Celanese
The chemistry inside innovation™

VECTRA® S475

Liquid Crystal Polymer

Super High Flow, High heat Resistance and Low Warp for Thin Parts.
Vectra S475 is a 32% glass fiber and mineral reinforced grade.
Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant UL-Listing V-0 in natural and black at 0.1mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electricals 130°C, mechanicals 130°C. UL = Underwriters Laboratories (USA)

Product information

Resin Identification	LCP-(GF+MD)32		ISO 1043
Part Marking Code	>LCP-(GF+MD)32<		ISO 11469

Rheological properties

Moulding shrinkage, parallel	0	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.4	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	13000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	140	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9	%	ISO 527-1/-2
Flexural modulus	13000	MPa	ISO 178
Flexural strength	190	MPa	ISO 178
Flexural strain at failure	2.4	%	ISO 178
Charpy impact strength, 23°C	14.5	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	4	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	6	kJ/m²	ISO 180/1A
Poisson's ratio	0.33[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	350	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	305	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	213	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	10	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	25	E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.1	mm	IEC 60695-11-10

Electrical properties

Relative permittivity, 1MHz	3.7		IEC 62631-2-1
Dissipation factor, 1MHz	80	E-4	IEC 62631-2-1
Relative permittivity, printed circuits and boards, 2.5 GHz	4		IEC 61189-2-721
Dissipation factor, printed circuits and boards, 2.5 GHz	15	E-4	IEC 61189-2-721

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Physical/Other properties

Density	1650	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	365	°C
Min. melt temperature	360	°C
Max. melt temperature	370	°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
Back pressure	3	MPa
Ejection temperature	265	°C

Characteristics

Processing	Injection Moulding
Special characteristics	Flame retardant, Heat stabilised or stable to heat, High Flow, Low Warpage, Lead-free soldering resistant, Light weight

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

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