

DuPont™ Rynite® 530HTE NC010

THERMOPLASTIC POLYESTER RESIN

Product Information

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® 530HTE NC010 is a 30% glass reinforced modified polyethylene terephthalate resin with excellent high temperature dielectric properties.

General information	Value	Unit	Test Standard
Resin Identification	PET-GF30	-	ISO 1043
Part Marking Code	PET-GF30	-	ISO 11469
Rheological properties	Value	Unit	Test Standard
Melt volume-flow rate	9	cm ³ /10min	ISO 1133
Temperature	280	°C	ISO 1133
Load	2.16	kg	ISO 1133
Molding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6	%	ISO 294-4, 2577
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	11000	MPa	ISO 527-1/-2
Stress at break	170	MPa	ISO 527-1/-2
Strain at break	2.3	%	ISO 527-1/-2
Thermal properties	Value	Unit	Test Standard
Melting temperature, 18°F/min	252	°C	ISO 11357-1/-3
Coeff. of linear therm. expansion, parallel	21	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	63	E-6/K	
Normal, -40-23°C	56	E-6/K	
Normal, 55-160°C	112	E-6/K	
Parallel, -40-23°C	21	E-6/K	
Parallel, 55-160°C	18	E-6/K	
Thermal conductivity of melt	0.29	W/(m K)	-
Spec. heat capacity of melt	1500	J/(kg K)	-
RTI, electrical			UL 746B
30mil	140	°C	
60mil	140	°C	
120mil	140	°C	
RTI, impact			UL 746B
30mil	140	°C	
60mil	140	°C	
120mil	140	°C	
RTI, strength			UL 746B
30mil	140	°C	
60mil	140	°C	
120mil	140	°C	
Flammability	Value	Unit	Test Standard
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.85	mm	IEC 60695-11-10
UL recognition	yes	-	UL 94
Glow Wire Flammability Index, 120mil	800	°C	IEC 60695-2-1/2
Glow Wire Ignition Temperature, 120mil	800	°C	IEC 60695-2-1/3
FMVSS Class	B	-	ISO 3795 (FMVSS 302)

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To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

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Burning rate, Thickness 1 mm		<100	mm/min	ISO 3795 (FMVSS 302)
Electrical properties		Value	Unit	Test Standard
Relative permittivity				IEC 60250
100Hz		4.2	-	
1MHz		3.9	-	
Dissipation factor				IEC 60250
100Hz		14	E-4	
1MHz		146	E-4	
Volume resistivity		>1E13	Ohm*m	IEC 60093
Surface resistivity		1E14	Ohm	IEC 60093
Electric strength		38	kV/mm	IEC 60243-1
Comparative tracking index		200	-	IEC 60112
Other properties		Value	Unit	Test Standard
Density		1560	kg/m ³	ISO 1183
Density of melt		1360	kg/m ³	-
Injection		Value	Unit	Test Standard
Drying Recommended		yes	-	-
Drying Temperature		120	°C	-
Drying Time, Dehumidified Dryer		4 - 6	h	-
Processing Moisture Content		≤0.02 ^[1]	%	-
Melt Temperature Optimum		285	°C	-
Min. melt temperature		280	°C	-
Max. melt temperature		300	°C	-
Max. screw tangential speed		0.2	m/s	-
Mold Temperature Optimum		140	°C	-
Min. mold temperature		120	°C	-
Max. mold temperature		140 ^[2]	°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	<ul style="list-style-type: none"> Injection Molding
Delivery form	<ul style="list-style-type: none"> Pellets
Special characteristics	<ul style="list-style-type: none"> Heat stabilized or stable to heat
Regional Availability	<ul style="list-style-type: none"> North America Europe Asia Pacific South and Central America Near East/Africa Global

Processing Texts

Injection molding

When lower mold temperatures are used, the initial warpage and shrinkage will be lower, but the surface appearance will be poorer and the dimensional change may be greater when parts are subsequently heated.

