VECTRA® V143XL | LCP | Glass Reinforced

Description

LCP/PPS blend. Maintains most of the characteristics of E130i with improved weldline strength and flatness in certain geometries. 40% glass reinforced.

Chemical abbreviation according to ISO 1043-1 : LCP
Inherently flame retardant.

Physical properties	Value	Unit	Test Standard
Density	**1670**	kg/m³	ISO 1183
Mold shrinkage - parallel	**0.3**	%	ISO 294-4
Mold shrinkage - normal	**0.6**	%	ISO 294-4
Water absorption (23°C-sat)	**0.044**	%	ISO 62
Humidity absorption (23°C/50%RH)	**0.015**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**16000**	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	**150**	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	**1.3**	%	ISO 527-2/1A
Flexural modulus (23°C)	**15700**	MPa	ISO 178
Flexural strength (23°C)	**225**	MPa	ISO 178
Notched impact strength (Izod) @ 23°C	**9.0**	kJ/m²	ISO 180/1A

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**335**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**260**	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	**0.08**	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	**0.31**	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 1 MHz	**3.5**	-	IEC 60250
Relative permittivity at 2.05 GHz	**4.3**	-	IPC TM-650 2.5.5.13
Dissipation factor - 1 MHz	**160**	E-4	IEC 60250
Dissipation factor at 2.05 GHz	**70**	E-4	IPC TM-650 2.5.5.13
Volume resistivity	**1E14**	Ohm*m	IEC 60093
Surface resistivity	**1E17**	Ohm	IEC 60093
Electric strength	**33**	kV/mm	IEC 60243-1

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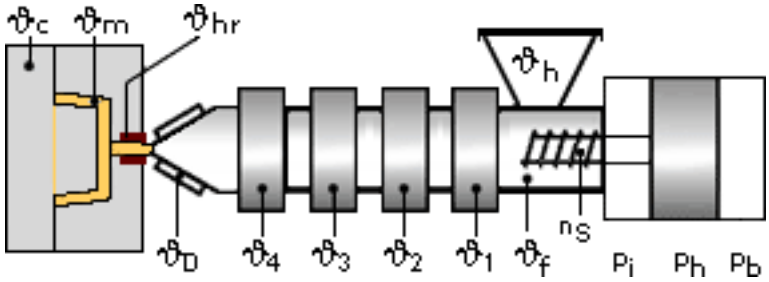
Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.01%

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.

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).

Drying time: 4 - 24 h

Drying temperature: 150 - 150 °C

Temperature:

	ϑManifold	ϑMold	ϑMelt	ϑNozzle	ϑZone4	ϑZone3	ϑZone2	ϑZone1	ϑFeed	ϑHopper
min (°C)	335	80	335	335	330	325	320	315	60	20
max (°C)	345	120	345	345	340	335	330	325	80	30

Pressure:

	Inj press	Hold press	Back pressure
min (bar)	500	500	0
max (bar)	1500	1500	30

Speed:

Injection speed: very fast

Screw speed

Screw diameter (mm)	16	25	40	55	75
Screw speed (RPM)	200	140	80	-	-

Special Info:

When using short metering strokes an accumulator is recommended to get short injection times

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.

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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.

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