Amodel® AT-6115 HS

polyphthalamide

Amodel® AT-6115 HS is a 15% glass-fiber reinforced, toughened grade of polyphthalamide (PPA) resin designed to possess more elongation than other 15% glass-fiber reinforced grades of Amodel resin. This grade was developed for automotive snap-fit electronic connectors. It offers high flow and short molding cycles.

- Black: AT-6115 HS BK 324
- Natural: AT-6115 HS NT

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight	
Additive	• Heat Stabilizer • Impact Modifier	• Lubricant • Mold Release
Features	• Fast Molding Cycle • Good Mold Release • Heat Stabilized • High Elongation	• High Flow • Impact Modified • Lubricated
Uses	• Automotive Applications • Automotive Electronics • Automotive Under the Hood • Connectors • General Purpose • Housings	• Industrial Applications • Industrial Parts • Machine/Mechanical Parts • Metal Replacement • Valves/Valve Parts
RoHS Compliance	• RoHS Compliant	
Automotive Specifications	• ASTM D4000 PPA0123 G15 GB121 KD100 KN042 PN068 YI242 • ASTM D6779 PA103G15 • DELPHI M-4628 Color: BK324 Black • DELPHI M-4628 Color: NT Natural • FORD WSS-M98P14-A3 • GM GMP.PPA.020 Color: BK-324 Black • GM GMP.PPA.020 Color: NT Natural • GM GMW16363P-PPA-GF15 Color: Black • GM GMW16363P-PPA-GF15 Color: Natural • ISO 1874 PA6T/66-HI, MH, 11-050, GF15 • PSA Peugeot-Citroën FTM64-0115	
Appearance	• Black	• Natural Color
Forms	• Pellets	
Processing Method	• Water-Heated Mold Injection Molding	

Physical	Dry	Conditioned	Unit	Test method
Density	1.22	--	g/cm³	ISO 1183/A
Molding Shrinkage				ASTM D955
Flow	1.0	--	%	
Across Flow	1.1	--	%	

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Physical	Dry	Conditioned	Unit	Test method
Water Absorption (24 hr)	0.20	--	%	ASTM D570

Mechanical	Dry	Conditioned	Unit	Test method
Tensile Modulus				
--	5380	4200	MPa	ASTM D638
23°C	5200	--	MPa	ISO 527-2
100°C	3100	--	MPa	ISO 527-2
Tensile Stress				
Break, 23°C	126	--	MPa	ISO 527-2
Break, 100°C	68.3	--	MPa	ISO 527-2
--	122	95.8	MPa	ASTM D638
Tensile Elongation				
Break	3.4	5.3	%	ASTM D638
Break, 23°C	4.1	--	%	ISO 527-2
Break, 100°C	7.7	--	%	ISO 527-2
Flexural Modulus				
--	4410	3450	MPa	ASTM D790
23°C	4270	--	MPa	ISO 178
100°C	2340	--	MPa	ISO 178
Flexural Strength				
--	165	115	MPa	ASTM D790
23°C	170	--	MPa	ISO 178
100°C	66.9	--	MPa	ISO 178
Compressive Strength	100	--	MPa	ASTM D695
Shear Strength	56.5	44.1	MPa	ASTM D732

Impact	Dry	Conditioned	Unit	Test method
Charpy Notched Impact Strength (23°C)	11	--	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	76	--	kJ/m²	ISO 179/1eU
Notched Izod Impact				
--	91	80	J/m	ASTM D256
23°C	12	--	kJ/m²	ISO 180/1A
Unnotched Izod Impact				
--	850	--	J/m	ASTM D256
23°C	55	--	kJ/m²	ISO 180/1U

Thermal	Dry	Conditioned	Unit	Test method
Heat Deflection Temperature				
0.45 MPa, Unannealed	298	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	251	--	°C	ISO 75-2/A
1.8 MPa, Annealed	260	--	°C	ASTM D648
Melting Temperature	305	--	°C	ISO 11357-3 ASTM D3418
CLTE				ASTM E831
Flow : 0 to 100°C	2.2E-5	--	cm/cm/°C	
Flow : 100 to 200°C	3.0E-5	--	cm/cm/°C	
Transverse : 0 to 100°C	9.0E-5	--	cm/cm/°C	
Transverse : 100 to 200°C	1.2E-4	--	cm/cm/°C	

Additional Information

Conditioned	Conditioned to 50% RH in accordance with 1SO-1110, Accelerated Method.

