

Solvay Specialty Polymers Amodel® A-1565 HS Polyphthalamide (PPA) (Unverified Data**)

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

Material Notes:

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 324Data 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-A-1565-HS-Polyphthalamide-PPA-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.90 g/cc	0.0686 lb/in ³	ISO 1183/A
Filler Content	65 %	65 %	GlassMineral
Water Absorption	0.10 % @Time 86400 sec	0.10 % @Time 24.0 hour	ASTM D570
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	32.4 MPa @Temperature 175 °C	4700 psi @Temperature 347 °F	ISO 527-2
	46.2 MPa @Temperature 150 °C	6700 psi @Temperature 302 °F	ISO 527-2
	91.7 MPa @Temperature 100 °C	13300 psi @Temperature 212 °F	ISO 527-2
	138 MPa @Temperature 23.0 °C	20000 psi @Temperature 73.4 °F	ISO 527-2
Tensile Strength	123 MPa	17800 psi	Conditioned; ASTM D638
	131 MPa	19000 psi	ASTM D638
Elongation at Break	1.2 %	1.2 %	Conditioned; ASTM D638
	1.2 %	1.2 %	ASTM D638

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.3 %	1.3 %	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	1.8 %	1.8 %	ISO 527-2
	@Temperature 175 °C	@Temperature 347 °F	
	2.4 %	2.4 %	ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
Tensile Modulus	20.7 GPa	3000 ksi	ASTM D638
	20.8 GPa	3020 ksi	Conditioned; ASTM D638
	5.10 GPa	740 ksi	ISO 527-2
	@Temperature 175 °C	@Temperature 347 °F	
	5.72 GPa	830 ksi	ISO 527-2
	@Temperature 150 °C	@Temperature 302 °F	
	15.4 GPa	2230 ksi	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	19.7 GPa	2860 ksi	ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	196 MPa	28400 psi	Conditioned; ASTM D790
	210 MPa	30500 psi	ASTM D790
	55.8 MPa	8090 psi	ISO 178
	@Temperature 175 °C	@Temperature 347 °F	
	69.6 MPa	10100 psi	ISO 178
	@Temperature 150 °C	@Temperature 302 °F	
	163 MPa	23600 psi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
	211 MPa	30600 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	17.9 GPa	2600 ksi	ASTM D790
	18.0 GPa	2610 ksi	Conditioned; ASTM D790

Mechanical Properties	2.28 GPa Metric	331 ksi English	Comments
	@Temperature 175 °C	@Temperature 347 °F	
	2.48 GPa	360 ksi	ISO 178
	@Temperature 150 °C	@Temperature 302 °F	
	6.83 GPa	991 ksi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
	9.10 GPa	1320 ksi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Strength	189 MPa	27400 psi	ASTM D695
	@Thickness 13.0 mm	@Thickness 0.512 in	
Shear Strength	49.6 MPa	7190 psi	Conditioned; ASTM D732
	71.0 MPa	10300 psi	ASTM D732
Izod Impact, Notched	0.320 J/cm	0.599 ft-lb/in	Conditioned; ASTM D256
	0.370 J/cm	0.693 ft-lb/in	ASTM D256
	4.10 J/cm	7.68 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	4.00 kJ/m ²	1.90 ft-lb/in ²	ISO 180/1A
Izod Impact, Unnotched (ISO)	32.0 kJ/m ²	15.2 ft-lb/in ²	ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	4.40 J/cm ²	20.9 ft-lb/in ²	ISO 179/1eU
Charpy Impact, Notched	0.340 J/cm ²	1.62 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 100 - 200 °C	@Temperature 212 - 392 °F	
	20.0 µm/m-°C	11.1 µin/in-°F	TMA; ASTM E831
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
CTE, linear, Transverse to Flow	37.0 µm/m-°C	20.6 µin/in-°F	ASTM E831
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	81.0 µm/m-°C	45.0 µin/in-°F	ASTM E831

Thermal Properties	@Temperature 100 - Metric 200 °C	@Temperature 212 - English 399 °F	Comments
Melting Point	311 °C	592 °F	Peak; ASTM D3418
	311 °C	592 °F	ISO 11357-3
Deflection Temperature at 1.8 MPa (264 psi)	271 °C	520 °F	Unannealed; ASTM D648
	271 °C	520 °F	Unannealed; ISO 75-2/A

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.00e+14 ohm-cm	4.00e+14 ohm-cm	ASTM D257
Arc Resistance	125 sec	125 sec	ASTM D495
Comparative Tracking Index	600 V	600 V	UL 746

Processing Properties	Metric	English	Comments
Feed Temperature	79.4 °C	175 °F	Hopper Temperature
Rear Barrel Temperature	304 - 318 °C	579 - 604 °F	
Front Barrel Temperature	316 - 329 °C	601 - 624 °F	
Melt Temperature	321 - 343 °C	610 - 649 °F	
Mold Temperature	135 °C	275 °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	
Automotive Specifications	ASTM D4000 PA121 R65 Color: BK324 Black	
	ASTM D6779 PA121R65	
	DELPHI M-53294 Color: BK324 Black	
Availability	Africa & Middle East	
	Asia Pacific	

Descriptive Properties	Europe Value	Comments
	North America	
	South America	
Features	Good Chemical Resistance	
	Good Creep Resistance	
	Good Dimensional Stability	
	High Heat Resistance	
	Low CLTE	
	Low Warpage	
	Lubricated	
	Ultra High Stiffness	
Forms	Pellets	
Generic	PPA	
Processing Method	Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Automotive Applications	

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