



# Rynite® 530 NC010

DuPont Performance Polymers - THERMOPLASTIC POLYESTER RESIN

Wednesday, January 29, 2020

## General Information

### Product Description

30% Glass Reinforced Polyethylene Terephthalate

### General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Additive	• Mold Release		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D5927 TPES021 G30	• FORD WSK-M4D726-A1 Color: Natural	• GM GMP.PET.002
Forms	• Pellets		
Processing Method	• Injection Molding		
Part Marking Code (ISO 11469)	• >PET-GF30<		
Resin ID (ISO 1043)	• PET-GF30		

## ASTM & ISO Properties <sup>1</sup>

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density	1.56 g/cm <sup>3</sup>	1.56 g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.80 %	0.80 %	
Across Flow : 176°F (80°C), 48 hr	0.45 %	0.45 %	
Flow	0.20 %	0.20 %	
Flow : 176°F (80°C), 48 hr	0.10 %	0.10 %	
Water Absorption			ISO 62
24 hr, 73°F (23°C)	0.050 %	0.050 %	
Saturation, 73°F (23°C), 0.0787 in (2.00 mm)	0.70 %	0.70 %	
Equilibrium, 73°F (23°C), 0.0787 in (2.00 mm), 50% RH	0.20 %	0.20 %	
Viscosity Number	55.0 cm <sup>3</sup> /g	55.0 cm <sup>3</sup> /g	ISO 307
Mechanical	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Modulus	1.60E+6 psi	11000 MPa	ISO 527-2
Tensile Stress (Break)	22900 psi	158 MPa	ISO 527-2
Tensile Strain (Break)	2.5 %	2.5 %	ISO 527-2
Tensile Creep Modulus			ISO 899-1
1 hr	1.57E+6 psi	10800 MPa	
1000 hr	1.28E+6 psi	8800 MPa	
Flexural Modulus	1.30E+6 psi	8950 MPa	ISO 178
Flexural Stress	33400 psi	230 MPa	ISO 178
Compressive Stress	33400 psi	230 MPa	ISO 604
Poisson's Ratio	0.34	0.34	

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<b>Impact</b>	<b>Typical Value (English)</b>	<b>Typical Value (SI)</b>	<b>Test Method</b>
Charpy Notched Impact Strength			ISO 179/1eA
-40°F (-40°C)	4.8 ft·lb/in <sup>2</sup>	10 kJ/m <sup>2</sup>	
-22°F (-30°C)	5.2 ft·lb/in <sup>2</sup>	11 kJ/m <sup>2</sup>	
73°F (23°C)	5.2 ft·lb/in <sup>2</sup>	11 kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	21 ft·lb/in <sup>2</sup>	45 kJ/m <sup>2</sup>	
73°F (23°C)	29 ft·lb/in <sup>2</sup>	60 kJ/m <sup>2</sup>	
<b>Hardness</b>	<b>Typical Value (English)</b>	<b>Typical Value (SI)</b>	<b>Test Method</b>
Rockwell Hardness			ISO 2039-2
M-Scale	100	100	
R-Scale	120	120	
Ball Indentation Hardness (H 961/30)	32100 psi	221 MPa	ISO 2039-1
<b>Thermal</b>	<b>Typical Value (English)</b>	<b>Typical Value (SI)</b>	<b>Test Method</b>
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	473 °F	245 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	435 °F	224 °C	ISO 75-2/A
Vicat Softening Temperature	446 °F	230 °C	ISO 306/B50
Melting Temperature <sup>2</sup>	486 °F	252 °C	ISO 11357-3
CLTE			ISO 11359-2
Flow	5.6E-6 in/in/°F	1.0E-5 cm/cm/°C	
Flow : -40 to 73°F (-40 to 23°C)	1.2E-5 in/in/°F	2.2E-5 cm/cm/°C	
Flow : 131 to 320°F (55 to 160°C)	2.2E-6 in/in/°F	4.0E-6 cm/cm/°C	
Transverse	4.5E-5 in/in/°F	8.1E-5 cm/cm/°C	
Transverse : -40 to 73°F (-40 to 23°C)	3.7E-5 in/in/°F	6.7E-5 cm/cm/°C	
Transverse : 131 to 320°F (55 to 160°C)	5.9E-5 in/in/°F	1.1E-4 cm/cm/°C	
Thermal Conductivity	2.0 Btu·in/hr/ft <sup>2</sup> /°F	0.29 W/m/K	
Effective Thermal Diffusivity	1.30E-7 m <sup>2</sup> /s	1.30E-7 m <sup>2</sup> /s	
<b>Electrical</b>	<b>Typical Value (English)</b>	<b>Typical Value (SI)</b>	<b>Test Method</b>
Surface Resistivity	1.0E+14 ohms	1.0E+14 ohms	IEC 62631-3-2
Volume Resistivity	1.0E+13 ohms·m	1.0E+13 ohms·m	IEC 62631-3-1
Electric Strength	810 V/mil	32 kV/mm	IEC 60243-1
Relative Permittivity			IEC 62631-2-1
1 MHz	3.80	3.80	
100 Hz	4.20	4.20	
Dissipation Factor			IEC 62631-2-1
1 MHz	7.0E-3	7.0E-3	
100 Hz	0.013	0.013	
Comparative Tracking Index (CTI)	PLC 2	PLC 2	UL 746
Comparative Tracking Index	250 V	250 V	IEC 60112
<b>Flammability</b>	<b>Typical Value (English)</b>	<b>Typical Value (SI)</b>	<b>Test Method</b>
Burning Rate <sup>3</sup> (0.0394 in (1.00 mm))	1.5 in/min	38 mm/min	ISO 3795
Flame Rating			UL 94
0.030 in (0.75 mm)	HB	HB	IEC 60695-11-10,
0.06 in (1.5 mm)	HB	HB	-20
Oxygen Index	20 %	20 %	ISO 4589-2
FMVSS Flammability	B	B	FMVSS 302

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Flammability	Typical Value (English)	Typical Value (SI)	Test Method
Fogging - G-value (condensate)	0.0 g	0.0 g	ISO 6452
Fill Analysis	Typical Value (English)	Typical Value (SI)	
Ejection Temperature	338 °F	170 °C	
Additional Information	Typical Value (English)	Typical Value (SI)	Test Method
Emission of Organic Compounds	16.0 µgC/g	16.0 µgC/g	VDA 277
Odor	3.00	3.00	VDA 270

### Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	248 °F	120 °C
Drying Time - Desiccant Dryer	4.0 to 6.0 hr	4.0 to 6.0 hr
Suggested Max Moisture	0.020 %	0.020 %
Processing (Melt) Temp	536 to 572 °F	280 to 300 °C
Melt Temperature, Optimum	545 °F	285 °C
Mold Temperature	248 to 284 °F	120 to 140 °C
Mold Temperature, Optimum	266 °F	130 °C
Holding Pressure	11600 psi	80.0 MPa
Back Pressure	As low as possible	As low as possible
Drying Recommended	yes	yes
Hold Pressure Time	4.00 s/mm	4.00 s/mm
Maximum Screw Tangential Speed	472 in/min	12 m/min

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min

<sup>3</sup> FMVSS 302