

## Heppla® H9045GF FR

### Material Description:

Heppla® H9045GF FR is a 45% glass-fiber reinforced, flame retardant grade of polyphthalamide (PPA) resin specifically formulated for connector applications requiring compatibility with both infrared and vapor phase soldering operations typically used by the electronics industry. Heppla® H9045GF FR offers high flow and short molding cycles, thereby enhancing molding productivity and lowering costs.

### General

Material Status	<ul style="list-style-type: none"> <li>Commercial: Active</li> </ul>
Availability	<ul style="list-style-type: none"> <li>Asia Pacific</li> <li>Europe</li> <li>Middle East</li> <li>North America</li> <li>Latin America</li> <li>Africa</li> </ul>
Filler/Reinforcement	<ul style="list-style-type: none"> <li>Glass Fiber, 45% Filler by Weight</li> </ul>
Additive	<ul style="list-style-type: none"> <li>Flame Retardant</li> </ul>
Features	<ul style="list-style-type: none"> <li>Chemical Resistant</li> <li>Good Dimensional Stability</li> <li>Good Stiffness</li> <li>High Strength</li> <li>Flame Retardant</li> <li>Good Electrical Properties</li> <li>High Flow</li> <li>Hot Water Moldability</li> </ul>
Uses	<ul style="list-style-type: none"> <li>Automotive Applications</li> <li>Automotive Under the Hood</li> <li>Connectors</li> <li>Industrial Applications</li> <li>Automotive Electronics</li> <li>Cell Phones</li> <li>Housings</li> <li>Industrial Parts</li> </ul>
Appearance	<ul style="list-style-type: none"> <li>Black</li> <li>Natural Color</li> </ul>
RoHS Compliance	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
Forms	<ul style="list-style-type: none"> <li>Pellets</li> </ul>
Processing Method	<ul style="list-style-type: none"> <li>Water-Heated Mold Injection Molding</li> </ul>
Multi-Point Data	<ul style="list-style-type: none"> <li>Viscosity vs. Shear Rate (ISO 11403-2)</li> </ul>

Physical Properties	Typical Value	Unit	Test Method
Density/Specific Gravity	1.8	g/cm <sup>3</sup>	ISO 1183/A
Molding Shrinkage			ASTM D955
Across Flow	0.4	%	
Flow	0.2	%	

Mechanical Properties	Typical Value	Unit	Test Method
Tensile Strength(Break)	193	MPa	ASTM D638
Tensile Elongation(Break)	1.5	%	ASTM D638
Flexural Modulus	15500	MPa	ASTM D790
Flexural Strength	276	MPa	ASTM D790

Impact Properties	Typical Value	Unit	Test Method
Notched Izod Impact	110	J/m	ASTM D256

Flammability	Typical Value	Unit	Test Method
Flame Rating(0.79mm)	V-0		UL 94

Electrical Properties	Typical Value	Unit	Test Method
Volume Resistivity	1.00E+15	Ohms-cm	ASTM D257
Surface Resistivity	1.00E+13	ohms	ASTM D257
Dielectric Strength(1.59mm)	23	kV/mm	ASTM D149
Dielectric Constant(1 MHz)	4.1		ASTM D150
Dissipation Factor(1 MHz)	0.011		
Comparative Tracking Index(CTI)	PLC 1		UL 746
High Amp Arc Ignition (HAI)			UL 746

0.75mm	PLC 1	
1.5mm	PLC 1	
3mm	PLC 1	
Hot-wire Ignition (HWI)		UL 746
0.75mm	PLC 0	
1.5mm	PLC 0	
3mm	PLC 0	

Thermal Properties	Typical Value	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Unannealed	277	°C	ASTM D648
Peak Melting Temperature	310	°C	ASTM D3418

Processing Information	Typical Value	Unit
Processing (Melt) Temp	321 to 338	°C
Mold Temperature	66 to 93	°C
Drying Temperature	120	°C
Drying Time	4	hr
Suggested Max Moisture	0.045	%
Rear Temperature	316 to 324	°C
Front Temperature	327 to 332	°C
Injection Rate	Fast	°C

## NFD ADVANCED COMPOSITES

Hepla® H9045GF FR

### 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热熔温度或时间。请避免吸入或与皮肤、眼睛等接触。清扫和处理溢出的树脂，以消除滑倒的危险。

### LEGAL NOTICES/法律声明

The figures indicated here are approximate values. They may be affected by different factors, and the user is not released therefore from the obligation of performing checks and trials of his own. The values indicated here have been compiled on the basis of current tests and findings. Any legally binding guarantee of certain properties, or any suitability for a specific application can not be inferred from the present data. For detailed production regulatory information, contact customer service.

上列数据只作参考用途，它们可能会受不同因素的影响，使用者有责任通过实验自行确定材料特性。上述资料根据现有测试得出，对物料特性是否适合某特殊用途及特性不能给予保证，数据也没有任何法律约束力。更多有关详细的产品监管信息，请联系客户服务

### COMPANY/公司:

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感谢您访问新孚达（NFD）！我们秉承“New Formula Designer”的发展理念，将科研创新与生产应用紧密相连，无论您是设计师、工程师或者是采购专家，我们都可以帮助您拓展业务并获得新的灵感。我们坚持诚信、合作、效率、创新的核心价值观，始终把客户放在第一位。相比于我们的竞争对手，我们专注于为您提供更先进的技术配方、更优质的产品，更好的解决方案及更周到的售后服务，我们懂市场、我们懂产品、我们更懂你们。

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