Celanese
The chemistry inside innovation™

CELANEX® 2408MT GF20

CELANEX® PBT

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

Resin Identification	(PBT+PET)-GF20	ISO 1043
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
Tensile stress at break, 5mm/min	135	MPa	ISO 527-1/-2
Tensile 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/m^2	ISO 179/1eU
Charpy impact strength, -30°C	40	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	8	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	8	kJ/m^2	ISO 179/1eA
Ball indentation hardness, H 961/30	205	MPa	ISO 2039-1
Poisson's ratio	0.35[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	255	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	203	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	222	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	90	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	210	°C	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	40	E-6/K	ISO 11359-1/-2

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Coefficient of linear thermal expansion (CLTE), normal	75	E-6/K	ISO 11359-1/-2

Physical/Other properties

Humidity absorption, 2mm	0.15	%	Sim. to ISO 62
Water absorption, 2mm	0.4	%	Sim. to ISO 62
Density	1480	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	140	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	265	°C
Min. melt temperature	255	°C
Max. melt temperature	275	°C
Screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	110	°C
Min. mould temperature	100	°C
Max. mould temperature	130	°C
Ejection temperature	190	°C

Characteristics

Processing	Injection Moulding, Multi Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	High Gloss

Additional information

Injection molding

To minimize the volatile content in the final product, dry the resin to ≤0.01% water content. In injection molding, use the lowest possible melt temperature (recommended 240 °C) and shortest feasible residence time (recommended 2-3 minutes). Store the parts in a ventilated, clean area before use. If assistance is needed please contact your Celanese account representative.

These recommendations are based on internal Celanese testing. For drying and injection molding conditions outside the above parameters, customer must test for and verify suitably low volatiles emissions on molded articles to confirm the final product is suitably pure for its intended use.

Processing Notes

Pre-Drying

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.01%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°C (-40°F) at 140°C (284°F) for 4-6 hours.

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Storage

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.