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

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

Typical mechanical properties

Tensile modulus	1.31E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	13100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2	%	ISO 527-1/-2
Flexural modulus	1.45E6	psi	ISO 178
Flexural strength	17400	psi	ISO 178
Flexural strain at failure	2.4	%	ISO 178
Charpy impact strength, 23°C	10.5	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	1.28	ftlb/in²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	626	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	475	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	527	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.06	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.261	E-4/°F	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	0.0079	in	IEC 60695-11-10
UL recognition	yes		UL 94

Electrical properties

Relative permittivity, 1GHz	4.27[OT, 1]		IEC 61189-2-721
Relative permittivity, 2GHz	4.29[OT, 2]		IEC 61189-2-721
Relative permittivity, 10GHz	4.21[OT, 1]		IEC 61189-2-721
Dissipation factor, 1GHz	66	E-4	IEC 61189-2-721
Dissipation factor, 2GHz	69[OT, 2]	E-4	IEC 61189-2-721
Dissipation factor, 10GHz	57[OT, 1]	E-4	IEC 61189-2-721
Comparative tracking index	150		IEC 60112

[OT]: One time tested

Revised: 2025-10-15 Source: Celanese Materials Database

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[1]: Black color

[2]: Black color, tested at 1.9GHz

Physical/Other properties

Density	0.056	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	302	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	644	°F
Min. melt temperature	626	°F
Max. melt temperature	653	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Ejection temperature	439	°F

Characteristics

Processing	Injection Molding
Special characteristics	Flame retardant, Heat stabilized or stable to heat, High Flow, Low Warpage, Lead-free soldering resistant

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NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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