

DuPont™ Zenite® LCP

liquid crystal polymer resin

Zenite® 6330 NC010

Zenite® 6330 NC010 is a 30% mineral reinforced liquid crystal polymer resin having excellent toughness and a heat deflection temperature of 245°C.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		LCP-MD30
Part Marking Code	ISO 11469		>LCP-MD30<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	130 (18.9)
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			200 (29.3)
23°C (73°F)			125 (18.1)
120°C (250°F)			56 (8.1)
150°C (300°F)			48 (6.9)
Strain at Break	ISO 527	%	5
Elongation at Break	ASTM D 638	%	
23°C (73°F)			4.0
120°C (250°F)			3.2
150°C (300°F)			2.5
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			11600 (1680)
23°C (73°F)			10500 (1520)
150°C (300°F)			4800 (690)
Tensile Modulus	ISO 527	MPa (kpsi)	10000 (9200)
Flexural Modulus	ISO 178	MPa (kpsi)	7100 (1030)

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.

During molding, use protective equipment and clothing. Skin contact with molten Zenite® resins can cause severe burns. Be particularly alert during purging.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zenite® are trademarks or registered trademarks of DuPont Company. Copyright© 2007

070711/070712

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 DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2

plastics.dupont.com



Zenite® 6330 NC010

Property	Test Method	Units	Value
Mechanical			
Flexural Modulus, 0.8mm (0.031in)	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			16700 (2400)
23°C (73°F)			13900 (2000)
120°C (250°F)			5160 (750)
150°C (300°F)	ASTM D 790	MPa (kpsi)	5000 (720)
Flexural Modulus, 3.2mm (0.125in)			
-40°C (-40°F)			10700 (1600)
23°C (73°F)			9600 (1400)
120°C (250°F)	ISO 178	MPa (kpsi)	3400 (490)
150°C (300°F)			3300 (470)
Flexural Strength			145 (21.0)
Flexural Strength, 0.8mm (0.031in)	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			260 (38.6)
23°C (73°F)			158 (22.9)
120°C (250°F)			60 (8.7)
150°C (300°F)	ASTM D 790	MPa (kpsi)	50 (7.2)
Flexural Strength, 3.2mm (0.125in)			
-40°C (-40°F)			192 (27.6)
23°C (73°F)			127 (18.5)
120°C (250°F)	ASTM D 695	MPa (kpsi)	51 (7.3)
150°C (300°F)			42 (6.1)
Compressive Modulus			4100 (590)
Izod Impact	ASTM D 256	J/m (ft lb/in)	160 (3.0)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	9
Thermal			
Deflection Temperature	ISO 75-1/-2	°C (°F)	
1.80MPa			245 (473)
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			335 (635)
Glass Transition Temperature	ASTM D 3418	°C (°F)	120 (250)

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zenite® are trademarks or registered trademarks of DuPont Company. Copyright© 2007

070711/070712

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 DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2

Zenite® 6330 NC010

Property	Test Method	Units	Value
Thermal			
Extrapolated End Melt Temp.	ASTM D 3418	°C (°F)	350 (662)
Electrical			
Surface Resistivity	ASTM D 257	ohm	>1E16
Volume Resistivity	ASTM D 257	ohm cm	>1E16
Dielectric Strength, Short Time, 0.8mm	ASTM D 149	kV/mm (V/mil)	49 (1240)
Dielectric Strength, Short Time, 1.6mm	ASTM D 149	kV/mm (V/mil)	41 (1040)
Dielectric Strength, Short Time, 3.2mm	ASTM D 149	kV/mm (V/mil)	26 (660)
Dielectric Strength, Step by Step, 0.8mm	ASTM D 149	kV/mm (V/mil)	40 (1020)
Dielectric Strength, Step by Step, 1.6mm	ASTM D 149	kV/mm (V/mil)	29 (740)
Dielectric Strength, Step by Step, 3.2mm	ASTM D 149	kV/mm (V/mil)	21 (530)
Dielectric Constant, 0.8mm (0.031in)	ASTM D 150		
1E2 Hz			3.3
1E3 Hz			3.3
1E6 Hz			2.9
Dielectric Constant, 0.8mm (0.031in)	ASTM D 2520 B		
23°C (73°F), 1E09 Hz			3.9
120°C (250°F), 1E09 Hz			4.0
150°C (300°F), 1E09 Hz			4.0
200°C (390°F), 1E09 Hz			4.2
23°C (73°F), 1E10 Hz			4.1
120°C (250°F), 1E10 Hz			4.1
150°C (300°F), 1E10 Hz			4.1
200°C (390°F), 1E10 Hz			4.1

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zenite® are trademarks or registered trademarks of DuPont Company. Copyright© 2007

070711/070712

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 DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2

