Celanese
The chemistry inside innovation™

CELANEX® 2302SW1 GV1/20

PBT + PET blend, 20% glass fiber reinforced, high gloss for friction and wear applications
Chemical abbreviation according to ISO 1043-1: PBT+PET GF20, PTFE-modified grade with 20% glass fiber for injection molded parts with superior gloss and improved slip and wear characteristics. Flammability UL 94 HB minimum thickness 0.8 mm.

Product information

Part Marking Code	> (PBT+PET+PTFE)-GF20 <		ISO 11469

Rheological properties

Melt volume-flow rate	16	$cm^3/10min$	ISO 1133
Temperature	265	°C	
Load	2.16	kg	
Viscosity number	73	cm^3/g	ISO 307, 1157, 1628
Moulding shrinkage range, parallel	0.4 - 0.5	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.9 - 1.1	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	8000	MPa	ISO 527-1/-2
Stress at break, 5mm/min	135	MPa	ISO 527-1/-2
Strain at break, 5mm/min	3	%	ISO 527-1/-2
Charpy impact strength, 23°C	55	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	9	kJ/m^2	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	255	°C	ISO 11357-1/-3

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	UL 94
Thickness tested	1.6	mm	UL 94
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	0.80	mm	UL 94

Other properties

Humidity absorption, 2mm	0.15	%	Sim. to ISO 62
Water absorption, 2mm	0.4	%	Sim. to ISO 62
Density	1520	kg/m^3	ISO 1183

Injection

Drying Temperature	120 - 140	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	0.02	%
Screw tangential speed	0.12 - 0.17	m/s

Celanese
The chemistry inside innovation™

CELANEX® 2302SW1 GV1/20

Max. mould temperature	90 - 100 °C
Injection speed	fast

Characteristics

Additives	Release agent

Additional information

Injection molding

Melt Temperature 265-275 °C
Mold Temperature *) 90-100 °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.

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.

Processing Texts

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 265-275 °C
Mold Temperature *) 90-100 °C
Maximum Barrel Residence Time **) 5-10 min
Injection Speed fast
Peripheral screw speed max.0,3 m/sec
Back Pressure 10-30 bar

CELANEX® 2302SW1 GV1/20

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.

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.

Other Approvals

Other Approvals

OEM	Specification
Continental	SN 57908-11