

Solvay Specialty Polymers Amodel® ET-1000 HS Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA)

Material Notes:

Amodel ET-1000 HS is an impact modified, heat stabilized polyphthalamide (PPA) that exhibits exceptional impact strength and toughness. Like all Amodel PPA resins, ET-1000 HS offers high fatigue strength, good chemical resistance and high mechanical property retention over a broad temperature and humidity range. - Natural: ET-1000 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-ET-1000-HS-Polyphthalamide-PPA-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	ISO 1183/A
Water Absorption	0.70 % @Time 86400 sec	0.70 % @Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.015 cm/cm	0.015 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.015 cm/cm	0.015 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	R-Scale; ASTM D785
Tensile Strength at Break	60.0 MPa @Temperature 23.0 °C	8700 psi @Temperature 73.4 °F	ISO 527-2
Tensile Strength	62.7 MPa @Temperature 23.0 °C	9090 psi @Temperature 73.4 °F	Conditioned; ASTM D638
	68.9 MPa @Temperature 23.0 °C	9990 psi @Temperature 73.4 °F	ASTM D638
	96.5 MPa @Temperature -40.0 °C	14000 psi @Temperature -40.0 °F	Conditioned; ASTM D638
	110 MPa @Temperature -40.0 °C	16000 psi @Temperature -40.0 °F	ASTM D638
Tensile Strength, Yield	33.8 MPa @Temperature 100 °C	4900 psi @Temperature 212 °F	ISO 527-2
	70.3 MPa	10200 psi	

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 527-2 Comments
Elongation at Break	7.0 %	7.0 %	ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	11 %	11 %	Conditioned; ASTM D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	12 %	12 %	ASTM D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	18 %	18 %	Conditioned; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	20 %	20 %	ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	95 %	95 %	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
Elongation at Yield	4.3 %	4.3 %	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	5.0 %	5.0 %	ISO 527-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	6.0 %	6.0 %	Conditioned; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	6.0 %	6.0 %	ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	9.0 %	9.0 %	Conditioned; ASTM D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	9.0 %	9.0 %	ASTM D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Tensile Modulus	2.41 GPa	350 ksi	Conditioned; ASTM D638
	2.41 GPa	350 ksi	ASTM D638
	2.00 GPa	290 ksi	ISO 527-2
	@Temperature 100 °C	@Temperature 212 °F	
	2.41 GPa	350 ksi	ISO 527-2

Mechanical Properties	@Temperature 23.0 °C	@Temperature 73.4 °F	Comments
Metric	English		
Flexural Strength	85.5 MPa	12400 psi	Conditioned, ASTM D790
	109 MPa	15800 psi	ASTM D790
	44.1 MPa	6400 psi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
	70.3 MPa	10200 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	2.14 GPa	310 ksi	ASTM D790
	2.28 GPa	331 ksi	ASTM D790
	1.31 GPa	190 ksi	ISO 178
	@Temperature 100 °C	@Temperature 212 °F	
	1.79 GPa	260 ksi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Shear Strength	58.6 MPa	8500 psi	ASTM D732
Izod Impact, Notched	1.10 J/cm	2.06 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	9.10 J/cm	17.0 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	11.0 J/cm	20.6 ft-lb/in	Conditioned; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	73.0 kJ/m ²	34.7 ft-lb/in ²	ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
Charpy Impact, Notched	7.80 J/cm ²	37.1 ft-lb/in ²	ISO 179/1eA
Dart Drop, Total Energy	54.2 J	40.0 ft-lb	ASTM D3763
Taber Abrasion, mg/1000 Cycles	6.0	6.0	CS-17 Wheel; ASTM D1044
	@Load 1.00 kg	@Load 2.20 lb	

Thermal Properties	Metric	English	Comments
	77.0 µm/m-°C	42.8 µin/in-°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	@ Temperature 0.000 - 100 °C	@ Temperature 32.0 - 212 °F	TMA; ASTM E831
	140 µm/m-°C	77.8 µin/in-°F	TMA; ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
CTE, linear, Transverse to Flow	81.0 µm/m-°C	45.0 µin/in-°F	ASTM E831
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	110 µm/m-°C	61.1 µin/in-°F	ASTM E831
	@Temperature 100 - 200 °C	@Temperature 212 - 392 °F	
Melting Point	310 °C	590 °F	Peak; ASTM D3418
	310 °C	590 °F	ISO 11357-3
Deflection Temperature at 1.8 MPa (264 psi)	109 °C	228 °F	Unannealed; ISO 75-2/A
	120 °C	248 °F	Annealed; ASTM D648

Processing Properties	Metric	English	Comments
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	70.0 - 90.0 °C	158 - 194 °F	
Drying Temperature	110 °C	230 °F	
Dry Time	4.00 hour	4.00 hour	
Moisture Content	0.045 %	0.045 %	

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	
	Impact Modifier	
Appearance	Natural Color	
Automotive Specifications	ASTM D4000 PA1234 Color: BK684 Black	
	ASTM D4000 PA1234 Color: NT Natural	
	ASTM D6779 PA1234	

Descriptive Properties	Value	Comments
	DELPHI 23295267 Color: BK-684, NT Black & Natural	
	DELPHI 28213409 Color: BK-684, NT Black & Natural	
	DELPHI M-2965 Color: BK684 Black	
	DELPHI M-2965 Color: NT Natural	
	DELPHI MSP24103175 Color: NT Natural	
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Ductile	
	Good Chemical Resistance	
	Heat Stabilized	
	Hot Water Moldability	
	Impact Modified	
	Low Warpage	
Forms	Pellets	
Generic	PPA	
Processing Method	Water-Heated Mold Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Automotive Applications	
	Automotive Electronics	
	Automotive Under the Hood	
	Connectors	
	General Purpose	
	Housings	
	Industrial Applications	

Descriptive Properties	Industrial Parts Value	Comments
	Lawn and Garden Equipment	
	Machine/Mechanical Parts	
	Metal Replacement	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China