

# Vectra® S135

## Liquid Crystal Polymer

### Ticona



# Prospector

#### Product Description

35% glass reinforced Vectra grade with very low outgassing, very high heat deflection temperature (335°C) and stiffness. Typical applications are lampsockets, lensholders for beamers, electrical and electronic parts like connectors, relays, switches, coil bobbins and also under the hood applications.

Chemical abbreviation according to ISO 1043-1 : LCP

Inherently flame retardant

UL-Listing V-0 in natural at 0.28mm thickness per UL 94 flame testing.

Relative-Temperature-Index (RTI) according to UL 746B: electrical 130°C, mechanical 130°C.

UL = Underwriters Laboratories (USA)

#### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America • South America
Filler / Reinforcement	• Glass Fiber Reinforcement, 35% Filler by Weight		
Features	• Flame Retardant • Halogen Free	• High Heat Resistance • High Stiffness	• Low to No Outgassing
Uses	• Connectors • Electrical/Electronic Applications		
Agency Ratings	• EU 2002/96/EC		
RoHS Compliance	• Contact Manufacturer		
Resin ID (ISO 1043)	• LCP		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.67 g/cm <sup>3</sup>	1.67 g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage			ISO 294-4
Across Flow	0.60 %	0.60 %	
Flow	0.40 %	0.40 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress (Break)	22500 psi	155 MPa	ISO 527-2/1A/5
Tensile Strain (Break)	1.3 %	1.3 %	ISO 527-2/1A/5
Flexural Modulus (73°F (23°C))	2.32E+6 psi	16000 MPa	ISO 178
Flexural Strength (73°F (23°C))	31900 psi	220 MPa	ISO 178
Flexural Strain at Break	2.0 %	2.0 %	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	5.7 ft-lb/in <sup>2</sup>	12 kJ/m <sup>2</sup>	ISO 179/1eA
Notched Izod Impact Strength (73°F (23°C))	5.71 ft-lb/in <sup>2</sup>	12.0 kJ/m <sup>2</sup>	ISO 180/1A
Unnotched Izod Impact Strength (73°F (23°C))	6.66 ft-lb/in <sup>2</sup>	14.0 kJ/m <sup>2</sup>	ISO 180/1U

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			ISO 75-2/A
264 psi (1.8 MPa), Unannealed	635 °F	335 °C	
Melting Temperature	662 °F	350 °C	ISO 11357-3
CLTE			ISO 11359-2
Flow	5.6E-7 in/in/°F	1.0E-6 cm/cm/°C	
Transverse	0.000013 in/in/°F	0.000023 cm/cm/°C	

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	1.0E+17 ohms	1.0E+17 ohms	IEC 60093
Volume Resistivity	1.0E+17 ohm-cm	1.0E+17 ohm-cm	IEC 60093
Relative Permittivity (1 MHz)	3.50	3.50	IEC 60250
Dissipation Factor (1 MHz)	0.0090	0.0090	IEC 60250
Electric Strength	940 V/mil	37 kV/mm	IEC 60243-1

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating - UL			UL 94
0.0110 in (0.280 mm), Natural	V-0	V-0	

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Thursday, September 30, 2010

UL 746	Nominal Value (English)	Nominal Value (SI)	Test Method
RTI Str	266 °F	130 °C	UL 746
RTI Imp	266 °F	130 °C	UL 746
RTI Elec	266 °F	130 °C	UL 746

**Notes**

<sup>1</sup> Typical properties: these are not to be construed as specifications.

**Revision History**

Document Created: Thursday, September 30, 2010  
Added to Prospector: March, 2007  
Last Updated: 10/15/2009