73.8	MPa	ASTM D732
Poisson's Ratio	0.39	--		ASTM E132

Amodel® A-6135 HN

polyphthalamide

Impact	Dry	Conditioned	Unit	Test method
Charpy Notched Impact Strength (23°C)	9.2	--	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	60	--	kJ/m ²	ISO 179/1eU
Notched Izod Impact				
--	85	69	J/m	ASTM D256
23°C	9.1	--	kJ/m ²	ISO 180
Unnotched Izod Impact				
--	800	--	J/m	ASTM D4812
23°C	62	--	kJ/m ²	ISO 180

Hardness	Dry	Conditioned	Unit	Test method
Rockwell Hardness (R-Scale)	125	--		ASTM D785

Thermal	Dry	Conditioned	Unit	Test method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	303	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	288	--	°C	ISO 75-2/A
1.8 MPa, Annealed, 3.20 mm	291	--	°C	ASTM D648
Melting Temperature	310	--	°C	ASTM D570 ISO 11357-3
CLTE				ASTM E831
Flow : 0 to 100°C	2.2E-5	--	cm/cm/°C	
Flow : 100 to 200°C	1.6E-5	--	cm/cm/°C	
Transverse : 0 to 100°C	6.1E-5	--	cm/cm/°C	
Transverse : 100 to 200°C	1.0E-4	--	cm/cm/°C	

Injection	Dry	Unit
Drying Temperature	120	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.030 to 0.060	%
Rear Temperature	316 to 321	°C
Front Temperature	327 to 332	°C
Processing (Melt) Temp	321 to 335	°C
Mold Temperature	66 to 93	°C

Injection Notes

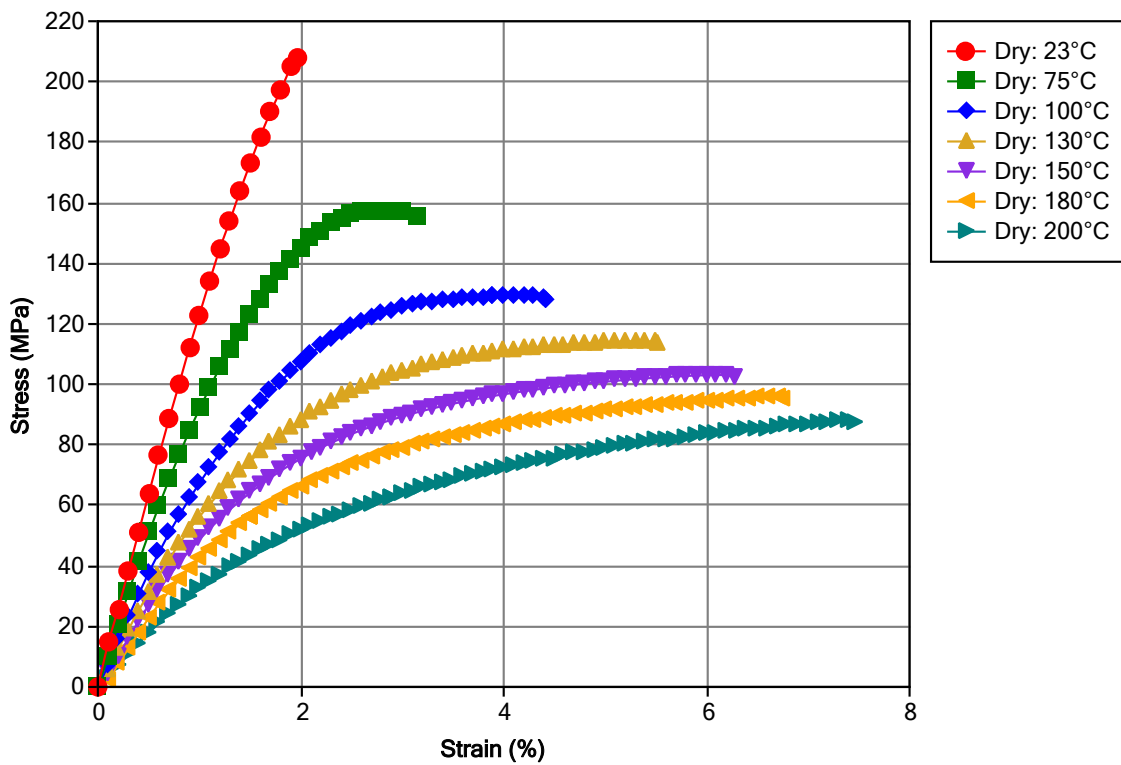
Injection Rate: 3 to 6 in/sec
 Holding Pressure: 50% of injection pressure

Storage:

- Amodel® PPA 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® PPA resins be dried prior to molding following the recommendations found in this datasheet and/or in the Amodel® processing guide.

Amodel® A-6135 HN polyphthalamide

Isothermal Stress vs. Strain (ISO 11403)



Amodel® A-6135 HN

polyphthalamide

Notes

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



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.