

Product Texts

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 NC010 is a 30% glass reinforced, flame retardant, modified polyethylene terephthalate resin.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	0.2	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	0.8	%	ISO 294-4, 2577
^[C] Thermal conductivity of melt	0.24	W/(m K)	-
^[C] Spec. heat capacity of melt	1720	J/(kg K)	-
^[C] Eff. thermal diffusivity	1.1E-7	m ² /s	-
^[C] Ejection temperature	170	°C	-
ASTM Data			
Mold Shrinkage, MD	0.0016	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.0068	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	11500	MPa	ISO 527
^[C] Stress at break	135	MPa	ISO 527
^[C] Strain at break	2	%	ISO 527
^[C] Tensile creep modulus, 1h	11200	MPa	ISO 899-1
^[C] Tensile creep modulus, 1000h	9700	MPa	ISO 899-1
^[C] Charpy impact strength, +23°C	40	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	40	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	10	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	9	kJ/m ²	ISO 179/1eA
ASTM Data			
Tensile Modulus	11000	MPa	ASTM D 638
Tensile Strength	138	MPa	ASTM D 638
Elongation at Break	2.1	%	ASTM D 638
Compressive Strength	200	MPa	ASTM D 695
Flexural Modulus	10300	MPa	ASTM D 790
Flexural Strength	200	MPa	ASTM D 790
Rockwell Hardness	R 120	-	ASTM D 785
Izod Impact notched, 1/8 in	91	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	80	J/m	ASTM D 256
Temperature	-40	°C	-

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Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	252	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	90	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	225	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	243	°C	ISO 75-1/-2
^[C] Vicat softening temperature, B	220	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	22	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	96	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at 1.5 mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	-

Yellow Card available	yes	-	-
^[C] Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.3	mm	-
Yellow Card available	yes	-	-
^[C] Burning Behav. 5V at thickness h	5VA	class	IEC 60695-11-20
Thickness tested	1.5	mm	-
Yellow Card available	yes	-	-
^[C] Oxygen index	33	%	ISO 4589-1/-2
ASTM Data			
UL 94 Flame rating	V-0	-	UL 94
Thickness tested	1.5	mm	-
Coefficient of Thermal Expansion, MD	19	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	92	E-6/K	ASTM D 696
DTUL @ 66 psi	246	°C	ASTM D 648
DTUL @ 264 psi	224	°C	ASTM D 648
Melting Temperature	254	°C	ASTM D 3418
Limiting Oxygen Index	33	%	ASTM D 2863

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Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	4.8	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	4.3	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	70	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	126	E-4	IEC 62631-2-1
^[C] Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	1E14	Ohm	IEC 62631-3-2
^[C] Electric strength	39	kV/mm	IEC 60243-1
^[C] Comparative tracking index	200	-	IEC 60112
ASTM Data			
Dielectric Strength, Short Time	18	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	0.018	-	ASTM D 150
Dielectric Constant, 1 MHz	3.7	-	ASTM D 150
Surface Resistivity	1E14	Ohm	ASTM D 257
Volume Resistivity	1E15	Ohm*cm	ASTM D 257

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
^[C] Water absorption	0.75	%	Sim. to ISO 62
^[C] Humidity absorption	0.15	%	Sim. to ISO 62
^[C] Density	1680	kg/m ³	ISO 1183
Water Absorption, 24hr	0.05	%	ASTM D 570
Density	1670	kg/m ³	ASTM D 792

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Characteristics

Processing

Injection Molding

Delivery form

Pellets, Natural Color

Additives

Release agent

Features

Thermal Stability, Weldable

Applications

Electrical and Electronical

Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Special Characteristics

Flame retardant, Heat stabilized or stable to heat