

CELANEX® 2404MT

CELANEX® PBT

Celanex 2404MT is an unreinforced, tribologically-modified and nucleated, medium flow PBT grade for injection molding processing.

Celanex 2404MT is a special grade developed for medical industry applications and complies with:

- CFR 21 (177.1660) of the Food and Drug Administration (FDA) and is listed in the Drug Master File (DMF 10047 (US) / 10033 (EU)) and the Device Master File (MAF 443 (US) / 1078 (EU))
- 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+PTFE)	ISO 1043
Part Marking Code	>(PBT+PTFE)<	ISO 11469

Rheological properties

Melt volume-flow rate	21 cm ³ /10min	ISO 1133
Temperature	250 °C	
Load	2.16 kg	
Moulding shrinkage range, parallel	1.7 - 2.1 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.9 %	ISO 294-4, 2577
Moulding shrinkage range, normal	1.7 - 2.1 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2600 MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	56 MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	7 %	ISO 527-1/-2
Nominal strain at break	19 %	ISO 527-1/-2
Charpy notched impact strength, 23 °C	3.3 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.38 ^[C]	
[C]: Calculated		

Thermal properties

Melting temperature, 10 °C/min	225 °C	ISO 11357-1/-3
Glass transition temperature, 10 °C/min	60 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	55 °C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	190 °C	ISO 306

Electrical properties

Comparative tracking index	600	IEC 60112
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Physical/Other properties

Humidity absorption, 2mm	0.2 %	Sim. to ISO 62
Density	1340 kg/m ³	ISO 1183

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Injection

Drying Recommended	yes
Drying Temperature	140 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.01 %
Melt Temperature Optimum	250 °C
Min. melt temperature	240 °C
Max. melt temperature	260 °C
Screw tangential speed	0.1 - 0.3 m/s
Mold Temperature Optimum	80 °C
Min. mould temperature	60 °C
Max. mould temperature	130 °C
Ejection temperature	190 °C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Low wear / Low friction

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.
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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.

