

VECTRA® E440i | LCP | Mineral / Glass Reinforced

Description

Mineral and glass filled grade with low warp, easy flow and smooth surface appearance.

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

FDA compliant

Physical properties	Value	Unit	Test Standard
Density	1770	kg/m ³	ISO 1183
Mold shrinkage - parallel	0.0	%	ISO 294-4
Mold shrinkage - normal	0.5	%	ISO 294-4

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	11600	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	118	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	2	%	ISO 527-2/1A
Flexural modulus (23°C)	12000	MPa	ISO 178
Flexural strength (23°C)	165	MPa	ISO 178
Charpy impact strength @ 23°C	24.0	kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	6.0	kJ/m ²	ISO 179/1eA
Unnotched impact str (Izod) @ 23°C	25	kJ/m ²	ISO 180/1U
Notched impact strength (Izod) @ 23°C	9.0	kJ/m ²	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
DTUL @ 8.0 MPa	177	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	0.11	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	0.2	E-4/°C	ISO 11359-2
Flammability at thickness h	V-0	class	UL94

Electrical properties	Value	Unit	Test Standard
Volume resistivity	1E14	Ohm*m	IEC 60093
Surface resistivity	>1E15	Ohm	IEC 60093

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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:

	$\varnothing_{\text{Manifold}}$	$\varnothing_{\text{Mold}}$	$\varnothing_{\text{Melt}}$	$\varnothing_{\text{Nozzle}}$	$\varnothing_{\text{Zone4}}$	$\varnothing_{\text{Zone3}}$	$\varnothing_{\text{Zone2}}$	$\varnothing_{\text{Zone1}}$	$\varnothing_{\text{Feed}}$	$\varnothing_{\text{Hopper}}$
min (°C)	335	80	340	335	330	330	320	315	60	20
max (°C)	345	120	350	345	340	340	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

Contact Information

Americas

Ticona North American Headquarters

Europe

Ticona GmbH

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Product Information Service

8040 Dixie Highway
Florence, KY 41042
USA
Tel.: +1-800-833-4882
Tel.: +1-859-372-3244
email: prodinfo@ticona.com
Ticona on the web: www.ticona.com

Information Service

Tel.: +49 (0) 180-5842662 (Germany)
+49 (0) 69-30516299 (Europe)
Fax: +49 (0) 180-2021202 (Germany & Europe)
email: infoservice@ticona.de
Internet: www.ticona.com

Customer Service

Tel.: +1-800-526-4960
Tel.: +1-859-372-3214
Fax: +1-859-372-3125

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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