

VECTRA® E463i | LCP | Mineral / Glass Reinforced

Description

40% glass/mineral filled excellent flow, low warpage, high heat resistance.

Chemical abbreviation according to ISO 1043-1 : LCP

Inherently flame retardant

UL-Listing V-0 all colors at 1.5mm thickness per UL 94 flame testing.

Relative-Temperature-Index (RTI) according to UL 746B: electricals 130°C, mechanicals 130°C.

UL = Underwriters Laboratories (USA)

Physical properties	Value	Unit	Test Standard
Density	1720	kg/m ³	ISO 1183
Mold shrinkage - parallel	0.05	%	ISO 294-4
Mold shrinkage - normal	0.38	%	ISO 294-4
Water absorption (23°C-sat)	0.02	%	ISO 62

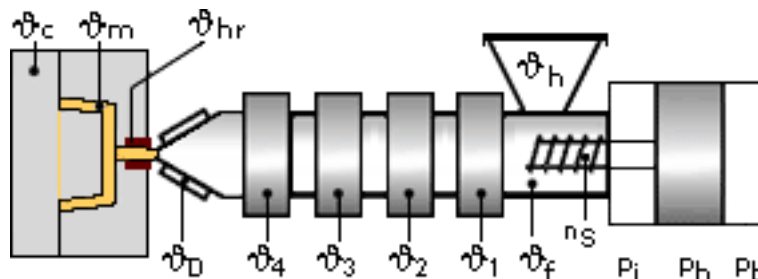
Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	10000	MPa	ISO 527-2/1A
Tensile stress at break (50mm/min)	110	MPa	ISO 527-2/1A
Tensile strain at break (50mm/min)	3	%	ISO 527-2/1A
Flexural modulus (23°C)	10600	MPa	ISO 178
Flexural strength (23°C)	130	MPa	ISO 178
Flexural strain @ break	3.1	%	ISO 178
Compressive stress @ 1% strain	53	MPa	ISO 604
Charpy impact strength @ 23°C	30.0	kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	5.0	kJ/m ²	ISO 179/1eA
Unnotched impact str (Izod) @ 23°C	30	kJ/m ²	ISO 180/1U
Notched impact strength (Izod) @ 23°C	5.0	kJ/m ²	ISO 180/1A
Compressive modulus	7700	MPa	ISO 604
Rockwell hardness	44	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	335	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	235	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	270	°C	ISO 75-1/-2
Vicat softening temperature B50 (50°C/h 50N)	185	°C	ISO 306
Coeff.of linear therm. expansion (parallel)	0.1	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	0.43	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 1 MHz	3.9	-	IEC 60250
Dissipation factor - 1 MHz	35	E-4	IEC 60250
Volume resistivity	1E14	Ohm*m	IEC 60093
Surface resistivity	1E16	Ohm	IEC 60093
Electric strength	59	kV/mm	IEC 60243-1
Comparative tracking index CTI	150	-	IEC 60112

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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 $\leq -40^{\circ}\text{C}$. 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: 6 h

Drying temperature: 150 - 170 °C

Temperature:

	$\varnothing_{\text{Mold}}$	$\varnothing_{\text{Melt}}$	$\varnothing_{\text{Nozzle}}$	$\varnothing_{\text{Zone4}}$	$\varnothing_{\text{Zone3}}$	$\varnothing_{\text{Zone2}}$	$\varnothing_{\text{Zone1}}$
min (°C)	80	335	335	335	330	325	315
max (°C)	130	345	345	355	350	335	325

Pressure:

	Inj press	Hold press
min (bar)	500	500
max (bar)	1500	1500

Speed:

Injection speed: medium-fast

Screw speed

	16	25	40	55	75
Screw diameter (mm)	16	25	40	55	75
Screw speed (RPM)	200	140	100	-	-

Special Info:

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

Contact Information

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General Disclaimer

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values.

Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use.

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We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed (+49 (0) 69 30516299 for Europe and +1 859-372-3244 for the Americas) for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

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