

# DuPont™ Rynite® PET

thermoplastic polyester resin

## Rynite® 530 NC010

Rynite® 530 NC010 is a 30% glass reinforced modified polyethylene terephthalate with outstanding balance of strength, stiffness, and toughness, excellent electrical properties, surface appearance, and chemical resistance.

Property	Test Method	Units	Value
<b>Identification</b>			
Resin Identification	ISO 1043-1/-2/-3/-4		PET-GF30
Part Marking Code	ISO 11469		>PET-GF30<
<b>Mechanical</b>			
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			214 (31.0)
23°C (73°F)			159 (23.0)
90°C (194°F)			83.4 (12.1)
150°C (300°F)			56 (8.1)
Elongation at Break	ASTM D 638	%	
-40°C (-40°F)			2.5
23°C (73°F)			2.7
90°C (194°F)			5.7
150°C (300°F)			6.5
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			11300 (1640)
23°C (73°F)			10700 (1550)
90°C (194°F)			4540 (658)
150°C (300°F)			3090 (448)

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.

Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Rynite® are trademarks or registered trademarks of DuPont Company. Copyright© 2004.

040420/040422

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

# Product Information

## Rynite® 530 NC010

Property	Test Method	Units	Value
<b>Mechanical</b>			
Shear Strength	ASTM D 732	MPa (kpsi)	79.0 (11.5)
Poisson's Ratio			0.41
Flexural Modulus	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			10300 (1500)
23°C (73°F)			8960 (1300)
90°C (194°F)			3580 (520)
150°C (300°F)			2690 (390)
Flexural Strength	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			269 (39.0)
23°C (73°F)			235 (34.0)
90°C (194°F)			114 (16.5)
150°C (300°F)			75.8 (11.0)
Compressive Strength	ASTM D 695	MPa (kpsi)	227 (33.0)
Deformation Under Load	ASTM D 621	%	
23°C (73°F), 27.6MPa (4000psi)			0.4
50°C (122°F), 27.6MPa (4000psi)			1.6
Flexural Fatigue	ASTM D 671	MPa (kpsi)	
Cycles 10E6			40.7 (5.9)
Flexural Creep Strain	ASTM D 2990	%	
23°C (73°F), 27.6MPa (4000psi)			0.56
60°C (140°F), 27.6MPa (4000psi)			1.18
125°C (257°F), 27.6MPa (4000psi)			1.65
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40°C (-40°F)			96 (1.8)
23°C (73°F)			101 (1.9)

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.

Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Rynite® are trademarks or registered trademarks of DuPont Company. Copyright© 2004.

040420/040422

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

# Product Information

## Rynite® 530 NC010

Property	Test Method	Units	Value
<b>Mechanical</b>			
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40°C (-40°F)			750 (14.0)
23°C (73°F)			960 (18.0)
<b>Thermal</b>			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			247 (477)
1.8MPa (264psi)			224 (435)
Melting Point	ASTM D 3418	°C (°F)	254 (489)
CLTE, Normal	ASTM E 831	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.67 (0.37)
23 - 55°C (73 - 130°F)			0.81 (0.45)
55 - 160°C (130 - 320°F)			1.07 (0.59)
CLTE, Parallel	ASTM E 831	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.22 (0.12)
23 - 55°C (73 - 130°F)			0.10 (0.06)
55 - 160°C (130 - 320°F)			0.04 (0.02)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft <sup>2</sup> F)	0.29 (2.0)
<b>Electrical</b>			
Surface Resistivity	ASTM D 257	ohm	1E14
Relative Permittivity	IEC 60250		
1E2 Hz		4.2	
1E6 Hz		3.9	
Volume Resistivity	ASTM D 257	ohm cm	1E15

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.

Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Rynite® are trademarks or registered trademarks of DuPont Company. Copyright© 2004.

040420/040422

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

# Product Information

## Rynite® 530 NC010

Property	Test Method	Units	Value
<b>Electrical</b>			
Dielectric Strength, Short Time	ASTM D 149	kV/mm (V/mil)	
23°C (73°F), 500 V/s, in oil, 1.6mm (0.062in)			
23°C (73°F), 500 V/s, in oil, 3.2mm (0.126in)			
95°C (200°F), 500 V/s, in oil, 1.6mm (0.062in)			
95°C (200°F), 500 V/s, in oil, 3.2mm (0.126in)			
150°C (300°F), 500 V/s, in oil, 1.6mm (0.062in)			
150°C (300°F), 500 V/s, in oil, 3.2mm (0.126in)			
Dielectric Strength, Step by Step	ASTM D 149	kV/mm (V/mil)	17.5 (445)
3.2mm (0.126in)			
Dielectric Constant	ASTM D 150		
1E3 Hz			
1E6 Hz			
Dissipation Factor	ASTM D 150		
1E3 Hz			
1E6 Hz			
Arc Resistance	UL 746A	s	
Plate 4mm			
CTI	UL 746A	PLC level	
23°C (73°F)			
			250-400
<b>Flammability</b>			
Flammability Classification	UL94		
0.75mm			
Oxygen Index	ASTM D 2863	%	20
Glow Wire Flammability Index	IEC 60695-2-1	°C	
2.0mm			
3.0mm			

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.

Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Rynite® are trademarks or registered trademarks of DuPont Company. Copyright© 2004.

040420/040422

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

# Product Information

## Rynite® 530 NC010

Property	Test Method	Units	Value
<b>Flammability</b>			
High Amperage Arc Ignition Resistance	UL 746A	arcs	60-120
High Voltage Arc Tracking Rate		mm/min	25-80
Hot Wire Ignition	UL 746A	s	>120
<b>Temperature Index</b>			
RTI, Electrical 0.81mm	UL 746B	°C	140
RTI, Impact 0.81mm	UL 746B	°C	140
RTI, Strength 0.81mm	UL 746B	°C	140
<b>Other</b>			
Specific Gravity	ASTM D 792		1.56
Hardness, Rockwell Scale M	ASTM D 785		95
Scale R			120
Coefficient of Friction	ASTM D 1894		
Self, static			0.18
Steel, static			0.17
Taber Abrasion CS-17 Wheel, 1kg, 1000 cycles	ASTM D 1044	mg	30
Water Absorption 50%RH,23°C,24h	ASTM D 570	%	0.05
Mold Shrinkage		%	
Flow, 1.57mm (0.062in)			0.18
Flow, 3.2mm (0.126in)			0.25
Transverse, 1.57mm (0.062in)			0.78
Transverse, 3.2mm (0.126in)			0.80

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.

Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Rynite® are trademarks or registered trademarks of DuPont Company. Copyright© 2004.

040420/040422

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

# Product Information

## Rynite® 530 NC010

Property	Test Method	Units	Value
<b>Processing</b>			
Melt Temperature Range		°C (°F)	280-300 (535-570)
Melt Temperature Optimum		°C (°F)	285 (545)
Mold Temperature Range		°C (°F)	>95 (>205)
Mold Temperature Optimum		°C (°F)	110 (230)
Drying Time, Dehumidified Dryer		h	4
Drying Temperature		°C (°F)	120 (250)
Processing Moisture Content		%	<0.02

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.  
 Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Rynite® are trademarks or registered trademarks of DuPont Company. Copyright© 2004.

040420/040422

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.