# VECTRA® V400P

### Liquid Crystal Polymer

#### Celanese Corporation

#### Message:

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 Information                          |                          |                     |                 |
|--|--------------------------|---------------------|-----------------|
| Features                                     | Good chemical resistance |                     |                 |
|  | Transparent appearance   |                     |                 |
|  | Halogen-free             |                     |                 |
|  | Barrier resin            |                     |                 |
|  | Flame retardancy         |                     |                 |
|  |                          |                     |                 |
| Uses   | Films                    |                     |                 |
| Agency Ratings                               | EU 2002/96/EC (WEEE)     |                     |                 |
| RoHS Compliance                              | Contact manufacturer     |                     |                 |
| Processing Method                            | Co-extrusion molding     |                     |                 |
| Resin ID (ISO 1043)                          | LCP                      |                     |                 |
| Physical                                     | Nominal Value            | Unit                | Test Method     |
| Density                                      | 1.40                     | g/cm³               | ISO 1183        |
| Melt Mass-Flow Rate (MFR) (230°C/2.16        |                          |                     |                 |
| kg)  | 14                       | g/10 min            | Internal method |
| Water Absorption (Equilibrium, 23°C, 50% RH) | 0.040                    | %                   | ISO 62          |
| Films  | Nominal Value            | Unit                | Test Method     |
| Oxygen Permeability                          | TVOTTILITY VALUE         | Offic               | DIN 53380-3     |
| 23°C <sup>1</sup>                            | 1.3                      | cc-25µm/m²-day-atm  | DIN 53380-3     |
| 23°C <sup>2</sup>                            | 1.4                      | cc-25µm/m²-day-atm  | DIN 53380-3     |
| Water Vapor Permeability (38°C)              | 0.400                    | g-25µm/(m² day-atm) | DIN 53122       |
| Thermal                                      | Nominal Value            | Unit                | Test Method     |
| Glass Transition Temperature <sup>3</sup>    | 110                      | °C                  | ISO 3146        |
| Injection                                    | Nominal Value            | Unit                | 130 3140        |
| Drying Temperature                           | 90.0                     | °C                  |                 |
| Drying Time                                  | 8.0 - 24                 | hr                  |                 |
| Suggested Max Moisture                       | 0.010                    | %                   |                 |
| Rear Temperature                             | 185 - 195                | °C                  |                 |
| Middle Temperature                           | 205 - 215                | °C                  |                 |
| Front Temperature                            | 205 - 215                | °C                  |                 |
| Nozzle Temperature                           | 200 - 210                | °C                  |                 |
| 1402216 Temperature                          | 200 - 210                |                     |                 |

| Processing (Melt) Temp           | 225 - 235 | °C |
|----------------------------------|-----------|----|
| Injection instructions           |           |    |
| Zone 4 Temperature: 205 to 215°C |           |    |
| NOTE                             |           |    |
| 1.                               | 100% RH   |    |
| 2.                               | 0% RH     |    |
| 3.                               | Onset     |    |

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