

CELANEX[®] 2408MT GF20

20% glass fiber reinforced medical grade, for applications with high gloss and improved overmolding adhesion to TPEs Chemical abbreviation according to ISO 1043-1: PBT+PET GF20. Celanex® 2408MT® GF20 is a special grade developed for medical industry applications and is filled with 20% glass fiber for injection molded parts with superior adhesion to thermoplastic copolyesters in a two-component molding process.

Celanex 2408MT GF20 is a special grade developed for medical industry applications and complies with:

- CFR 21 (177.1660) of the Food and Drug Administration (FDA)
- the corresponding EU and national registry regulatory requirements
- biocompatibility in tests corresponding to USP 23 Class VI/ISO 10993
- low residual monomers
- no animal products

Product information

Part Marking Code	> (PBT+PET)-GF20 <		ISO 11469
Rheological properties			
Melt volume-flow rate	20	cm ³ /10min	ISO 1133
Temperature	265	°C	
Load	2.16	kg	
Moulding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage range, parallel	0.2 - 0.4	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.7 - 0.9	%	ISO 294-4, 2577
Typical mechanical properties			
Tensile Modulus	7400	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
Flexural Modulus	7350	MPa	ISO 178
Flexural Strength	200	MPa	ISO 178
Charpy impact strength, 23°C	45	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	40	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	8	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	8	kJ/m²	ISO 179/1eA
Ball indentation hardness, H 358/30	205	MPa	ISO 2039-1
Thermal properties			
Melting temperature, 10°C/min	255	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	203	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	222	°C	ISO 75-1/-2
Temp. of deflection under load, 8 MPa	90	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	210	°C	ISO 306
Coeff. of linear therm. expansion, parallel	40	E-6/K	ISO 11359-1/-2



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Coeff. of linear therm. expansion, no	rmal	75	E-6/K	ISO 11359-1/-2	
Other properties					
Humidity absorption, 2mm Water absorption, 2mm Density		0.15 0.4 1480	% % kg/m ³	Sim. to ISO 62 Sim. to ISO 62 ISO 1183	
Injection					
Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Screw tangential speed Max. mould temperature Injection speed		120 - 140 2 - 4 0.02 260 0.12 - 0.17 90 - 100 fast	°C h °C m/s °C	Internal	
Characteristics					
Additives	Release agent				
Food contact	FDA 21 CFR				
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 cylinde temperatures, the temperatures is the temperatures and the temperatures is the temperatures are temperatures	er temperatures are he max. residence	higher than the time in the barre	recommended maximum I has to be reduced.	



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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 Injection Pressure 600-1000 bar Holding Pressure 600-1000 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.