Rynite® PET

thermoplastic polyester resin

PRELIMINARY DATA

Rynite® RE5220 BK533

Rynite® RE5220 BK533 is a 30% glass reinforced product with excellent high temperature dielectric properties.

Property	Test Method	Units	Value
Mechanical			
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40C (-40F)			193 (28)
23C (73F)			169 (24.6)
93C (200F)			107 (15.6)
150C (300F)			68 (9.9)
Elongation at Break	ASTM D 638	%	
-40C (-40F)			2.1
23C (73F)			2.3
93C (200F)			3.6
150C (300F)			6.5
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40C (-40F)			11200 (1630)
23C (73F)			10700 (1560)
93C (200F)			7590 (1100)
150C (300F)			4380 (635)
Shear Strength	ASTM D 732	MPa (kpsi)	74.5 (10.8)
Flexural Modulus	ASTM D 790	MPa (kpsi)	
-40C (-40F)			9660 (1400)
23C (73F)			8960 (1300)
93C (200F)			3990 (579)
150C (300F)			2800 (406)

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
Mechanical properties measured at 23°C (73°F) unless otherwise stated.
Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plagues or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

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
Mechanical			
Flexural Strength	ASTM D 790	MPa (kpsi)	
-40C (-40F)			276 (40)
23C (73F)			240 (35)
93C (200F)			98.6 (14.3)
150C (300F)			82.3 (12)
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)	
-40C (-40F)			85 (1.6)
23C (73F)			90 (1.7)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40C (-40F)			640 (12)
23C (73F)			695 (13)
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 - 23C (-40 - 73F)			0.21 (0.12)
23 - 55C (73 - 130F)			0.19 (0.11)
55 - 160C (130 - 320F)			0.12 (0.07)
CLTE, Normal	ASTM E 228	E-4/C (E-4/F)	
-40 - 23C (-40 - 73F)			0.56 (0.31)
23 - 55C (73 - 130F)			0.60 (0.33)
55 - 160C (130 - 320F)			0.90 (0.50)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft2 F)	
23C (73F)			0.32 (2.2)
50C (122F)			0.3 (2)
100C (212F)			0.31 (2.1)
Electrical			
Surface Resistivity	ASTM D 257	ohm	1 E13
Volume Resistivity	ASTM D 257	ohm cm	1 E15

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Property	Test Method	Units	Value
Electrical			
Dielectric Strength, Short Time	ASTM D 149	kV/mm (V/mil)	
23C (73F), 1.57mm (0.062in)			25 (635)
23C (73F), 3.2mm (0.126in)			21.5 (550)
95C (200F), 1.57mm (0.062in)			23 (585)
95C (200F), 3.2mm (0.126in)			19 (485)
150C (300F), 1.57mm (0.062in)			23.5 (600)
150C (300F), 3.2mm (0.126in)			19 (485)
200C (390F), 1.57mm (0.062in)			21.5 (550)
200C (390F), 3.2mm (0.126in)			15 (380)
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			
Rating @ Thickness	UL94		HB
Thickness Tested	UL94	mm	0.75
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,23C,24h			0.06
Mold Shrinkage	ASTM D 955	%	
Flow, 1.57mm (0.062in)			0.13
Flow, 3.2mm (0.126in)			0.15
Transverse, 1.57mm (0.062in)			0.6
Transverse, 3.2mm (0.126in)			0.7
Processing			
Melt Temperature Range		°C (°F)	280-300 (535-570)
Mold Temperature Range		°C (°F)	>130 (>265)
Drying Time, Dehumidified Dryer		h	4
Drying Temperature		°C (°F)	120 (250)
Processing Moisture Content		%	<0.02

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