Amodel® A-1565 HS

polyphthalamide

Amodel® A-1565 HS is a 65% glass and mineral-reinforced polyphthalamide (PPA) designed to be cost-effective in applications requiring high stiffness, good dimensional stability and good retention of stiffness at elevated temperatures. This grades also exhibits a high deflection temperature and flexural modulus.

- Black: A-1565 HS BK 324

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass\Mineral, 65% Filler by Weight	
Additive	• Heat Stabilizer	
Features	• Chemical Resistant • Creep Resistant • Good Dimensional Stability • High Heat Resistance	• Low CLTE • Low Warpage • Lubricated • Ultra High Stiffness
Uses	• Automotive Applications • Automotive Under the Hood • Housings	• Industrial Applications • Industrial Parts • Pump Parts
RoHS Compliance	• RoHS Compliant	
Automotive Specifications	• ASTM D4000 PA121 R65 Color: BK324 Black • ASTM D6779 PA121R65	• DELPHI M-53294 Color: BK324 Black
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Dry	Conditioned	Unit	Test method
Density	1.90	--	g/cm³	ISO 1183/A
Molding Shrinkage				ASTM D955
Flow	0.30	--	%	
Across Flow	0.50	--	%	
Water Absorption (24 hr)	0.10	--	%	ASTM D570

Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus				
--	20700	20800	MPa	ASTM D638
23°C	19700	--	MPa	ISO 527-2
100°C	15400	--	MPa	ISO 527-2
150°C	5720	--	MPa	ISO 527-2
175°C	5100	--	MPa	ISO 527-2

Amodel® A-1565 HS
polyphthalamide

Mechanical	Dry	Conditioned	Unit	Test method
Tensile Stress				
Break, 23°C	138	--	MPa	ISO 527-2
Break, 100°C	91.7	--	MPa	ISO 527-2
Break, 150°C	46.2	--	MPa	ISO 527-2
Break, 175°C	32.4	--	MPa	ISO 527-2
--	131	123	MPa	ASTM D638
Tensile Elongation				
Break	1.2	1.2	%	ASTM D638
Break, 23°C	1.0	--	%	ISO 527-2
Break, 100°C	1.3	--	%	ISO 527-2
Break, 150°C	2.4	--	%	ISO 527-2
Break, 175°C	1.8	--	%	ISO 527-2
Flexural Modulus				
--	17900	18000	MPa	ASTM D790
23°C	9100	--	MPa	ISO 178
100°C	6830	--	MPa	ISO 178
150°C	2480	--	MPa	ISO 178
175°C	2280	--	MPa	ISO 178
Flexural Strength				
--	210	196	MPa	ASTM D790
23°C	211	--	MPa	ISO 178
100°C	163	--	MPa	ISO 178
150°C	69.6	--	MPa	ISO 178
175°C	55.8	--	MPa	ISO 178
Compressive Strength (13.0 mm)	189	--	MPa	ASTM D695
Shear Strength	71.0	49.6	MPa	ASTM D732

Impact	Dry	Conditioned	Unit	Test method
Charpy Notched Impact Strength (23°C)	3.4	--	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	44	--	kJ/m²	ISO 179/1eU
Notched Izod Impact				
--	37	32	J/m	ASTM D256
23°C	4.0	--	kJ/m²	ISO 180/1A
Unnotched Izod Impact				
--	410	--	J/m	ASTM D256
23°C	32	--	kJ/m²	ISO 180/1U

Thermal	Dry	Conditioned	Unit	Test method
Deflection Temperature Under Load				ASTM D648
1.8 MPa, Unannealed	271	--	°C	ISO 75-2/A
Melting Temperature	311	--	°C	ISO 11357-3 ASTM D3418
CLTE				ASTM E831
Flow : 0 to 100°C	2.0E-5	--	cm/cm/°C	
Flow : 100 to 200°C	1.7E-5	--	cm/cm/°C	
Transverse : 0 to 100°C	3.7E-5	--	cm/cm/°C	
Transverse : 100 to 200°C	8.1E-5	--	cm/cm/°C	

Electrical	Dry	Conditioned	Unit	Test method
Volume Resistivity	4.0E+14	--	ohms·cm	ASTM D257
Arc Resistance	125	--	sec	ASTM D495
Comparative Tracking Index (CTI)	600	--	V	UL 746

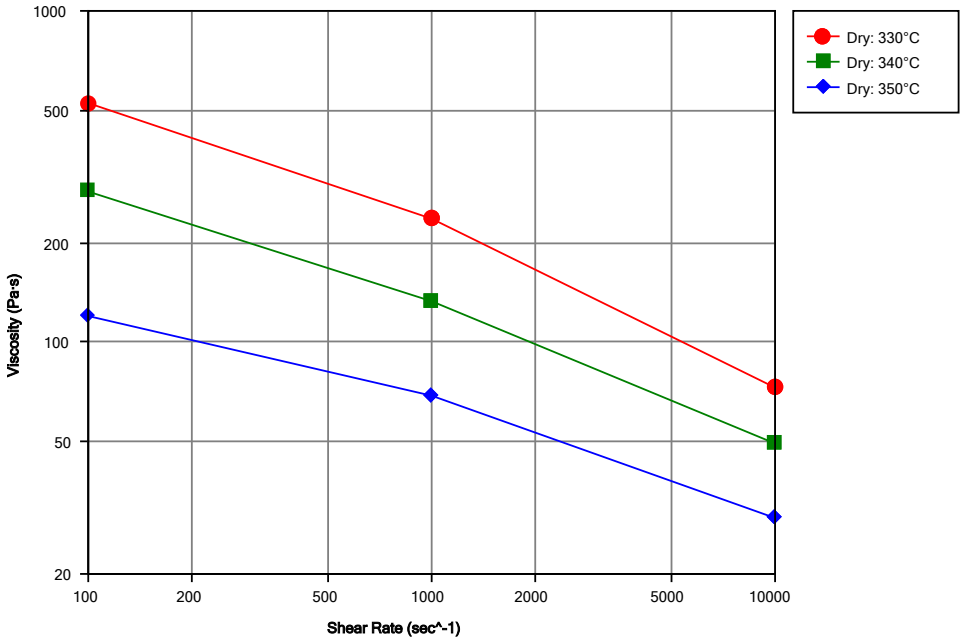
Injection	Dry	Unit
Drying Temperature	120	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.030 to 0.060	%
Hopper Temperature	79	°C
Rear Temperature	304 to 318	°C
Front Temperature	316 to 329	°C
Processing (Melt) Temp	321 to 343	°C
Mold Temperature	135	°C

Injection Notes

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.

Viscosity vs. Shear Rate (ISO 11403-2)



Amodel® A-1565 HS
polyphthalamide

Notes

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

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®