

VECTRA® E488I

Liquid Crystal Polymer

Ultra low warp

Product information

Resin Identification	LCP-(GF+MD)4 3	ISO 1043
Part Marking Code	>LCP-(GF+MD)43<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.1 %	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	110 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.5 %	ISO 527-1/-2
Flexural modulus	13000 MPa	ISO 178
Flexural strength	160 MPa	ISO 178
Flexural strain at failure	1.8 %	ISO 178
Compressive modulus	11000 MPa	ISO 604
Compressive strength	115 MPa	ISO 604
Charpy impact strength, 23 °C	29 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23 °C	7 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23 °C	9 kJ/m ²	ISO 180/1A
Izod impact strength, 23 °C	28 kJ/m ²	ISO 180/1U
Hardness, Rockwell, M-scale	54	ISO 2039-2
Poisson's ratio	0.33 ^[C]	

[C]: Calculated

Thermal properties

Melting temperature, 10 °C/min	335 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	260 °C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	200 °C	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	8 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	42 E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at thickness h	V-0 class	IEC 60695-11-10
Thickness tested	0.15 mm	IEC 60695-11-10

Electrical properties

Relative permittivity, 1MHz	4.24	IEC 62631-2-1
Dissipation factor, 1MHz	450 E-4	IEC 62631-2-1
Volume resistivity	1E14 Ohm.m	IEC 62631-3-1
Surface resistivity	1E17 Ohm	IEC 62631-3-2
Electric strength	55 kV/mm	IEC 60243-1
Comparative tracking index	175	IEC 60112

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Physical/Other properties

Water absorption, 2mm	0.005 %	Sim. to ISO 62
Density	1770 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	345 °C
Min. melt temperature	340 °C
Max. melt temperature	355 °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
Ejection temperature	279 °C

Characteristics

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