Celanese
The chemistry inside innovation™

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/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.7	kJ/m²	ISO 179/1eA
Poisson's ratio	0.34[C]		

[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	m²/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

Celanese
The chemistry inside innovation™

VECTRA® FIT50

Liquid Crystal Polymer

Dissipation factor, printed circuits and boards, 2.5 GHz	57	E-4	IEC 61189-2-721

Physical/Other properties

Density	1550	kg/m³	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