

## VECTRA® E531i | LCP | Mineral Reinforced

### Description

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

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

| Physical properties       | Value | Unit              | Test Standard |
|---------------------------|-------|-------------------|---------------|
| Density                   | 1650  | kg/m <sup>3</sup> | 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)             | 9000  | MPa               | ISO 527-2/1A  |
| Tensile stress at break (5mm/min)     | 120   | MPa               | ISO 527-2/1A  |
| Tensile strain at break (5mm/min)     | 4     | %                 | ISO 527-2/1A  |
| Flexural modulus (23°C)               | 10000 | MPa               | ISO 178       |
| Flexural strength (23°C)              | 130   | MPa               | ISO 178       |
| Notched impact strength (Izod) @ 23°C | 8.0   | kJ/m <sup>2</sup> | ISO 180/1A    |

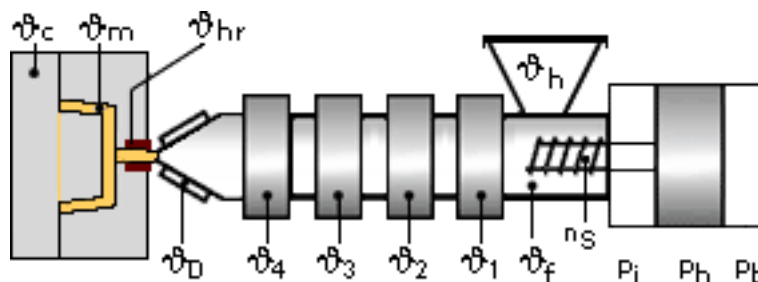
  

| Thermal properties             | Value | Unit | Test Standard     |
|--------------------------------|-------|------|-------------------|
| Melting temperature (10°C/min) | 335   | °C   | ISO 11357-1,-2,-3 |
| DTUL @ 1.8 MPa                 | 225   | °C   | ISO 75-1/-2       |

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

### 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 ( $\leq 24\text{ h}$ ).

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**Drying time:** 4 - 6 h

**Drying temperature:** 150 - 150 °C

### Temperature:

|          | ° Manifold | ° Mold | ° Melt | ° Nozzle | ° Zone4 | ° Zone3 | ° Zone2 | ° Zone1 | ° Feed | ° Hopper |
|----------|------------|--------|--------|----------|---------|---------|---------|---------|--------|----------|
| 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.

## Contact Information

### Americas

8040 Dixie Highway, Florence, KY 41042 USA

Product Information Service

t: +1-800-833-4882 t: +1-859-372-3244

Customer Service

t: +1-800-526-4960 t: +1-859-372-3214

e: info-engineeredmaterials-am@celanese.com

### Asia

4560 Jinke Road, Zhang Jiang Hi Tech Park

Shanghai 201203 PRC

Customer Service

t: +86 21 3861 9266 f: +86 21 3861 9599

e: info-engineeredmaterials-asia@celanese.com

### Europa

Am Unisys-Park 1, 65843 Sulzbach, Germany

Product Information Service

t: +(00)-800-86427-531 t: +49-(0)-69-45009-1011

e: info-engineeredmaterials-eu@celanese.co

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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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