

# VECTRA® FIT50

## Liquid Crystal Polymer

Vectra® FIT 50 is a 30% mineral reinforced liquid crystal polymer for injection molding. It has excellent filling capability and extremely low warpage performance in long and thin wall complicated applications.

### Product information

Resin Identification	LCP-MD30	ISO 1043
Part Marking Code	>LCP-MD30<	ISO 11469

### Rheological properties

Moulding shrinkage, parallel	0.3 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.7 %	ISO 294-4, 2577

### Typical mechanical properties

Tensile modulus	9000 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	90 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2 %	ISO 527-1/-2
Flexural modulus	10000 MPa	ISO 178
Flexural strength	120 MPa	ISO 178
Flexural strain at failure	2.4 %	ISO 178
Charpy impact strength, 23°C	22 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	2.7 kJ/m <sup>2</sup>	ISO 179/1eA
Poisson's ratio	0.34 <sup>[C]</sup>	

[C]: Calculated

### Thermal properties

Melting temperature, 10°C/min	330 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	246 °C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	275 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	11 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	47 E-6/K	ISO 11359-1/-2
Thermal conductivity, through plane	0.13 W/(m K)	ISO 22007-2
Effective thermal diffusivity, through plane	1.3E-7 m <sup>2</sup> /s	ISO 22007-4
Specific heat capacity of melt	870 J/(kg K)	ISO 22007-4

### Flammability

Burning Behav. at thickness h	V-0 class	IEC 60695-11-10
Thickness tested	0.2 mm	IEC 60695-11-10
UL recognition	yes	UL 94

### Electrical properties

Dissipation factor, 1GHz	66 E-4	IEC 61189-2-721
Comparative tracking index	150	IEC 60112
Comparative tracking index, 100 drops	150	IEC 60112
Relative permittivity, printed circuits and boards, 2.5 GHz	4.2	IEC 61189-2-721

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Dissipation factor, printed circuits and boards, 2.5 GHz

57 E-4

IEC 61189-2-721

### Physical/Other properties

Density

1550 kg/m<sup>3</sup>

ISO 1183

### 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

330 °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

226 °C

### Characteristics

Processing

Injection Moulding

Delivery form

Pellets

Special characteristics

Flame retardant, Heat stabilised or stable to heat, High Flow, Low Warpage, Lead-free soldering resistant