(+) **18816996168** Ponciplastics.com



## Rynite<sup>®</sup> FR530 BK507 THERMOPLASTIC POLYESTER RESIN

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, high surface gloss and good inherent electrical properties at elevated temperature. It can be processed over a broad temperature range and has excellent flow properties.

Rynite® thermoplastic polyester resins are typically used in demanding applications in the automotive, electrical and electronics, appliances where they successfully replace metals and thermosets, as well as other thermoplastic polymers.

Rynite® FR530 BK507 is a 30% glass reinforced, flame retardant, modified polyethylene terephthalate resin.

Product information			
Resin Identification	PET- GF30FR(17)		ISO 1043
Part Marking Code	>PET-GF30FR(1)	7)<	ISO 11469
Rheological properties			
Moulding shrinkage, parallel	0.2 0.8		ISO 294-4, 2577 ISO 294-4, 2577
Moulding shrinkage, normal	0.8	70	130 294-4, 2377
Typical mechanical properties			
Tensile modulus	11300		ISO 527-1/-2
Tensile stress at break, 5mm/min		MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9		ISO 527-1/-2
Flexural modulus Flexural strength	10500	MPa MPa	ISO 178 ISO 178
Charpy impact strength, 23°C		kJ/m <sup>2</sup>	ISO 178 ISO 179/1eU
Charpy impact strength, -40°C		kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C		kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -40°C		kJ/m²	ISO 179/1eA
Poisson's ratio	0.33		
Thermal properties			
Melting temperature, 10°C/min	252	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min		°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	220	-	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	243		ISO 75-1/-2
Ball pressure test	230		IEC 60695-10-2
Coeff. of linear therm. expansion, parallel, -40-23°C Coefficient of linear thermal expansion		E-6/K E-6/K	ISO 11359-1/-2 ISO 11359-1/-2
(CLTE), parallel	22	L-0/1	130 11339-17-2
Coeff. of linear therm. expansion, parallel, 55-160°C	17	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C		E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	96	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	125	E-6/K	ISO 11359-1/-2
RTI, electrical, 0.4mm	155		UL 746B
RTI, electrical, 0.75mm	155		UL 746B
RTI, electrical, 1.5mm	155	°C	UL 746B

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RTI, electrical, 3.0mm RTI, impact, 0.4mm RTI, impact, 0.75mm RTI, impact, 1.5mm RTI, impact, 3.0mm RTI, strength, 0.4mm RTI, strength, 0.75mm RTI, strength, 1.5mm RTI, strength, 3.0mm	155 155 155 155 155 155 155 155 155	°C °C °C °C °C °C °C	UL 746B UL 746B UL 746B UL 746B UL 746B UL 746B UL 746B UL 746B UL 746B
Flammability			
Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested		mm	IEC 60695-11-10
UL recognition	yes		UL 94
Burning Behav. at thickness h	-	class	IEC 60695-11-10
Thickness tested	0.35	mm	IEC 60695-11-10
UL recognition	yes		UL 94
Burning Behav. 5V at thickness h		class	IEC 60695-11-20
Thickness tested	1.5	mm	IEC 60695-11-20
UL recognition	yes		UL 94
Oxygen index	33		ISO 4589-1/-2
Glow Wire Flammability Index, 0.75mm	960		IEC 60695-2-12
Glow Wire Flammability Index, 1.0mm	960		IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	960		IEC 60695-2-12
Glow Wire Flammability Index, 2.0mm	960		IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	960		IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	800		IEC 60695-2-13
Glow Wire Ignition Temperature, 1.5mm	800		IEC 60695-2-13
Glow Wire Ignition Temperature, 2.0mm	850		IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	925	°C	IEC 60695-2-13
FMVSS Class	DNI		ISO 3795 (FMVSS 302)
Railway classification	R23 HL1		EN 45545-2 EN 45545-2
Railway classification rating	nu i		EN 45545-2
Electrical properties			
Relative permittivity, 100Hz	4.1		IEC 62631-2-1
Relative permittivity, 1MHz	3.7		IEC 62631-2-1
Dissipation factor, 100Hz		E-4	IEC 62631-2-1
Dissipation factor, 1MHz		E-4	IEC 62631-2-1
Volume resistivity		Ohm.m	IEC 62631-3-1
Surface resistivity		Ohm	IEC 62631-3-2
Electric strength		kV/mm	IEC 60243-1
Comparative tracking index	200		IEC 60112
Comparative tracking index, 23°C	2	PLC	UL 746A
[DS]: Derived from similar grade			

