DuPont™ Rynite® PET

thermoplastic polyester resin

PRELIMINARY DATA

Rynite® 530HTE NC010

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

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		PET-GF30
Part Marking Code	ISO 11469		>PET-GF30<
Mechanical			
Tensile Strength	ASTM D 638	MPa (kpsi)	169 (24.6)
Elongation at Break	ASTM D 638	%	2.3
Tensile Modulus	ASTM D 638	MPa (kpsi)	10700 (1560)
Shear Strength	ASTM D 732	MPa (kpsi)	74.5 (10.8)
Flexural Modulus	ASTM D 790	MPa (kpsi)	8960 (1300)
Flexural Strength	ASTM D 790	MPa (kpsi)	240 (35)
Compressive Strength	ASTM D 695	MPa (kpsi)	241 (35)
Deformation Under Load	ASTM D 621	%	
27.6MPa (4000psi)			0.3
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40°C (-40°F)			85 (1.6)
23°C (73°F)			90 (1.7)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40°C (-40°F)			640 (12)
23°C (73°F)			695 (13)

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc
ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
Test temperatures are 23°C unless otherwise stated.

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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Property	Test Method	Units	Value
Thermal			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			251 (484)
1.8MPa (264psi)			233 (451)
CLTE, Parallel	ASTM E 228	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.21 (0.12)
23 - 55°C (73 - 130°F)			0.19 (0.11)
55 - 160°C (130 - 320°F)			0.12 (0.07)
CLTE, Normal	ASTM E 228	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.56 (0.31)
23 - 55°C (73 - 130°F)			0.60 (0.33)
55 - 160°C (130 - 320°F)			0.90 (0.50)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft^2 F)	
23°C (73°F)			0.32 (2.2)
50°C (122°F)			0.3 (2)
100°C (212°F)			0.31 (2.1)
Electrical			
Surface Resistivity	ASTM D 257	ohm	1E13
Volume Resistivity	ASTM D 257	ohm cm	1E15
Dielectric Strength, Short Time	ASTM D 149	kV/mm (V/mil)	
23°C (73°F), 1.57mm (0.062in)			25 (635)
23°C (73°F), 3.2mm (0.125in)			21.5 (550)
95°C (200°F), 1.57mm (0.062in)			23 (585)
95°C (200°F), 3.2mm (0.125in)			19 (485)
150°C (300°F), 1.57mm (0.062in)			23.5 (600)
150°C (300°F), 3.2mm (0.125in)			19 (485)
200°C (390°F), 1.57mm (0.062in)			21.5 (550)
200°C (390°F), 3.2mm (0.125in)			15 (380)

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Electrical			
Dielectric Constant	ASTM D 150		
1E3 Hz			4.2
1E6 Hz			4.1
Dissipation Factor	ASTM D 150		
1E3 Hz			0.004
1E6 Hz			0.014
Flammability			
Flammability Classification	UL94		
0.85mm			HB
1.5mm			HB
3.0mm			HB
High Amperage Arc Ignition Resistance	UL 746A	arcs	
0.85mm			85
1.5mm			125
3.0mm			60
Hot Wire Ignition	UL 746A	s	
0.85mm			47
1.5mm			84
3.0mm			120
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.85mm			140
1.5mm			140
3.0mm			140

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Property	Test Method	Units	Value
Temperature Index			
RTI, Impact	UL 746B	°C	
0.85mm			140
1.5mm			140
3.0mm			140
RTI, Strength	UL 746B	°C	
0.85mm			140
1.5mm			140
3.0mm			140
Other			
Specific Gravity	ASTM D 792		1.58
Hardness, Rockwell	ASTM D 785		
Scale M			100
Scale R			120
Water Absorption	ASTM D 570	%	
50%RH,23°C,24h			0.06
Mold Shrinkage	ASTM D 955	%	
Flow, 1.57mm (0.062in)			0.1
Flow, 3.2mm (0.125in)			0.1
Transverse, 1.57mm (0.062in)			0.6
Transverse, 3.2mm (0.125in)			0.7
Processing			
Melt Temperature Range		°C (°F)	280-300 (535-570)
Melt Temperature Optimum		°C (°F)	285 (545)
Mold Temperature Optimum		°C (°F)	140 (285)
Drying Time, Dehumidified Dryer		h	4
Drying Temperature		°C (°F)	120 (250)
Processing Moisture Content		%	<0.02

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