



## Vectra® V400P

Celanese Corporation - Liquid Crystal Polymer

Sunday, November 3, 2019

### General Information

#### Product Description

Co-extrudable LCP for Barrier Applications. Vectra V400P Liquid Crystal Polymer is characterized by its excellent barrier properties independent of relative humidity, chemical resistance and contact clarity in thin film applications. This material is not suitable for medical or dental implants.

Chemical abbreviation according to ISO 1043-1 : LCP

Inherently flame retardant

#### General

|                     |                                                                                         |
|---------------------|-----------------------------------------------------------------------------------------|
| Material Status     | • Commercial: Active                                                                    |
| Availability        | • Europe • North America                                                                |
| Features            | • Barrier Resin • Contact Clarity • Chemical Resistant • Flame Retardant • Halogen Free |
| Uses                | • Film                                                                                  |
| Agency Ratings      | • EU 2002/96/EC (WEEE)                                                                  |
| RoHS Compliance     | • Contact Manufacturer                                                                  |
| Processing Method   | • Coextrusion                                                                           |
| Resin ID (ISO 1043) | • LCP                                                                                   |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                          | Nominal Value | Unit                            | Test Method     |
|---------------------------------------------------|---------------|---------------------------------|-----------------|
| Density                                           | 1.40          | g/cm <sup>3</sup>               | ISO 1183        |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)         | 14            | g/10 min                        | Internal Method |
| Water Absorption (Equilibrium, 73°F, 50% RH)      | 0.040         | %                               | ISO 62          |
| Mechanical                                        | Nominal Value | Unit                            | Test Method     |
| Tensile Modulus                                   | 2.09E+6       | psi                             | ISO 527-2/1A/1  |
| Tensile Stress (Break)                            | 21900         | psi                             | ISO 527-2/1A/5  |
| Tensile Strain (Break)                            | 1.6           | %                               | ISO 527-2/1A/5  |
| Films                                             | Nominal Value | Unit                            | Test Method     |
| Oxygen Permeability                               |               |                                 | DIN 53380-3     |
| 73°F <sup>2</sup>                                 | 1.4           | cc-25µm/m <sup>2</sup> -day-atm |                 |
| 73°F <sup>3</sup>                                 | 1.3           | cc-25µm/m <sup>2</sup> -day-atm |                 |
| Water Vapor Permeability (100°F)                  | 0.400         | g-25µm/(m <sup>2</sup> day-atm) | DIN 53122       |
| Thermal                                           | Nominal Value | Unit                            | Test Method     |
| Heat Deflection Temperature (264 psi, Unannealed) | 232           | °F                              | ISO 75-2/A      |
| Glass Transition Temperature <sup>4</sup>         | 230           | °F                              | ISO 3146        |

### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 194           | °F   |
| Drying Time            | 8.0 to 24     | hr   |
| Suggested Max Moisture | 0.010         | %    |
| Rear Temperature       | 365 to 383    | °F   |

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| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Middle Temperature     | 401 to 419    | °F   |
| Front Temperature      | 401 to 419    | °F   |
| Nozzle Temperature     | 392 to 410    | °F   |
| Processing (Melt) Temp | 437 to 455    | °F   |

### Injection Notes

Zone 4 Temperature: 205 to 215°C

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 0% RH

<sup>3</sup> 100% RH

<sup>4</sup> Onset