

Solvay Specialty Polymers Amodel® AS-1566 HS Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), Mineral Filled

Material Notes:

Amodel AS-1566 HS resin is a 65% glass and mineral reinforced polyphthalamide (PPA) resin that exhibits a high deflection temperature and high flexural modulus. This grade was designed specifically to be cost effective for most applications requiring high stiffness, good dimensional stability and chemical resistance. Typical applications for Amodel AS-1566 HS resin include electrical connectors and housings, motor components, pistons, covers, engine parts and transmission components. - Black: AS-1566 HS BK 324 - Black: AS-1566 HS BK 545 - Natural: AS-1566 HS NTData is presented for dry polymer unless noted as 'conditioned'. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-AS-1566-HS-Polyphthalamide-PPA-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.84 g/cc	0.0665 lb/in ³	ISO 1183/A
Filler Content	65 %	65 %	GlassMineral
Water Absorption	0.10 %	0.10 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	207 MPa	30000 psi	ASTM D638
	43.4 MPa	6290 psi	ISO 527-2
	@Temperature 175 °C	@Temperature 347 °F	
	52.4 MPa	7600 psi	ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
	127 MPa	18400 psi	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	200 MPa	29000 psi	ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength	175 MPa	25400 psi	Conditioned; ASTM D638
Elongation at Break	1.7 %	1.7 %	ASTM D638

Mechanical Properties	Metric	English	Comments
	1.4 %	1.4 %	ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.5 %	1.5 %	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	3.1 %	3.1 %	ISO 527-2
	@Temperature 175 °C	@Temperature 347 °F	
	3.4 %	3.4 %	ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
Tensile Modulus	20.0 GPa	2900 ksi	ASTM D638
	20.9 GPa	3030 ksi	Conditioned; ASTM D638
	6.21 GPa	901 ksi	ISO 527-2
	@Temperature 175 °C	@Temperature 347 °F	
	7.31 GPa	1060 ksi	ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
	17.2 GPa	2490 ksi	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	22.5 GPa	3260 ksi	ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	263 MPa	38100 psi	Conditioned; ASTM D790
	75.8 MPa	11000 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	95.8 MPa	13900 psi	ISO 178
	@Temperature 150 °C	@Temperature 302 °F	
	205 MPa	29700 psi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
	284 MPa	41200 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Yield Strength	290 MPa	42100 psi	ASTM D790
Flexural Modulus	18.6 GPa	2700 ksi	ASTM D790

Mechanical Properties	19.9 GPa Metric	2890 ksi English	Conditioned; ASTM D790 Comments
	6.41 GPa	930 ksi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	7.31 GPa	1060 ksi	ISO 178
	@Temperature 150 °C	@Temperature 302 °F	
	16.8 GPa	2440 ksi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
	20.5 GPa	2970 ksi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Shear Strength	62.7 MPa	9090 psi	Conditioned; ASTM D732
	80.0 MPa	11600 psi	ASTM D732
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	Conditioned; ASTM D256
	0.640 J/cm	1.20 ft-lb/in	ASTM D256
	5.90 J/cm	11.1 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	6.50 kJ/m ²	3.09 ft-lb/in ²	ISO 180/1A
Izod Impact, Unnotched (ISO)	44.0 kJ/m ²	20.9 ft-lb/in ²	ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	3.40 J/cm ²	16.2 ft-lb/in ²	ISO 179/1eU
Charpy Impact, Notched	0.610 J/cm ²	2.90 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	17.0 µm/m-°C	9.44 µin/in-°F	TMA; ASTM E831
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	17.0 µm/m-°C	9.44 µin/in-°F	TMA; ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
CTE, linear, Transverse to Flow	40.0 µm/m-°C	22.2 µin/in-°F	ASTM E831
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	72.0 µm/m-°C	40.0 µin/in-°F	ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	

Thermal Properties	Metric	English	Comments
Melting Point	311 °C	592 °F	ISO 11357-3
Deflection Temperature at 1.8 MPa (264 psi)	278 °C	532 °F	Annealed; ASTM D648
	280 °C	536 °F	Unannealed; ISO 75-2/A

Processing Properties	Metric	English	Comments
Feed Temperature	79.4 °C	175 °F	Hopper Temperature
Rear Barrel Temperature	307 - 329 °C	585 - 624 °F	
Front Barrel Temperature	307 - 329 °C	585 - 624 °F	
Melt Temperature	321 - 343 °C	610 - 649 °F	
Mold Temperature	65.6 - 166 °C	150 - 331 °F	
Drying Temperature	120 °C	248 °F	
Dry Time	4.00 hour	4.00 hour	
Moisture Content	0.045 %	0.045 %	

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	
Appearance	Black	
	Natural Color	
Automotive Specifications	ASTM D4000 PA122 R65 Color: BK324 Black	
	ASTM D4000 PA122 R65 Color: NT Natural	
	ASTM D6779 PA122R65	
	DELPHI DCM4899 Color: BK324 Black	
	DELPHI DCM4899 Color: NT Natural	
	DELPHI M-2987 Color: BK324 Black	
	DELPHI M-2987 Color: NT Natural	
	DELPHI M-53292	
	DELPHI M-53292 Color: BK545 Black	

Descriptive Properties	Value	Comments
	GM GMP.PPA.003 Color: BK324 Black	
	ISO 1874 PA6T/6I/66, MH, 11-120, (GF+MD)64 Color: BK324 Black	
	ISO 1874 PA6T/6I/66, MH, 11-120, (GF+MD)64 Color: NT Natural	
	TRW SP-13161601 Color: BK324 Black	
	TRW SP-13161601 Color: NT Natural	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Good Chemical Resistance	
	Good Creep Resistance	
	Good Dimensional Stability	
	Good Toughness	
	Heat Stabilized	
	High Heat Resistance	
	High Strength	
	Low CLTE	
	Ultra High Stiffness	
Forms	Pellets	
Generic	PPA	
Processing Method	Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Automotive Applications	
	Automotive Electronics	
	Automotive Under the Hood	

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