

# ZENITE® 7130

## Liquid Crystal Polymer

Zenite® 7130 is a 30% glass fiber reinforced liquid crystal polymer for injection molding. It has excellent impact resistance and excellent heat deflection temperature.

### Product information

|                      |            |           |
|----------------------|------------|-----------|
| Resin Identification | LCP-GF30   | ISO 1043  |
| Part Marking Code    | >LCP-GF30< | ISO 11469 |

### Rheological properties

|                              |       |                 |
|------------------------------|-------|-----------------|
| Moulding shrinkage, parallel | 0 %   | ISO 294-4, 2577 |
| Moulding shrinkage, normal   | 0.6 % | ISO 294-4, 2577 |

### Typical mechanical properties

|                                       |                      |              |
|---------------------------------------|----------------------|--------------|
| Tensile modulus                       | 17000 MPa            | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min      | 150 MPa              | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min      | 1.5 %                | ISO 527-1/-2 |
| Flexural modulus                      | 16500 MPa            | ISO 178      |
| Flexural strength                     | 210 MPa              | ISO 178      |
| Charpy impact strength, 23°C          | 30 kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy impact strength, -30°C         | 22 kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy notched impact strength, 23°C  | 20 kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy notched impact strength, -30°C | 20 kJ/m <sup>2</sup> | ISO 179/1eA  |
| Izod notched impact strength, 23°C    | 18 kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod impact strength, 23°C            | 30 kJ/m <sup>2</sup> | ISO 180/1U   |
| Poisson's ratio                       | 0.33 <sup>[C]</sup>  |              |

[C]: Calculated

### Thermal properties

|                                                          |          |                |
|----------------------------------------------------------|----------|----------------|
| Melting temperature, 10°C/min                            | 352 °C   | ISO 11357-1/-3 |
| Glass transition temperature, 10°C/min                   | 120 °C   | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa            | 310 °C   | ISO 75-1/-2    |
| Coefficient of linear thermal expansion (CLTE), parallel | 3 E-6/K  | ISO 11359-1/-2 |
| Coefficient of linear thermal expansion (CLTE), normal   | 62 E-6/K | ISO 11359-1/-2 |

### Flammability

|                               |           |                 |
|-------------------------------|-----------|-----------------|
| Burning Behav. at thickness h | V-0 class | IEC 60695-11-10 |
| Thickness tested              | 0.4 mm    | IEC 60695-11-10 |
| UL recognition                | yes       | UL 94           |
| Oxygen index                  | 45 %      | ISO 4589-1/-2   |

### Electrical properties

|                              |             |               |
|------------------------------|-------------|---------------|
| Relative permittivity, 100Hz | 4.1         | IEC 62631-2-1 |
| Relative permittivity, 1MHz  | 3.7         | IEC 62631-2-1 |
| Dissipation factor, 100Hz    | 140 E-4     | IEC 62631-2-1 |
| Dissipation factor, 1MHz     | 300 E-4     | IEC 62631-2-1 |
| Volume resistivity           | >1E13 Ohm.m | IEC 62631-3-1 |
| Surface resistivity          | >1E15 Ohm   | IEC 62631-3-2 |

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|                            |          |             |
|----------------------------|----------|-------------|
| Electric strength          | 45 kV/mm | IEC 60243-1 |
| Comparative tracking index | 175      | IEC 60112   |

### Physical/Other properties

|         |                        |          |
|---------|------------------------|----------|
| Density | 1620 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        | 365 °C        |
| Min. melt temperature           | 360 °C        |
| Max. melt temperature           | 370 °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         |

### Characteristics

|                         |                                                                                              |
|-------------------------|----------------------------------------------------------------------------------------------|
| Processing              | Injection Moulding                                                                           |
| Special characteristics | Flame retardant, Heat stabilised or stable to heat, High Flow, Lead-free soldering resistant |

### Additional information

Injection molding

### Preprocessing

Drying Temperature = 150 °C  
 Drying Time, Dehumidified Dryer = 3h  
 Processing Moisture Content = <0.01 %

### Processing

Melt Temperature Optimum = 365 °C  
 Melt Temperature Range = 360-370 °C  
 Mold Temperature Optimum = 80 °C  
 Mold Temperature Range = 40-150 °C

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