

## VECTRA® S540 - LCP

### Description

40% mineral filled grade, low warpage high flow.

40% mineral filled grade, low warpage high flow. Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant FDA compliant UL-Listing V-0 in natural and black at .4mm thickness per UL 94 flame testing. UL = Underwriters Laboratories (USA)

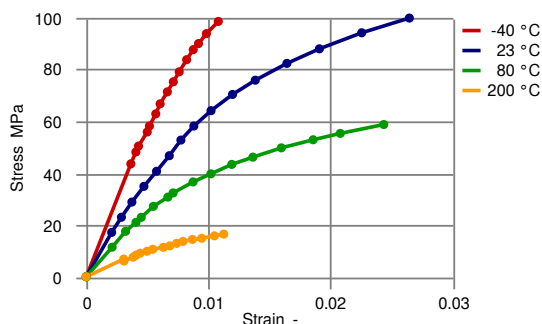
Physical properties	Value	Unit	Test Standard
Density	1740	kg/m <sup>3</sup>	ISO 1183
Molding shrinkage, parallel (flow)	0.1	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	0.9	%	ISO 294-4, 2577
Humidity absorption, 23°C/50%RH	0.003	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	9000	MPa	ISO 527-1, -2
Tensile stress at break, 5mm/min	100	MPa	ISO 527-1, -2
Tensile strain at break, 5mm/min	3	%	ISO 527-1, -2
Flexural modulus, 23°C	10000	MPa	ISO 178
Flexural strength, 23°C	130	MPa	ISO 178
Charpy impact strength, 23°C	13	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	3	kJ/m <sup>2</sup>	ISO 179/1eA
Izod impact notched, 23°C	4	kJ/m <sup>2</sup>	ISO 180/1A
Izod impact unnotched, 23°C	13	kJ/m <sup>2</sup>	ISO 180/1U

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	350	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	275	°C	ISO 75-1, -2

### Diagrams

#### True Stress-strain



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### Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	0.01	%
Drying time	6	h
Drying temperature	150	°C

Temperature	Value	Unit
Hopper temperature	20 - 40	°C
Feeding zone temperature	60 - 80	°C
Zone1 temperature	345 - 355	°C
Zone2 temperature	355 - 365	°C
Zone3 temperature	365 - 375	°C
Zone4 temperature	365 - 375	°C
Nozzle temperature	365 - 375	°C
Melt temperature	365 - 375	°C
Mold temperature	80 - 140	°C
Hot runner temperature	365 - 375	°C

Pressure	Value	Unit
Injection pressure	500 - 1500	bar
Hold pressure	500 - 1500	bar
Back pressure max.	30	bar

Speed	Value
Injection speed	very fast

### Other text information

#### Pre-drying

VECTRA should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be  $\leq -40^{\circ}\text{C}$ . The time between drying and processing should be as short as possible.

#### Characteristics

<b>Special Characteristics</b>	Flame retardant, High flow, Lead-free soldering, Low warpage
<b>Product Categories</b>	Mineral reinforced

#### General Disclaimer

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this

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