Celanese
The chemistry inside innovation™

# CELANEX® 6500

30% glass-fiber / mineral filled PBT+PET blend, low warpage grade
Celanex 6500 is a 30% glass/mineral polyester with improved surface finish and a good balance of mechanical properties and processability.

## Product information

| | | |
|---|---|---|
| Part Marking Code | > (PBT+PET)-(GF+MD)30 < | ISO 11469 |

## Rheological properties

| | | | |
|---|---|---|---|
| Melt mass-flow rate | 22 | g/10min | ISO 1133 |
| Melt mass-flow rate, Temperature | 265 | °C | |
| Moulding shrinkage, parallel | 0 - 0.5 | % | ISO 294-4, 2577 |
| Moulding shrinkage, normal | 0.5 - 0.8 | % | ISO 294-4, 2577 |

## Typical mechanical properties

| | | | |
|---|---|---|---|
| Tensile Modulus | 9700 | MPa | ISO 527-1/-2 |
| Stress at break, 5mm/min | 125 | MPa | ISO 527-1/-2 |
| Strain at break, 5mm/min | 2.2 | % | ISO 527-1/-2 |
| Flexural Modulus | 9500 | MPa | ISO 178 |
| Flexural Strength | 180 | MPa | ISO 178 |
| Shear Modulus | 2270 | MPa | ISO 6721 |
| Charpy impact strength, 23°C | 30 | kJ/m² | ISO 179/1eU |
| Charpy impact strength, -30°C | 30 | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 7.1 | kJ/m² | ISO 179/1eA |
| Charpy notched impact strength, -30°C | 6.4 | kJ/m² | ISO 179/1eA |
| Izod notched impact strength, 23°C | 5.3 | kJ/m² | ISO 180/1A |
| Izod impact strength, 23°C | 31 | kJ/m² | ISO 180/1U |
| Hardness, Rockwell, M-scale | 89 | | ISO 2039-2 |
| Shore D hardness, 15s | 85 | | ISO 48-4 / ISO 868 |

## Thermal properties

| | | | |
|---|---|---|---|
| Melting temperature, 10°C/min | 225 | °C | ISO 11357-1/-3 |
| Glass transition temperature, 10°C/min | 54 | °C | ISO 11357-1/-3 |
| Temp. of deflection under load, 1.8 MPa | 202 | °C | ISO 75-1/-2 |
| Temp. of deflection under load, 0.45 MPa | 223 | °C | ISO 75-1/-2 |

## Electrical properties

| | | | |
|---|---|---|---|
| Relative permittivity, 100Hz | 3.5 | | IEC 62631-2-1 |
| Relative permittivity, 1MHz | 3.8 | | IEC 62631-2-1 |
| Dissipation factor, 1MHz | 400 | E-4 | IEC 62631-2-1 |
| Volume resistivity | 2E14 | Ohm.m | IEC 62631-3-1 |
| Surface resistivity | 3E16 | Ohm | IEC 62631-3-2 |
| Electric strength | 22 | kV/mm | IEC 60243-1 |
| Comparative tracking index | PLC 2 | PLC | UL 746A |

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## Other properties

| | | | |
|---|---|---|---|
| Humidity absorption, 2mm | 0.19 | % | Sim. to ISO 62 |
| Water absorption, 2mm | 0.4 | % | Sim. to ISO 62 |
| Density | 1550 | kg/m³ | ISO 1183 |

## Injection

| | | | |
|---|---|---|---|
| Drying Temperature | 120 - 130 | °C | |
| Drying Time, Dehumidified Dryer | 4 | h | |
| Processing Moisture Content | 0.02 | % | |
| Melt Temperature Optimum | 270 | °C | Internal |
| Max. mould temperature | 65 - 96 | °C | |
| Injection speed | medium-fast | | |

## Additional information

Injection molding

Rear Temperature 450-480 (230-250) deg F (deg C)
Center Temperature 460-490(235-255) deg F (deg C)
Front Temperature 470-500 (240-260) deg F (deg C)
Nozzle Temperature 480-510 (250-265) deg F (deg C)
Melt Temperature 460-510 (235-265) deg F (deg C)
Mold Temperature 150-200(65-93) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.

