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	1.89E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	16000	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.3	%	ISO 527-1/-2
Flexural modulus	1.89E6	psi	ISO 178
Flexural strength	23200	psi	ISO 178
Flexural strain at failure	1.9	%	ISO 178
Charpy impact strength, 23°C	12.1	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.85	ftlb/in²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	622	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	504	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	547	°F	ISO 75-1/-2
Ball pressure test	482	°F	IEC 60695-10-2
Coefficient of linear thermal expansion (CLTE), parallel	0.05	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.211	E-4/°F	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

Relative permittivity, 1GHz	4.41[OT]		IEC 61189-2-721
Relative permittivity, 2GHz	4.44		IEC 61189-2-721
Relative permittivity, 10GHz	4.43		IEC 61189-2-721
Dissipation factor, 1GHz	63	E-4	IEC 61189-2-721
Dissipation factor, 2GHz	72	E-4	IEC 61189-2-721
Dissipation factor, 10GHz	53	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	428[OT]	°F	
Surface resistivity	1E16[OT]	Ohm	IEC 62631-3-2
Surface resistivity, at high temperature	1E13[OT]	Ohm	IEC 62631-3-2
Temperature	428[OT]	°F	
Electric strength	940	kV/in	IEC 60243-1
Electric strength, Direct Current	1020[OT]	kV/in	IEC 60243-2
Electric strength, DC, high temperature	711[OT]	kV/in	IEC 60243-2
Temperature	428[OT]	°F	

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[OT]: One time tested

Physical/Other properties

Humidity absorption, 2mm	0.02	%	Sim. to ISO 62
Density	0.0639	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	635	°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	266	°F
Ejection temperature	464	°F

Characteristics

Processing	Injection Molding, Extrusion
Special characteristics	Flame retardant, Heat stabilized 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).

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