Celanese
The chemistry inside innovation™

CELANEX® 7040 GM30

30% glass-fiber / mineral filled, low warpage grade
Celanex 7040 GM30 is a 30% glass/mineral polyester with a good balance of mechanical properties and processability and high rigidity

Product information

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

Rheological properties

Melt volume-flow rate	16	cm^3/10min	ISO 1133
Temperature	250	°C	
Load	2.16	kg	
Moulding shrinkage range, parallel	0.3 - 0.4	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.7 - 1.0	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	10000	MPa	ISO 527-1/-2
Stress at break, 5mm/min	120	MPa	ISO 527-1/-2
Strain at break, 5mm/min	2.5	%	ISO 527-1/-2
Charpy impact strength, 23°C	45	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	40	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	6.5	kJ/m^2	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	200	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	220	°C	ISO 75-1/-2

Other properties

Humidity absorption, 2mm	0.15	%	Sim. to ISO 62
Density	1550	kg/m^3	ISO 1183

Injection

Drying Temperature	120 - 130	°C
Drying Time, Dehumidified Dryer	4	h
Processing Moisture Content	0.02	%
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)

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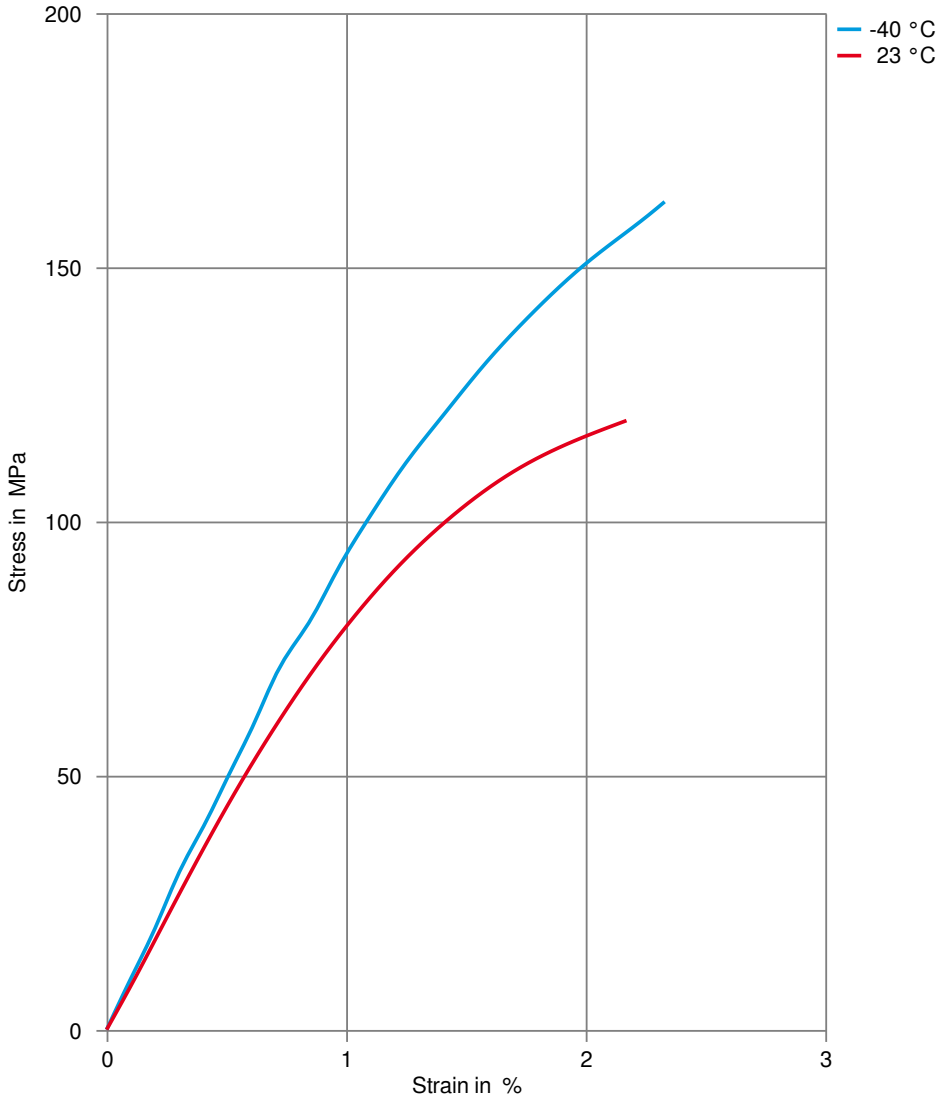
Melt Temperature 460-510 (235-265) deg F (deg C)
Mold Temperature 150-200(65-93) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

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.

CELANEX® 7040 GM30

Stress-strain



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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) 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.
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.