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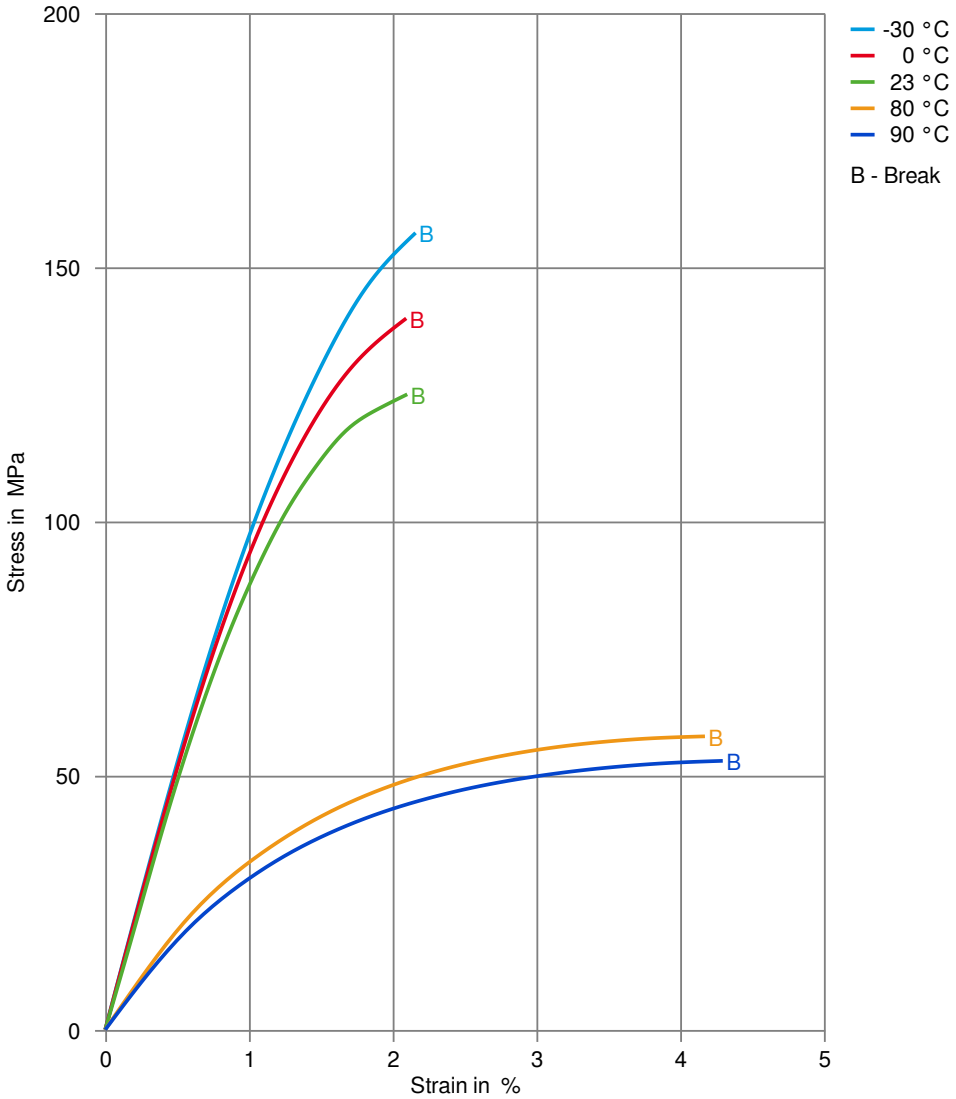
## Stress-strain



