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.

The good melt stability of Rynite® thermoplastic polyester normally enables the recycling of properly handled production waste.If recycling is not possible, DuPont recommends, as the preferred option, incineration with energy recovery (-22 kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

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**
Moulding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Moulding 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
Poisson's ratio	0.34	-	ISO 527-1/-2
Thermal properties	**Value**	**Unit**	**Test Standard**
Melting temperature, 10°C/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
0.75mm	140	°C	
1.5mm	140	°C	
3mm	140	°C	
RTI, impact			UL 746B
0.75mm	140	°C	
1.5mm	140	°C	
3mm	140	°C	
RTI, strength			UL 746B
0.75mm	140	°C	
1.5mm	140	°C	
3mm	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

To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.

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Toll-Free (USA): 800 441-0575

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Glow Wire Flammability Index, 3mm	800	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 3mm	800	°C	IEC 60695-2-13
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	**Value**	**Unit**	**Test Standard**
Relative permittivity			IEC 62631-2-1
100Hz	4.2	-	
1MHz	3.9	-	
Dissipation factor			IEC 62631-2-1
100Hz	14	E-4	
1MHz	146	E-4	
Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	38	kV/mm	IEC 60243-1
Comparative tracking index	200	-	IEC 60112
Other properties	**Value**	**Unit**	**Test Standard**
Density	1560	kg/m³	ISO 1183
Density of melt	1360	kg/m³	-
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. mould temperature	120	°C	-
Max. mould 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	• Injection Moulding		
Delivery form	• Pellets		
Special characteristics	• Heat stabilised or stable to heat		
Regional Availability	• 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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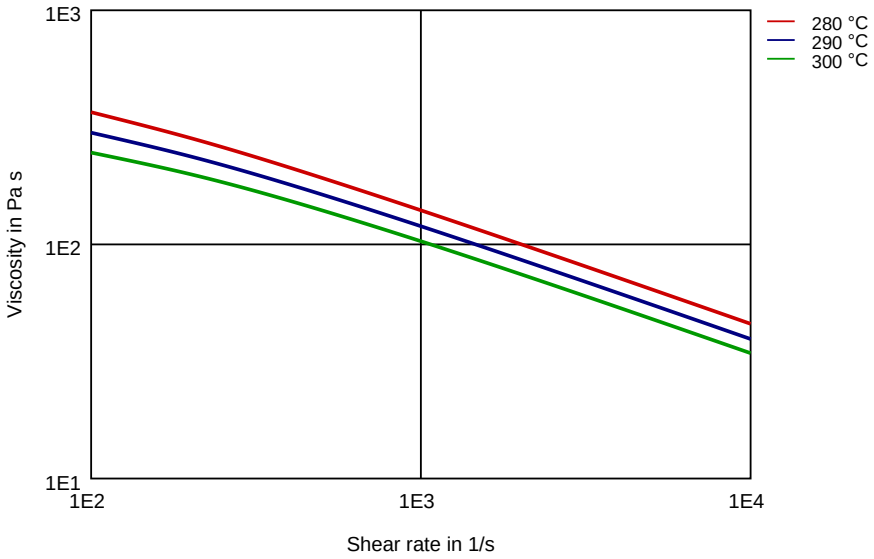
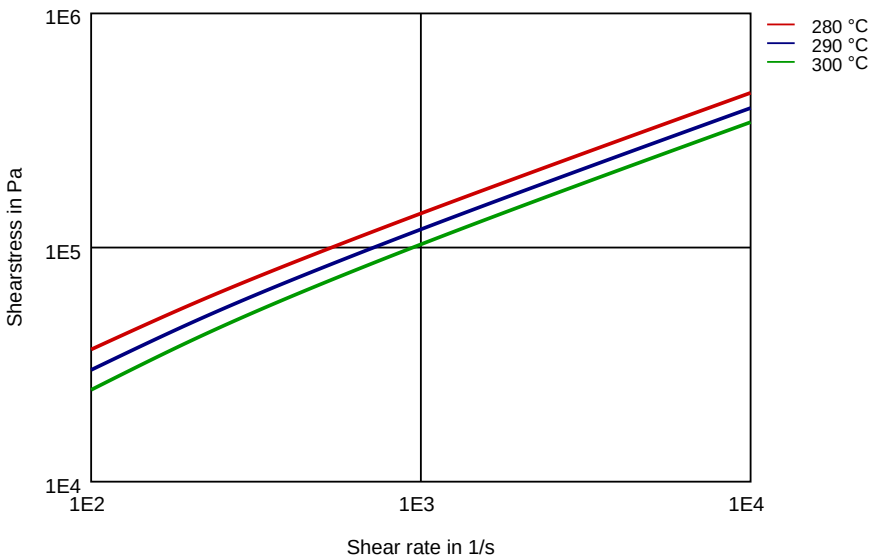
Diagrams

Viscosity-shear rate



Shearstress-shear rate



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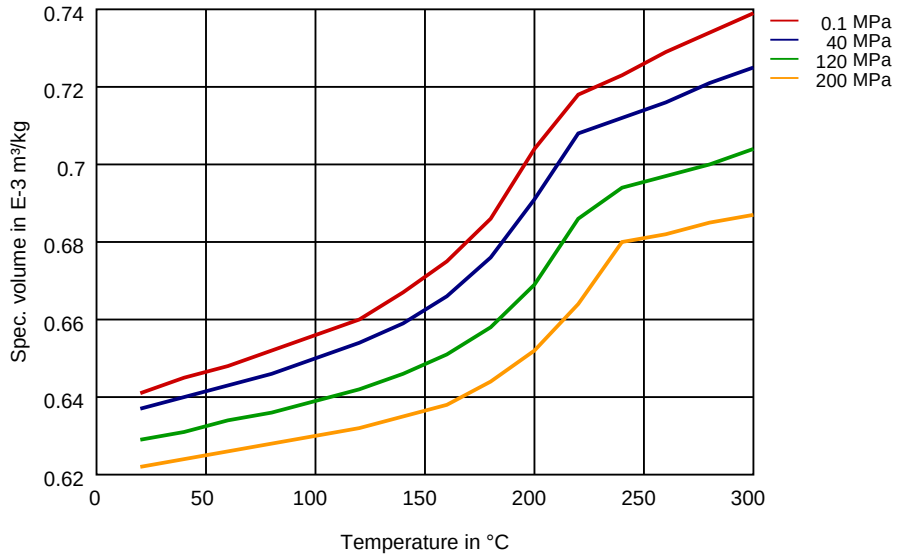
Specific volume-temperature (pvT)



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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