

VECTRA® E820iPd - LCP

Description

Catalytically modified E820i Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant UL-Listing V-0 in natural at 1.5mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electrical 130°C, mechanical 130°C at 1.5mm. UL = Underwriters Laboratories (USA)

Physical properties	Value	Unit	Test Standard
Density	1790	kg/m ³	ISO 1183
Molding shrinkage, parallel	0,4	%	ISO 294-4, 2577
Molding shrinkage, normal	1,2	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	8000	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	89	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	3,6	%	ISO 527-2/1A
Flexural modulus, 23°C	8800	MPa	ISO 178
Flexural strength, 23°C	120	MPa	ISO 178
Charpy impact strength, 23°C	30	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	4	kJ/m ²	ISO 179/1eA
Izod impact notched, 23°C	4	kJ/m ²	ISO 180/1A
Izod impact unnotched, 23°C	28	kJ/m ²	ISO 180/1U

Thermal properties	Value	Unit	Test Standard
DTUL at 1.8 MPa	215	°C	ISO 75-1, -2
DTUL at 0.45 MPa	255	°C	ISO 75-1, -2
DTUL at 8.0 MPa	119	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	0,23	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	0,49	E-4/°C	ISO 11359-2
Flammability at thickness h	V-0	class	UL 94

Electrical properties	Value	Unit	Test Standard
Dissipation factor, 1MHz	163	E-4	IEC 60250
Comparative tracking index	175	-	IEC 60112

Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0,01	%	-
Drying time	4 - 6	h	-
Drying temperature	170	°C	-
Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 30	°C	-
Feeding zone temperature	60 - 80	°C	-
Zone1 temperature	315 - 325	°C	-
Zone2 temperature	320 - 330	°C	-
Zone3 temperature	325 - 335	°C	-
Zone4 temperature	330 - 340	°C	-
Nozzle temperature	335 - 345	°C	-
Melt temperature	335 - 345	°C	-
Mold temperature	80 - 120	°C	-
Hot runner temperature	335 - 345	°C	-
Pressure	Value	Unit	Test Standard
Injection pressure	500 - 1500	bar	-
Hold pressure	500 - 1500	bar	-
Back pressure max.	30	bar	-
Speed	Value	Unit	Test Standard
Injection speed	very fast	-	-
Screw Speed	Value	Unit	Test Standard
Screw speed diameter, 16mm	200	RPM	-
Screw speed diameter, 25mm	140	RPM	-
Screw speed diameter, 40mm	80	RPM	-

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Other text information

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 $\leq -40^{\circ}\text{C}$. The time between drying and processing should be as short as possible.

Longer pre-drying times/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 ($\leq 24\text{ h}$).

Injection molding

A three-zone screw evenly divided into feed, compression, and metering zones is preferred. A higher percentage of feed flights may be needed for smaller machines: 1/2 feed, 1/4 compression, 1/4 metering.

Vectra LCPs are shear thinning, their melt viscosity decreases quickly as shear rate increases. For parts that are difficult to fill, the molder can increase the injection velocity to improve melt flow.

Characteristics

Product Categories

Specialty

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