Zenite® 6330 NC010

Property	Test Method	Units	Value
Electrical			
Dielectric Constant, 1.6mm (0.062in)	ASTM D 2520 B		
23°C (73°F), 1E09 Hz			3.9
120°C (250°F), 1E09 Hz			4.0
150°C (300°F), 1E09 Hz			4.0
200°C (390°F), 1E09 Hz			4.1
23°C (73°F), 1E10 Hz			4.0
120°C (250°F), 1E10 Hz			4.0
150°C (300°F), 1E10 Hz			4.0
200°C (390°F), 1E10 Hz			4.0
Dielectric Constant, 3.2mm (0.125in)	ASTM D 150		
1E2 Hz			3.6
1E3 Hz			3.6
1E6 Hz	ASTM D 2520 B		3.2
Dielectric Constant, 3.2mm (0.125in)			
23°C (73°F), 1E09 Hz			3.9
120°C (250°F), 1E09 Hz			4.0
150°C (300°F), 1E09 Hz			4.0
200°C (390°F), 1E09 Hz			4.1
250°C (480°F), 1E09 Hz			4.2
23°C (73°F), 1E10 Hz			4.1
120°C (250°F), 1E10 Hz			4.1
150°C (300°F), 1E10 Hz			4.1
200°C (390°F), 1E10 Hz			4.1
Dissipation Factor, 0.8mm (0.031in)	ASTM D 150		
1E2 Hz			0.009
1E3 Hz			0.013
1E6 Hz			0.029

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zenite® are trademarks or registered trademarks of DuPont Company. Copyright© 2007

070711/070712

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 DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2

Zenite® 6330 NC010

Property	Test Method	Units	Value
Electrical			
Dissipation Factor, 0.8mm (0.031in)	ASTM D 2520 B		
23°C (73°F), 1E09 Hz			0.002
120°C (250°F), 1E09 Hz			0.012
150°C (300°F), 1E09 Hz			0.018
200°C (390°F), 1E09 Hz			0.027
23°C (73°F), 1E10 Hz			0.001
120°C (250°F), 1E10 Hz			0.005
150°C (300°F), 1E10 Hz			0.009
200°C (390°F), 1E10 Hz			0.017
Dissipation Factor, 1.6mm (0.062in)	ASTM D 2520 B		
23°C (73°F), 1E09 Hz			0.002
120°C (250°F), 1E09 Hz			0.014
23°C (73°F), 1E10 Hz			0.001
120°C (250°F), 1E10 Hz			0.006
150°C (300°F), 1E10 Hz			0.009
200°C (390°F), 1E10 Hz			0.018
Dissipation Factor, 3.2mm (0.125in)	ASTM D 150		
1E2 Hz			0.008
1E3 Hz			0.013
1E6 Hz	ASTM D 2520 B		0.028
Dissipation Factor, 3.2mm (0.125in)			
23°C (73°F), 1E09 Hz			0.002
120°C (250°F), 1E09 Hz			0.014
150°C (300°F), 1E09 Hz			0.020
200°C (390°F), 1E09 Hz			0.029
250°C (480°F), 1E09 Hz			0.026
23°C (73°F), 1E10 Hz			0.001
120°C (250°F), 1E10 Hz			0.006
150°C (300°F), 1E10 Hz			0.009
200°C (390°F), 1E10 Hz			0.015

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zenite® are trademarks or registered trademarks of DuPont Company. Copyright© 2007

070711/070712

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 DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2

Zenite® 6330 NC010

Property	Test Method	Units	Value
Electrical			
CTI	UL 746A	V	175-249
Flammability			
Flammability Classification 1.5mm	IEC 60695-11-10		V-0
Flammability Classification 1.5mm	UL94		V-0
High Amperage Arc Ignition Resistance 1.5mm	UL 746A	arcs	>119
3.0mm			>119
Temperature Index			
RTI, Electrical 1.5mm	UL 746B	°C	240
RTI, Impact 1.5mm	UL 746B	°C	220
RTI, Strength 1.5mm	UL 746B	°C	240
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1640 (1.64)
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.65
Parallel, 2.0mm			0
Mold Shrinkage	ASTM D 955	%	
Flow, 3.2mm (0.125in)			0
Transverse, 3.2mm (0.125in)			0.5

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zenite® are trademarks or registered trademarks of DuPont Company. Copyright© 2007

070711/070712

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 DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2

Product Information

Zenite® 6330 NC010

Property	Test Method	Units	Value
Processing			
Melt Temperature Range		°C (°F)	350-360 (660-680)
Melt Temperature Optimum		°C (°F)	355 (670)
Mold Temperature Range		°C (°F)	40-150 (105-300)
Mold Temperature Optimum		°C (°F)	80 (175)
Drying Time, Dehumidified Dryer		h	3
Drying Temperature		°C (°F)	150 (304)
Processing Moisture Content		%	<0.01
Snake Flow		mm	
90MPa, 5x0.30mm			22
90MPa, 5x0.50mm			65
90MPa, 5x0.75mm			235
90MPa, 5x1.00mm			385

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zenite® are trademarks or registered trademarks of DuPont Company. Copyright© 2007

070711/070712

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 DuPont materials in medical application involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-2 and DuPont CAUTION Regarding Medical Applications ... H-50102-2

plastics.dupont.com

