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# ZENITE® 6140L

## Liquid Crystal Polymer

Zenite® 6140L is a 40% glass fiber reinforced and lubricated liquid crystal polymer for injection molding. It has excellent impact resistance and excellent heat deflection temperature.

## Product information

| | | | |
|---|---|---|---|
| Resin Identification | LCP-GF40 | | ISO 1043 |
| Part Marking Code | >LCP-GF40< | | ISO 11469 |

## Rheological properties

| | | | |
|---|---|---|---|
| Moulding shrinkage, parallel | 0.1 | % | ISO 294-4, 2577 |
| Moulding shrinkage, normal | 0.5 | % | ISO 294-4, 2577 |

## Typical mechanical properties

| | | | |
|---|---|---|---|
| Tensile modulus | 17000 | MPa | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 130 | MPa | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 1.1 | % | ISO 527-1/-2 |
| Flexural modulus | 16500 | MPa | ISO 178 |
| Flexural strength | 190 | MPa | ISO 178 |
| Charpy impact strength, 23°C | 23 | kJ/m² | ISO 179/1eU |
| Charpy impact strength, -30°C | 20 | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 15 | kJ/m² | ISO 179/1eA |
| Charpy notched impact strength, -30°C | 15 | kJ/m² | ISO 179/1eA |
| Izod notched impact strength, 23°C | 12 | kJ/m² | ISO 180/1A |
| Poisson's ratio | 0.33[C] | | |

[C]: Calculated

## Thermal properties

| | | | |
|---|---|---|---|
| Melting temperature, 10°C/min | 335 | °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 280 | °C | ISO 75-1/-2 |
| Ball pressure test | 260 | °C | IEC 60695-10-2 |
| Coefficient of linear thermal expansion (CLTE), parallel | 4 | E-6/K | ISO 11359-1/-2 |
| Coefficient of linear thermal expansion (CLTE), normal | 64 | E-6/K | ISO 11359-1/-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 | 0.4 | mm | IEC 60695-11-10 |
| UL recognition | yes | | UL 94 |

## Electrical properties

| | | | |
|---|---|---|---|
| Volume resistivity | >1E13 | Ohm.m | IEC 62631-3-1 |
| Surface resistivity | >1E15 | Ohm | IEC 62631-3-2 |
| Electric strength | 45 | kV/mm | IEC 60243-1 |
| Comparative tracking index | 175 | | IEC 60112 |

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## Physical/Other properties

| | | | |
|---|---|---|---|
| Density | 1710 | kg/m³ | 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 | 355 | °C |
| Min. melt temperature | 350 | °C |
| Max. melt temperature | 360 | °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 |

## 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 Recommended = Yes
Drying Temperature = 130°C
Drying Time, Dehumidified Dryer = 4h
Processing Moisture Content = <0.01 %

### Processing

Melt Temperature Optimum = 355°C
Melt Temperature Range = 350-360°C
Mold Temperature Optimum = 100°C
Mold Temperature Range = 80-120°C

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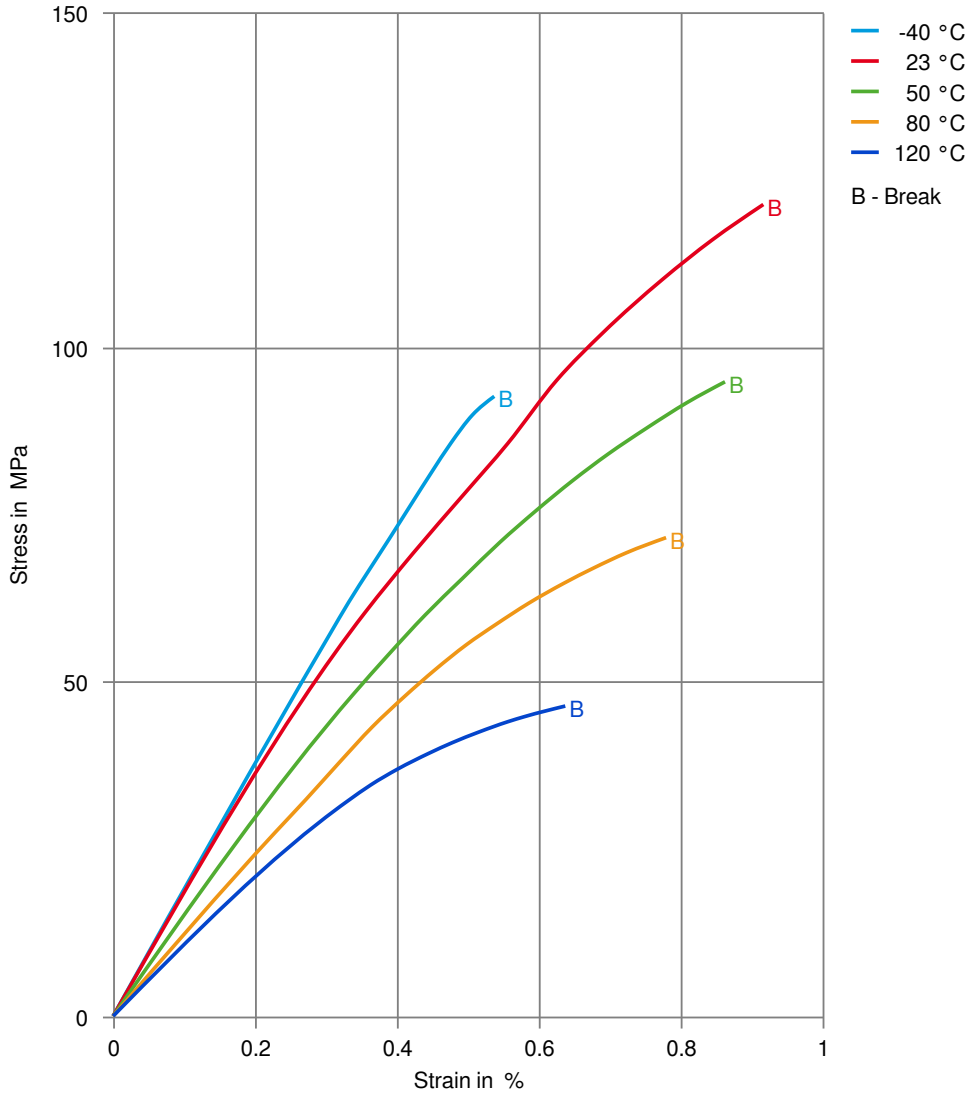
## Stress-strain



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## Secant modulus-strain