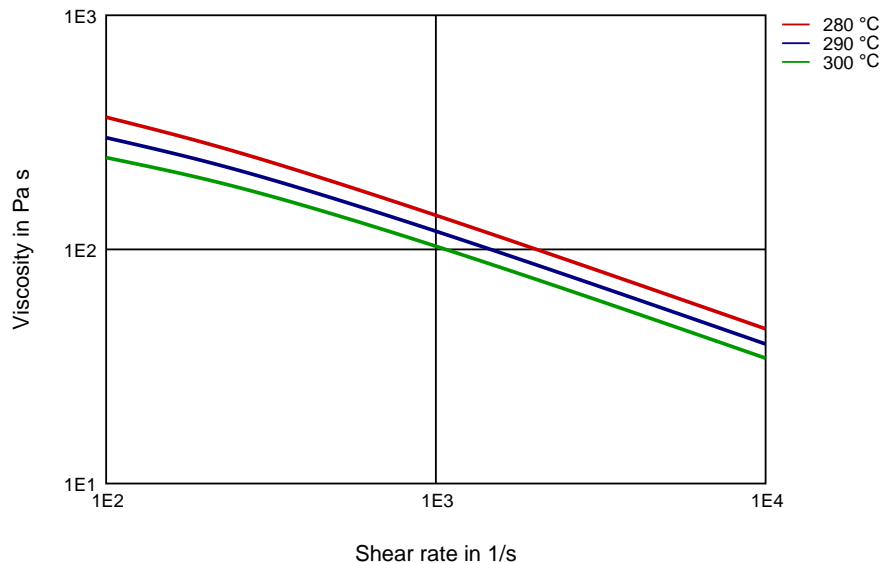


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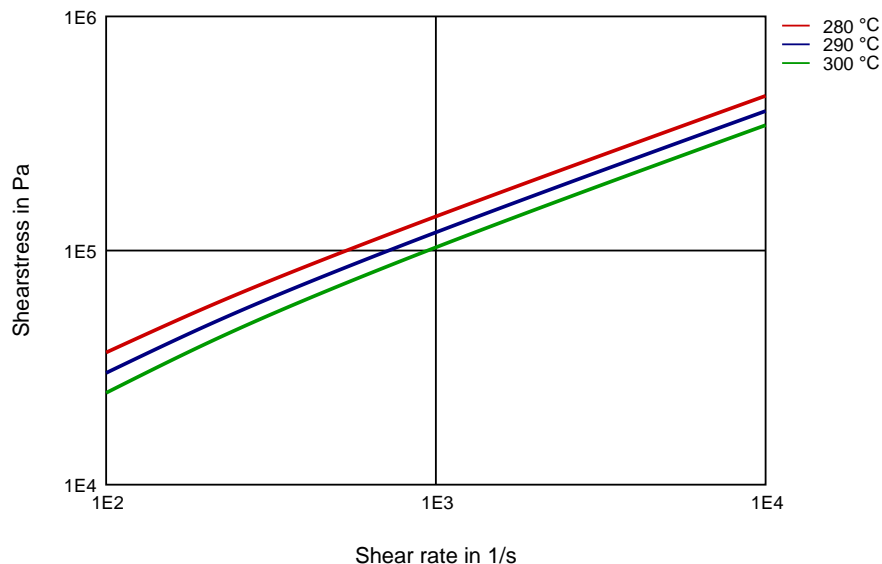
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Diagrams

Viscosity-shear rate



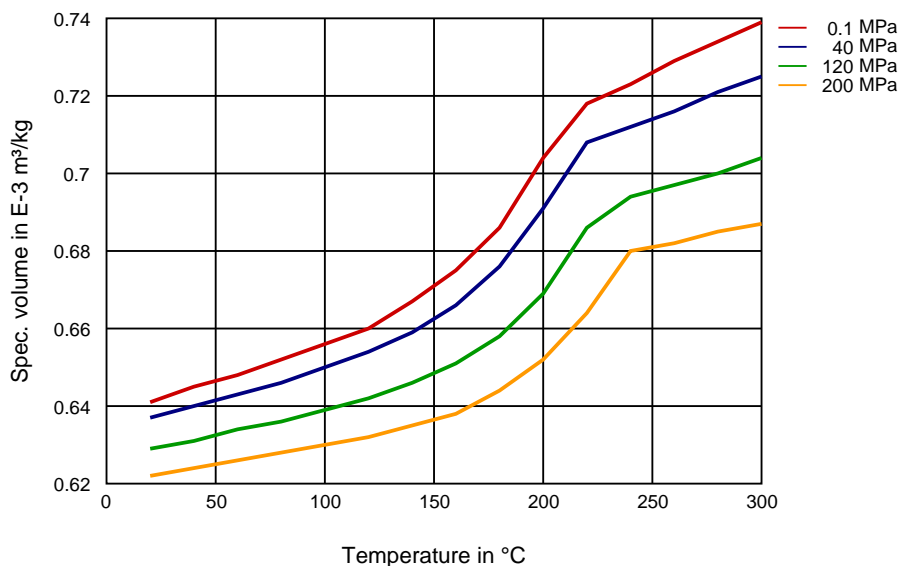
Shearstress-shear rate



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Specific volume-temperature (pvT)



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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