Injection	Dry	Unit
Drying Temperature	110	°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 335	°C
Mold Temperature	66 to 93	°C

Injection Notes

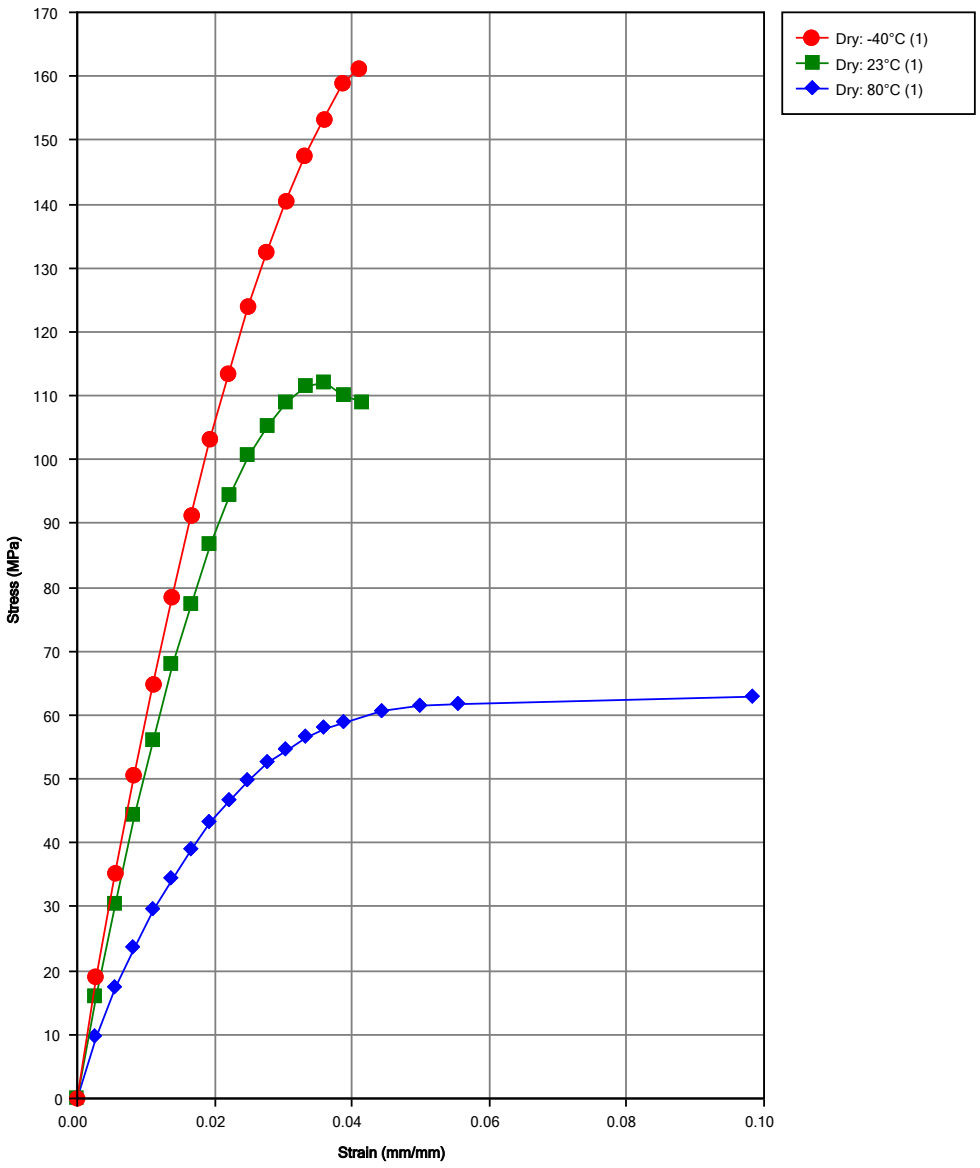
Injection Rate: 2 to 4 in/sec

Holding Pressure: 50% of injection 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.

Isothermal Stress vs. Strain (ISO 11403-1)



Data Notes
(1) - ISO Protocol

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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

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