Celanese
The chemistry inside innovation™

VECTRA® FIT30

Liquid Crystal Polymer

43% glass and mineral reinforced grade. Glass and mineral filled grade, high flow and low warpage.
Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant

Product information

Resin Identification	LCP-(GF+MD)43	ISO 1043
Part Marking Code	>LCP-(GF+MD)43<	ISO 11469

Typical mechanical properties

Tensile modulus	13000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	110	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.3	%	ISO 527-1/-2
Flexural modulus	13000	MPa	ISO 178
Flexural strength	160	MPa	ISO 178
Flexural strain at failure	1.9	%	ISO 178
Charpy impact strength, 23°C	25.5	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	6	kJ/m²	ISO 179/1eA
Poisson's ratio	0.33[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	328	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	262	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	286	°C	ISO 75-1/-2
Ball pressure test	250	°C	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	9	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	38	E-6/K	ISO 11359-1/-2
Thermal conductivity, through plane	0.26	W/(m K)	ISO 22007-2
Effective thermal diffusivity, through plane	1.8E-7	m²/s	ISO 22007-4
Specific heat capacity of melt	810	J/(kg K)	ISO 22007-4

Electrical properties

Dissipation factor, 1GHz	63	E-4	IEC 61189-2-721
Volume resistivity	1E14[OT]	Ohm.m	IEC 62631-3-1
Volume resistivity, at high temperature	1E10[OT]	Ohm.m	IEC 62631-3-1
Temperature	220[OT]	°C	
Surface resistivity	1E16[OT, 1]	Ohm	IEC 62631-3-2
Surface resistivity, at high temperature	1E13[OT]	Ohm	IEC 62631-3-2
Temperature	220[OT]	°C	
Electric strength	37	kV/mm	IEC 60243-1
Electric strength, Direct Current	40[OT]	kV/mm	IEC 60243-2
Electric strength, DC, high temperature	28[OT]	kV/mm	IEC 60243-2
Temperature	220[OT]	°C	
Relative permittivity, printed circuits and boards, 2.5 GHz	4.4		IEC 61189-2-721

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Dissipation factor, printed circuits and boards, 2.5 GHz	53	E-4	IEC 61189-2-721

[OT]: One time tested

[1]: historical value

Physical/Other properties

Humidity absorption, 2mm	0.02	%	Sim. to ISO 62
Density	1770	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	335	°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	130	°C
Ejection temperature	240	°C

Characteristics

Processing	Injection Moulding, Extrusion
Special characteristics	Flame retardant, Heat stabilised or stable to heat, High Flow, Low Warpage

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 =< - 40° C. The time between drying and processing should be as short as possible.

Storage

For subsequent storage of the material in the dryer until processed the temperature does not need to be lowered for grades A, B, C, D and V (<= 24 h).