

# DuPont™ Zytel® HTNFR52G45NHF NC010 (Preliminary Data)

## HIGH PERFORMANCE POLYAMIDE RESIN

### Product Information

Zytel® HTNFR52G45NHF NC010 is a 45% Glass Reinforced, Flame Retardant, High Performance Polyamide with improved flow. It is also a PPA resin and it uses a non-halogenated flame retardant.

General information	Value	Unit	Test Standard
Resin Identification	PA(6T/66)-GF45FR (40)	-	ISO 1043
Part Marking Code	PA(6T/66)-GF45FR (40)	-	ISO 11469
Part Marking Code	>PPA-GF45FR<	-	SAE J1344
Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / -	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	15500 / -	MPa	ISO 527-1/-2
Stress at break	167 / -	MPa	ISO 527-1/-2
Strain at break	1.7 / -	%	ISO 527-1/-2
Flexural Modulus	15100 / -	MPa	ISO 178
Flexural Strength	249 / -	MPa	ISO 178
Charpy impact strength			ISO 179/1eU
73°F	48 / -	kJ/m <sup>2</sup>	
-22°F	45 / -	kJ/m <sup>2</sup>	
Charpy notched impact strength			ISO 179/1eA
73°F	8 / -	kJ/m <sup>2</sup>	
-22°F	8 / -	kJ/m <sup>2</sup>	
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, first heat	310 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 260 psi	284 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	15 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	50 / *	E-6/K	
Normal, -40-23°C	43 / *	E-6/K	
Normal, 55-160°C	80 / *	E-6/K	
Parallel, -40-23°C	13 / *	E-6/K	
Parallel, 55-160°C	14 / *	E-6/K	
RTI, electrical			UL 746B
15mil	140	°C	
30mil	140 / *	°C	
60mil	140 / *	°C	
120mil	140	°C	
RTI, strength			UL 746B
30mil	125	°C	
60mil	125 / *	°C	
120mil	130	°C	
Flammability	dry / cond	Unit	Test Standard
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	IEC 60695-11-10
UL recognition	yes / *	-	UL 94



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Glow Wire Flammability Index			IEC 60695-2-12
15mil	960 / -	°C	
30mil	960 / -	°C	
60mil	960 / -	°C	
120mil	960 / -	°C	
Glow Wire Ignition Temperature			
15mil	700 / -	°C	IEC 60695-2-12
30mil	750 / -	°C	IEC 60695-2-13
60mil	750 / -	°C	IEC 60695-2-13
120mil	800 / -	°C	IEC 60695-2-13
<b>Electrical properties</b>		<b>dry / cond</b>	<b>Unit</b>
Relative permittivity			Test Standard
100Hz			IEC 62631-2-1
1MHz			
Dissipation factor			IEC 62631-2-1
100Hz			
1MHz			
Volume resistivity			IEC 62631-3-1
Electric strength			IEC 60243-1
Comparative tracking index			IEC 60112
<b>Other properties</b>		<b>dry / cond</b>	<b>Unit</b>
Density			Test Standard
1600 / -			ISO 1183
<b>Injection</b>		<b>Value</b>	<b>Unit</b>
Drying Recommended			Test Standard
yes			-
Drying Temperature			-
≥100			°C
Drying Time, Dehumidified Dryer			-
6 - 8			h
Processing Moisture Content			-
≤0.1			%
Min. melt temperature			-
320			°C
Max. melt temperature			-
325			°C
Min. mold temperature			-
90			°C
Max. mold temperature			-
130			°C

### Characteristics

Processing	<ul style="list-style-type: none"> <li>Injection Molding</li> </ul>		
Regional Availability	<ul style="list-style-type: none"> <li>North America</li> <li>Europe</li> </ul>	<ul style="list-style-type: none"> <li>Asia Pacific</li> <li>South and Central America</li> </ul>	<ul style="list-style-type: none"> <li>Near East/Africa</li> <li>Global</li> </ul>

### Processing Texts

#### Injection molding

For molding machine components, use corrosion resistant and wear resistant steel. For details please contact your DuPont representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation.

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.

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To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

Asia Pacific

Europe/Middle East/Africa

DONGGUAN FUMEI PLASTICS CO.,LTD.

TEL: +86 0769-82339888 / 87798999

EMAIL: fumei@foomx.com

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ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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### North America

DONGGUAN FUMEI PLASTICS CO.,LTD.

EMAIL: fumei@foomx.com

### Asia Pacific

TEL: +86 0769-82339888 / 87798999

### Europe/Middle East/Africa

