

VECTRA® E840i LDS

Liquid Crystal Polymer

40% Mineral filled Laser Direct Structuring grade.

Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant

UL-Listing V-0 in black at 1.5mm thickness per UL 94 flame testing.

UL = Underwriters Laboratories (USA)

Product information

Resin Identification	LCP-MD40	ISO 1043
Part Marking Code	>LCP-MD40<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.1 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.5 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	10000 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	11000 MPa	ISO 178
Flexural strength	120 MPa	ISO 178
Charpy notched impact strength, 23°C	4 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	6 kJ/m ²	ISO 180/1A
Izod impact strength, 23°C	33 kJ/m ²	ISO 180/1U
Poisson's ratio	0.34 ^[C]	

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	335 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	227 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	12 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	27 E-6/K	ISO 11359-1/-2

Electrical properties

Relative permittivity, 100Hz	4.97	IEC 62631-2-1
Dissipation factor, 100Hz	289 E-4	IEC 62631-2-1
Volume resistivity	2E14 Ohm.m	IEC 62631-3-1
Surface resistivity	2E16 Ohm	IEC 62631-3-2
Electric strength	28 kV/mm	IEC 60243-1

Physical/Other properties

Humidity absorption, 2mm	0.004 %	Sim. to ISO 62
Water absorption, 2mm	0.011 %	Sim. to ISO 62
Density	1810 kg/m ³	ISO 1183

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Injection

Drying Recommended	yes
Drying Temperature	150 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.01 %
Melt Temperature Optimum	340 °C
Min. melt temperature	340 °C
Max. melt temperature	345 °C
Screw tangential speed	0.2 - 0.3 m/s
Mold Temperature Optimum	100 °C
Min. mould temperature	80 °C
Max. mould temperature	120 °C
Ejection temperature	300 °C

Characteristics

Processing	Injection Moulding
Additives	Mineral Filler
Special characteristics	Flame retardant, Platable, Heat stabilised or stable to heat, Specialty appearance, High Flow, Low Warpage, Laser Direct Structurable

Additional information

Processing Notes

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.