

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)3 2	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/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	4 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	6 kJ/m ²	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

VECTRA® S475

Liquid Crystal Polymer

Physical/Other properties

Density	1650 kg/m ³	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