# **Rynite® FR530 BK507** THERMOPLASTIC POLYESTER RESIN

## **Celanese Corporation**

#### **Technical Data**

Product Description			
30% Glass Reinforced, Flame Retardant	, Polyethylene Terephthalate		
General			
Material Status	Commercial: Active		
Literature <sup>1</sup>	<ul> <li>Technical Datasheet</li> </ul>		
UL Yellow Card <sup>2</sup>	• E41938-257735		
Search for UL Yellow Card	<ul><li>Celanese Corporation</li><li>Rynite®</li></ul>		
Availability	<ul><li> Africa &amp; Middle East</li><li> Asia Pacific</li></ul>	<ul><li>Europe</li><li>Latin America</li></ul>	North America
Filler / Reinforcement	Glass Fiber, 30% Filler by We	eight	
Additive	Flame Retardant		
Features	Flame Retardant		
RoHS Compliance	Contact Manufacturer		
Multi-Point Data	<ul> <li>Isothermal Stress vs. Strain (ISO 11403)</li> </ul>	<ul> <li>Secant Modulus vs. Strain (IS 11403)</li> </ul>	0
Part Marking Code (ISO 11469)	<ul> <li>&gt;PET-GF30FR(17)</li> </ul>		
Resin ID (ISO 1043)	• PET-GF30FR(17)		
Physical		Nominal Value Unit	Test Method
Density		1.68 g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow		0.80 %	
Flow		0.20 %	
Water Absorption <sup>4</sup>			ISO 62
Saturation, 23°C, 2.00 mm		0.75 %	
Equilibrium, 23°C, 2.00 mm, 50% RH		0.15 %	
Mechanical		Nominal Value Unit	Test Method
Tensile Modulus		11000 MPa	ISO 527-1
Tensile Stress (Break)		130 MPa	ISO 527-2/5
Tensile Strain (Break)		1.9 %	ISO 527-2/5
Flexural Modulus		10000 MPa	ISO 178
Flexural Stress		200 MPa	ISO 178
Poisson's Ratio		0.33	
mpact		Nominal Value Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-40°C		8.0 kJ/m²	
23°C		9.0 kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-40°C		30 kJ/m <sup>2</sup>	
23°C		40 kJ/m <sup>2</sup>	
Thermal		Nominal Value Unit	Test Method

Deflection Temperature Under Load

0.45 MPa, Unannealed

1.8 MPa, Unannealed

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ISO 75-2/B

ISO 75-2/A

240 °C

220 °C

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hermal	Nominal Value Unit	Test Method
Glass Transition Temperature <sup>5</sup>	90.0 °C	ISO 11357-3
Ball Pressure Test (230°C)	Pass	IEC 60695-10-2
Melting Temperature <sup>5</sup>	252 °C	ISO 11357-3
CLTE		ISO 11359-2
Flow	2.2E-5 cm/cm/°C	
Flow : -40 to 23°C	1.9E-5 cm/cm/°C	
Flow : 55 to 160°C	1.7E-5 cm/cm/°C	
Transverse	9.6E-5 cm/cm/°C	
Transverse : -40 to 23°C	6.8E-5 cm/cm/°C	
Transverse : 55 to 160°C	1.3E-4 cm/cm/°C	
RTI Elec		UL 746B
0.40 mm	155 °C	
0.75 mm	155 °C	
1.5 mm	155 °C	
3.0 mm	155 °C	
RTI Imp		UL 746B
0.40 mm	155 °C	
0.75 mm	155 °C	
1.5 mm	155 °C	
3.0 mm	155 °C	
RTI Str		UL 746B
0.40 mm	155 °C	
0.75 mm	155 °C	
1.5 mm	155 °C	
3.0 mm	155 °C	
ilectrical	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+14 ohms	IEC 62631-3-2
Volume Resistivity	> 1.0E+13 ohms·m	IEC 62631-3-1
Electric Strength <sup>4</sup>	39 kV/mm	IEC 60243-1
Relative Permittivity		IEC 62631-2-1
100 Hz	4.10	
1 MHz	3.70	
Dissipation Factor		IEC 62631-2-1
100 Hz	0.031	
1 MHz	0.013	
Comparative Tracking Index (CTI) <sup>6</sup>	PLC 2	UL 746A
Comparative Tracking Index	200 V	IEC 60112



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Flammability		Nominal Value Unit	Test Method
Flame Rating			UL 94
0.35 mm		V-0	IEC 60695-11-10, -20
1.5 mm	•	V-0 5VA	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.75 mm		800 °C	
1.5 mm		800 °C	
2.0 mm		850 °C	
3.0 mm		925 °C	
Oxygen Index		33 %	ISO 4589-2
FMVSS Flammability		DNI	FMVSS 302
Fill Analysis		Nominal Value Unit	
Ejection Temperature		170 °C	
Additional Information		Nominal Value Unit	Test Method
Railway Classification	•	R23 HL1	EN 45545-2

Injection	Nominal Value Unit
Drying Temperature	120 °C
Drying Time - Desiccant Dryer	4.0 to 6.0 hr
Suggested Max Moisture	< 0.020 %
Processing (Melt) Temp	270 to 290 °C
Melt Temperature, Optimum	280 °C
Mold Temperature	100 to 120 °C
Mold Temperature, Optimum	110 °C
Holding Pressure	> 80.0 MPa
Back Pressure	As low as possible
Drying Recommended	yes
Hold Pressure Time	4.00 s/mm
Screw Tangential Speed	< 12 m/min

#### Notes

<sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

<sup>2</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

<sup>3</sup> Typical properties: these are not to be construed as specifications.

<sup>4</sup> Derived from Similar Grade

<sup>5</sup> 10°C/min

<sup>6</sup> 23°C



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