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### Physical/Other properties

Humidity absorption, 2mm Water absorption, 2mm Density	0.15 <sup>[DS]</sup> 0.75 <sup>[DS]</sup> 1680		Sim. to ISO 62 Sim. to ISO 62 ISO 1183
[DS]: Derived from similar grade			
Injection			
Drying Recommended	yes		
Drying Temperature	120	°C	
Drying Time, Dehumidified Dryer	4 - 6		
Processing Moisture Content	≤0.02 <sup>[1]</sup>	%	
Melt Temperature Optimum	280	°C	
Min. melt temperature	270	°C	
Max. melt temperature	290	°C	
Screw tangential speed	≤0.2	m/s	
Mold Temperature Optimum	110	°C	
Min. mould temperature		°C	
Max. mould temperature	120 <sup>[2]</sup>	°C	
Hold pressure range	≥80	MPa	
Hold pressure time	4	s/mm	
Back pressure	As low as		
	possible		
Ejection temperature	170	°C	

[1]: At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects.[2]: (6mm - 1mm thickness)

## Characteristics

Processing	Injection Moulding
Additives	Flame retardant
Special characteristics	Flame retardant

#### Automotive

OEM Stellantis STANDARD B62 0300 / 61/223E-219M/C4 ADDITIONAL INFORMATION 01378\_19\_02643

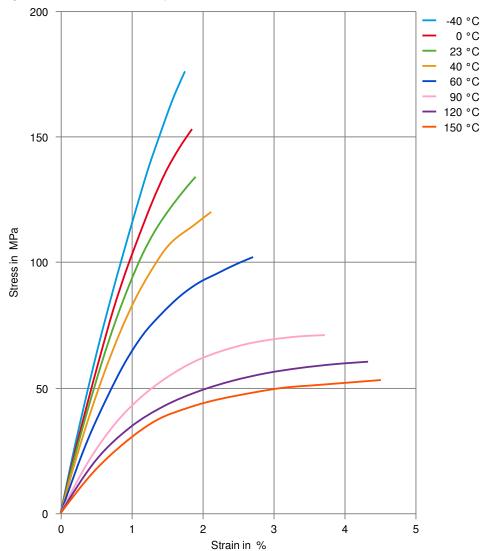




THERMOPLASTIC POLYESTER RESIN

### Stress-strain

(measured on Rynite® FR530 NC010)

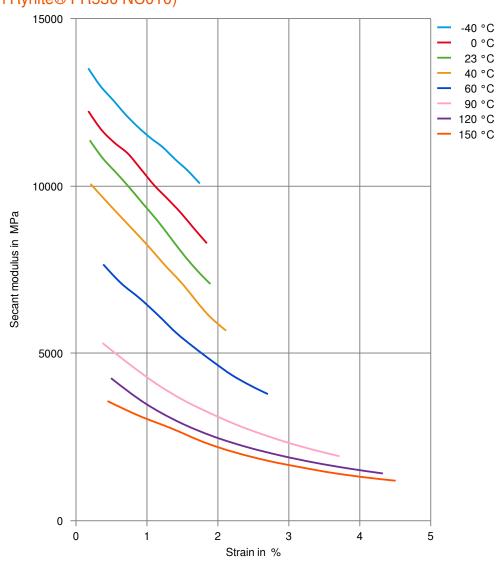






## THERMOPLASTIC POLYESTER RESIN

#### Secant modulus-strain (measured on Rynite® FR530 NC010)



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#### Revised: 2025-04-19 Source: Celanese Materials Database

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