

# 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
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### Physical/Other properties

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