Rynite® FR530 NC010

THERMOPLASTIC POLYESTER RESIN

Celanese Corporation

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Technical Data

Product Description			
30% Glass Reinforced, Flame Retardant, Polyethylene Terephthalate			
General			
Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet		
UL Yellow Card [2]	• E41938-257735		
Search for UL Yellow Card	• Celanese Corporation • Rynite®		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Additive	• Flame Retardant	• Mold Release	
Features	• Flame Retardant		
RoHS Compliance	• Contact Manufacturer		
Multi-Point Data	• Isothermal Stress vs. Strain (ISO 11403)	• Secant Modulus vs. Strain (ISO 11403)	
Part Marking Code (ISO 11469)	• >PET-GF30FR(17)<		
Resin ID (ISO 1043)	• PET-GF30FR(17)		

Physical	Nominal Value	Unit	Test Method
Density	1.68	g/cm³	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.80	%	
Across Flow : 80°C, 48 hr	0.20	%	
Flow	0.20	%	
Flow : 80°C, 48 hr	0.0	%	
Water Absorption			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	12000	MPa	ISO 527-1
Tensile Stress (Break)	140	MPa	ISO 527-2/5
Tensile Strain (Break)	2.0	%	ISO 527-2/5
Tensile Creep Modulus			ISO 899-1
1 hr	11200	MPa	
1000 hr	9700	MPa	
Flexural Modulus	10000	MPa	ISO 178
Compressive Stress	200	MPa	ISO 604
Shear Strength	60.0	MPa	ASTM D732
Poisson's Ratio	0.33		

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	9.0	kJ/m²	
23°C	10	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	40	kJ/m²	
23°C	40	kJ/m²	

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	240	°C	ISO 75-2/B
1.8 MPa, Unannealed	220	°C	ISO 75-2/A
Glass Transition Temperature [4]	90.0	°C	ISO 11357-3
Vicat Softening Temperature	220	°C	ISO 306/B50
Ball Pressure Test (235°C)	Pass		IEC 60695-10-2
Melting Temperature [4]	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	
Effective Thermal Diffusivity - Flow	1.10E-7	mm²/s	ISO 22007-4

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Electrical	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	39	kV/mm	IEC 60243-1
Relative Permittivity			IEC 62631-2-1
100 Hz	4.80		
1 MHz	4.30		
Dissipation Factor			IEC 62631-2-1
100 Hz	7.0E-3		
1 MHz	0.013		
Comparative Tracking Index (CTI) [5]	PLC 2		UL 746A
Comparative Tracking Index	200	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94 IEC 60695-11-10, -20
0.35 mm	V-0		
1.5 mm	• V-0 • 5VA		
Glow Wire Ignition Temperature			IEC 60695-2-13
0.75 mm	800	°C	
1.0 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	Test Method
Ejection Temperature	170	°C	
Specific Heat Capacity of Melt	1720	J/kg/°C	ISO 22007-4
Thermal Conductivity of Melt	0.24	W/m/K	ISO 22007-2

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

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Notes

[1] 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.

[2] 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.

[3] Typical properties: these are not to be construed as specifications.

[4] 10°C/min

[5] 23°C

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