

# VECTRA<sup>®</sup> C950

## Liquid Crystal Polymer

Vectra C950 is an unreinforced Vectra grade suitable for extrusion

Chemical abbreviation according to ISO 1043-1 : LCP Inherently flame retardant FDA compliant UL-Listing V-0 in natural at 0.81mm thickness per UL 94 flame testing. Relative-Temperature-Index (RTI) according to UL 746B: electrical 240°C, mechanical 220°C. UL = Underwriters Laboratories (USA)

### Product information

|                      |       |           |
|----------------------|-------|-----------|
| Resin Identification | LCP   | ISO 1043  |
| Part Marking Code    | >LCP< | ISO 11469 |

### Typical mechanical properties

|                                  |                     |              |
|----------------------------------|---------------------|--------------|
| Tensile modulus                  | 8200 MPa            | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 150 MPa             | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 3.7 %               | ISO 527-1/-2 |
| Flexural modulus                 | 7300 MPa            | ISO 178      |
| Flexural strength                | 140 MPa             | ISO 178      |
| Poisson's ratio                  | 0.34 <sup>[C]</sup> |              |

[C]: Calculated

### Thermal properties

|   |        |                |
|---|--------|----------------|
| Melting temperature, 10°C/min                 | 320 °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 175 °C | ISO 75-1/-2    |
| Temperature of deflection under load, 8 MPa   | 95 °C  | ISO 75-1/-2    |

### Flammability

|                                      |           |                 |
|--------------------------------------|-----------|-----------------|
| Burning Behav. at 1.5mm nom. thickn. | V-0 class | IEC 60695-11-10 |
| Thickness tested                     | 1.5 mm    | IEC 60695-11-10 |
| Burning Behav. at thickness h        | V-0 class | IEC 60695-11-10 |
| Thickness tested                     | 0.8 mm    | IEC 60695-11-10 |
| UL recognition                       | yes       | UL 94           |

### Physical/Other properties

|         |                        |          |
|---------|------------------------|----------|
| Density | 1400 kg/m <sup>3</sup> | ISO 1183 |
|---------|------------------------|----------|

### Injection

|                                 |               |
|---------------------------------|---------------|
| Drying Recommended              | yes           |
| Drying Temperature              | 150 °C        |
| Drying Time, Dehumidified Dryer | 4 - 6 h       |
| Processing Moisture Content     | ≤0.01 %       |
| Melt Temperature Optimum        | 330 °C        |
| Min. melt temperature           | 320 °C        |
| Max. melt temperature           | 340 °C        |
| Screw tangential speed          | 0.2 - 0.3 m/s |
| Mold Temperature Optimum        | 100 °C        |
| Min. mould temperature          | 80 °C         |
| Max. mould temperature          | 120 °C        |
| Back pressure                   | 3 MPa         |

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Liquid Crystal Polymer

## Characteristics

|                         |   |
|-------------------------|---|
| Processing              | Injection Moulding, Film Extrusion, Extrusion                                     |
| Delivery form           | Pellets   |
| Special characteristics | Light stabilised or stable to light, Heat stabilised or stable to heat, High Flow |

## Additional information

Processing Notes

### Pre-Drying

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.

### Storage

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