Hepla® H9035GF H

Material Description:

Hepla ® H9035GF H polyphthalamide (PPA) is a 35% glass reinforced resin that is heat stabilized, lubricated and hot-water moldable. Key properties of the resin are high heat resistance, high strength and stiffness over a broad temperature range. It also exhibits low moisture absorption, excellent chemical resistance and excellent electrical properties.Hepla® H9035GF H resin is ideal for automotive electrical and electronic applications, including connectors, sockets, switches and sensors. It is also a good choice for under-hood enclosures that protect critical control systems such as anti-lock brakes, traction control, steering, electronic engine control, transmission and chassis control units.

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific	• North America
	• Europe	• Latin America
	• Middle East	• Africa
Filler/Reinforcement	• Glass Fiber, 35% Filler by Weight	
Additive	• Heat Stabilizer	
Features	• Chemical Resistant	• Creep Resistant
	• Good Flow	• Good Stiffness
	• Heat Stabilized	• High Heat Resistance
	• High Stiffness	• High Strength
	• Hot Water Moldability	• Low Moisture Absorption
Uses	• Automotive Applications	• Automotive Electronics
	• Connectors	• Automotive Under the Hood
	• Electrical Housing	• Electrical/Electronic Applications
	• General Purpose	• Housings
	• Industrial Applications	• Industrial Parts
	• Lawn and Garden Equipment	• Machine/Mechanical Parts
	• Metal Replacement	• Power/Other Tools
	• Valves/Valve Parts	
Appearance	• Black	
RoHS Compliance	• RoHS Compliant	
Forms	• Pellets	
Processing Method	• Water-Heated Mold Injection Molding	
Multi-Point Data	• Isochronous Stress vs. Strain (ISO 11403-1)	

Physical Properties	Typical Value	Unit	Test Method
Density/Specific Gravity	1.45	g/cm^3	ISO 1183/A
Molding Shrinkage			
Flow	0.6	%	ASTM D955
Across Flow	0.9	%	ASTM D955
Across Flow	1	%	ISO 294-4
Flow	0.5	%	ISO 294-4
Water Absorption			
24 hr	0.3	%	ASTM D570
23℃, 24 hr	0.29	%	ISO 62

Hardness	Typical Value	Unit	Test Method
Rockwell Hardness (R-Scale)	125		ASTM D785

Mechanical Properties	Typical Value	Unit	Test Method
Tensile Modulus			
	13800	MPa	ASTM D638
23℃	11500	MPa	ISO 527-2

100℃	7310	MPa	ISO 527-2
150℃	6270	MPa	ISO 527-2
175℃	5310	MPa	
Tensile Stress			
Break,23℃	245	MPa	ISO 527-2
Break,100℃	153	MPa	ISO 527-2
Break,150℃	94	MPa	ISO 527-2
Break,175℃	82	MPa	ISO 527-2
	230	MPa	ASTM D638
Tensile Elongation			
Break	2	%	ASTM D638
Break,23℃	2	%	ISO 527-2
Break,100℃	5.2	%	ISO 527-2
Break,150℃	6	%	ISO 527-2
Break,175℃	7.5	%	ISO 527-2
Flexural Modulus			
	11800	MPa	ASTM D790
23℃	11800	MPa	ISO 178
100℃	6600	MPa	ISO 178
150℃	4900	MPa	ISO 178
175℃	4600	MPa	ISO 178
Flexural Strength			
	330	MPa	ASTM D790
23℃	325	MPa	ISO 178
100℃	235	MPa	ISO 178
150℃	123	MPa	ISO 178
175℃	112	MPa	ISO 178
Compressive Strength	148	MPa	ASTM D695
Shear Strength	87.6	MPa	ASTM D732
Poisson's Ratio	0.39	MPa	ASTM E132

Impact Properties	Typical Value	Unit	Test Method
Notched Izod Impact			
	85	J/m	ASTM D256
23℃	9.1	kJ/m^2	ISO 180
Unnotched Izod Impact			
	800	J/m	ASTM D256
23℃	62	kJ/m^2	ISO 180
Charpy Notched Impact Strength 23℃	9.2	kJ/m^2	ISO 179/1eA
Charpy Unnotched Impact Strength 23℃	60	kJ/m^2	ISO 179/1eU

Thermal Properties	Typical Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed,3.2mm	303	℃	ASTM D648
1.8 MPa, Unannealed	288	℃	ISO 75-2/A
1.8 MPa, Unannealed,3.2mm	291	℃	ASTM D648
Melting Temperature	310	℃	ASTM D3418,ISO 11357-3
CLTE			ASTM E831
Flow : 0 to 100℃	2.20E-05	cm/cm/℃	
Flow : 100 to 200℃	1.60E-05	cm/cm/℃	
Transverse : 0 to 100℃	6.10E-05	cm/cm/℃	
Transverse : 100 to 200℃	1.00E-04	cm/cm/℃	

Processing Information	Typical Value	Unit
Processing (Melt) Temp	321 to 335	℃
Mold Temperature	66 to 93	℃
Drying Temperature	120	℃
Drying Time	4	hr
Suggested Max Moisture	0.045	%
Rear Temperature	316 to 321	℃
Front Temperature	327 to 332	℃

CAUTION/警告!

Before using, read the Molding Guide, Material Safety Data Sheets, and Bulletins available from NFD Advanced Composites Sales offices and Distributors supplied to your company. Caution! During drying, purging and molding, small amounts of hazardous gases and/or particulate matter may be released. These may irritate eyes, nose and throat. Use adequate local exhaust ventilation during thermal processing. To prevent resin decomposition, do not contaminate the resin or exceed the recommended melt temperature or hold-up time. Avoid inhalation or skin and eyes contact. Sweep up and dispose of spilled resin to eliminate slipping hazard.
在使用之前，请阅读NFD公司销售办事处和经销商提供给贵公司的材料成型指南 、材料安全数据表和公告。警告！在干燥、吹扫和成型过程中，少量有害气体或颗粒物质可能会在被释放，这些可能会刺激眼睛，鼻子和喉咙。热处理过程中请注意做好排气通风工作。为防止树脂分解，请勿污染树脂或超过我们为您推荐的熔融温度或时间。请避免吸入或与皮肤、眼睛等接触。清扫和处理溢出的树脂，以消除滑到的危险。

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