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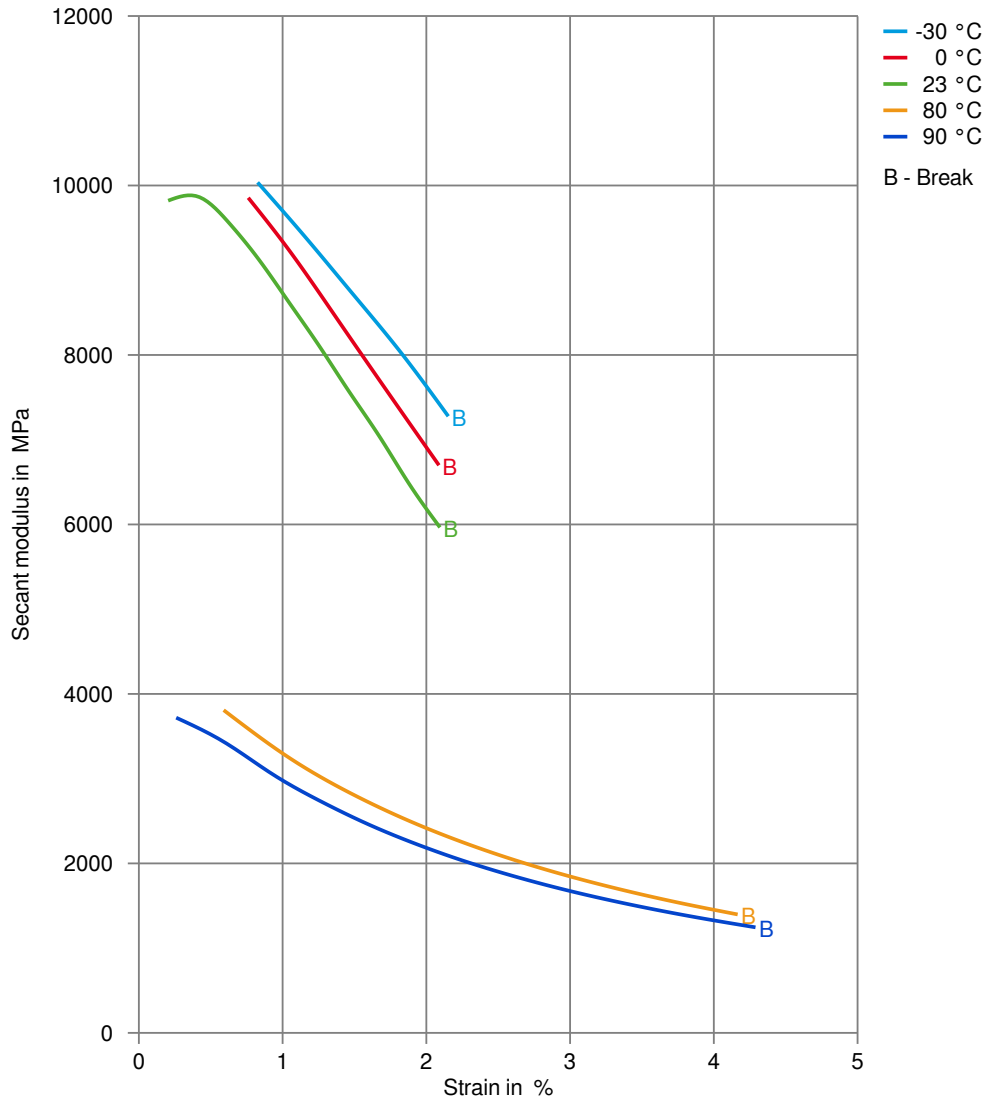
## Secant modulus-strain



# CELANEX® 6500

## Processing Texts

| | |
|---|---|
| Pre-drying | To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (121°C) for 4 hours. |
| Longer pre-drying times/storage | For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C. |
| Injection molding | Rear Temperature 450-480 (230-250) deg F (deg C)<br>Center Temperature 460-490(235-255) deg F (deg C)<br>Front Temperature 470-500 (240-260) deg F (deg C)<br>Nozzle Temperature 480-510 (250-265) deg F (deg C)<br>Melt Temperature 460-510 (235-265) deg F (deg C)<br>Mold Temperature 150-200(65-93) deg F (deg C)<br>Back Pressure 0-50 psi<br>Screw Speed Medium<br>Injection Speed Fast<br><br>Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used. |
| Injection molding Preprocessing | To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-30°F (-34°C) at 250°F (121°C) for minimum 4 hours. |

## Other Approvals

Other Approvals

| OEM | Specification | Additional Information |
|---|---|---|
| Stellantis - Chrysler | CPN 3763 | 100% color match |
| Stellantis - Chrysler | CPN 3764 | CANOD |
| Ford | WSB-M4D921-A | |
| GM | GMW16873P-PBT+PET-M5GF25 | |

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