Celanese
The chemistry inside innovation™

CELANEX® 2300 GV1/10 - PBT

Physical properties	Value	Unit	Test Standard
Density	**86.2**	lb/ft³	ISO 1183
Melt volume rate, MVR	**21**	cm³/10min	ISO 1133
MVR temperature	**482**	°F	ISO 1133
MVR load	**4.76**	lb	ISO 1133
Molding shrinkage, parallel (flow)	**0.8 - 1.1**	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	**1.1 - 1.3**	%	ISO 294-4, 2577
Water absorption, 23 °C-sat	**0.5**	%	Sim. to ISO 62
Humidity absorption, 23 °C/50%RH	**0.2**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**681679**	psi	ISO 527-1, -2
Tensile stress at break, 5mm/min	**13100**	psi	ISO 527-1, -2
Tensile strain at break, 5mm/min	**3.5**	%	ISO 527-1, -2
Charpy impact strength, 23 °C	**12.4**	ft-lb/in²	ISO 179/1eU
Charpy impact strength, -30 °C	**12.4**	ft-lb/in²	ISO 179/1eU
Charpy notched impact strength, 23 °C	**2.38**	ft-lb/in²	ISO 179/1eA
Charpy notched impact strength, -30 °C	**2.38**	ft-lb/in²	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10 °C/min	**437**	°F	ISO 11357-1/-3
DTUL at 1.8 MPa	**374**	°F	ISO 75-1, -2
DTUL at 0.45 MPa	**392**	°F	ISO 75-1, -2
Vicat softening temperature, 50 °C/h 50N	**401**	°F	ISO 306
Coeff. of linear therm expansion, parallel	**0.333**	E-4/°F	ISO 11359-2
Flammability at thickness h	**HB**	class	UL 94
thickness tested (h)	**0.0394**	in	UL 94
UL recognition (h)	**UL**	-	UL 94

Electrical properties	Value	Unit	
Comparative tracking index	**PLC 1**		UL 746

Rheological calculation properties	Value	Unit	Test Standard
Density of melt	**73**	lb/ft³	Internal
Thermal conductivity of melt	**0.144**	W/(m K)	Internal
Spec. heat capacity melt	**1870**	J/(kg K)	Internal
Ejection temperature	**426**	°F	Internal

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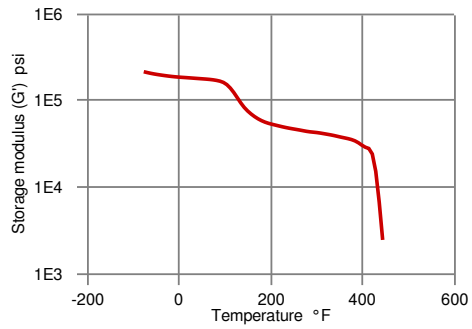
Diagrams

Dynamic Shear modulus-temperature



Other text information

Pre-drying

CELANEX 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 =< - 30° C. The time between drying and processing should be as short as possible.

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

Melt Temperature 260-270 °C
Mold Temperature *) 75-85 °C
Maximum Barrel Residence Time **) 5-10 min
Injection Speed fast
Peripheral screw speed max.0,3 m/sec
Back Pressure 10-30 bar
Injection Pressure 600-1000 bar
Holding Pressure 400-800 bar
Nozzle Design open design preferred

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. For grades containing flame retardants, a maximum temperature of 265 °C should not be exceeded. Up to 25% clean and dry regrind may be used.

Celanese recommends only externally heated hot runner systems.

*) For moulded parts with especially high requirements to the surface quality or dimensional stability, a mold temperature of up to 110 °C can be advantageous.

**) If the cylinder temperatures are higher than the recommended maximum temperatures, the max. residence time in the barrel has to be reduced.

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%. The drying should be done in a dry-air dryer (dew point < -30°C) with a temperature of 120 to 140 °C and a drying time of 2 to 4 hours. In case of longer residence times in the dry-air dryer, the temperature should be reduced to 100°C.
The time between drying and processing should be kept as short as possible. The processing machine feed hopper should be closed during the

processing operation.

Characteristics

Special Characteristics	Auto spec approved, Heat resistant
Product Categories	Glass reinforced
Processing	Injection molding
Delivery Form	Pellets
Additives	Release agent

Other Approvals

OEM	Specification	Additional Information
Bosch	N28 BN07-O001	Natural & Black
Toyota	TSM5604G-1A	