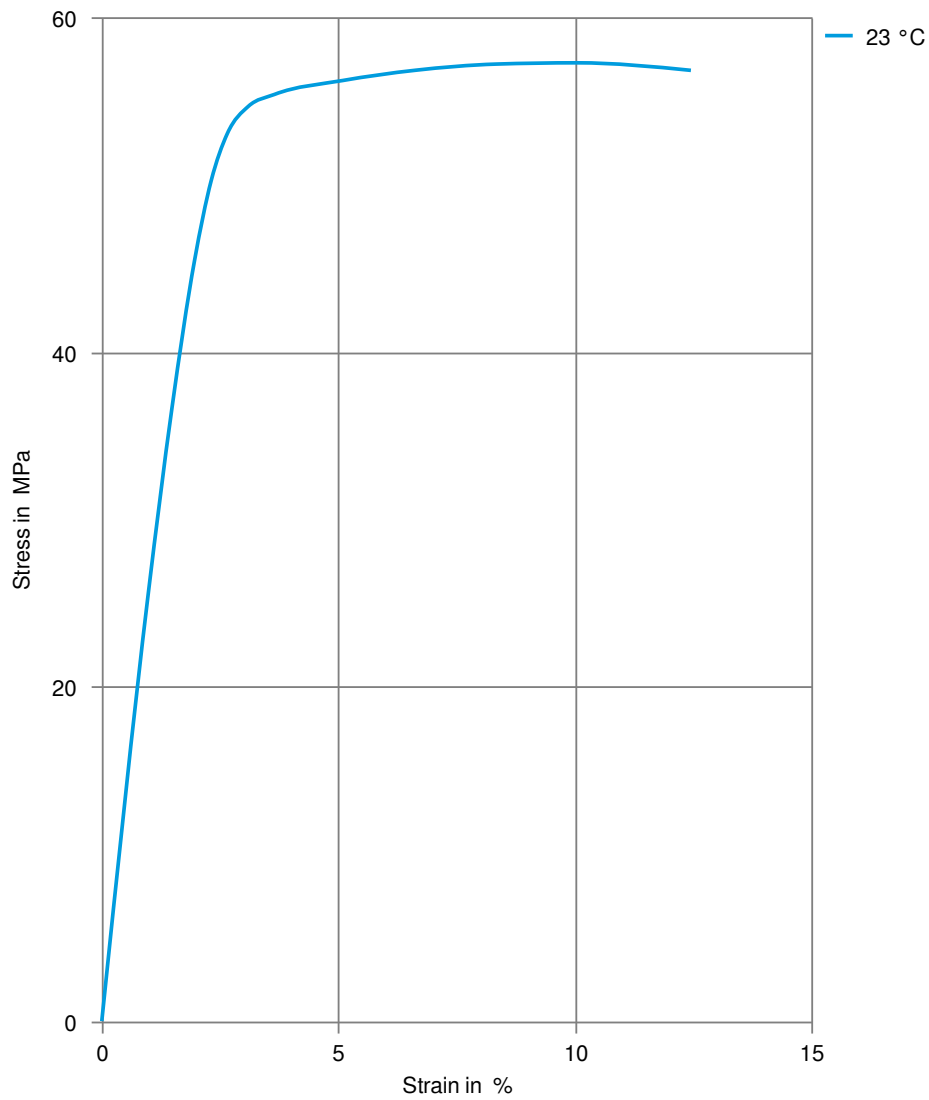
Storage

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

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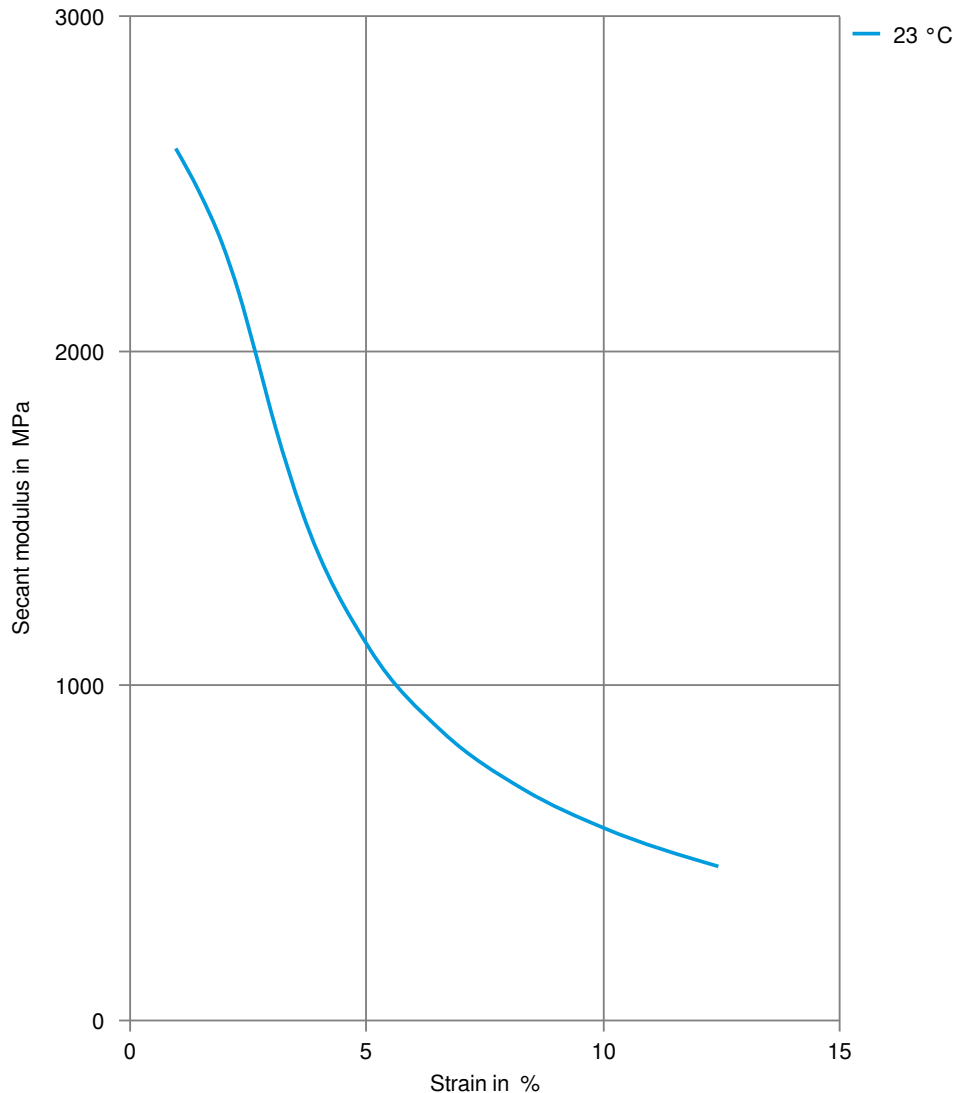
Stress-strain



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Secant modulus-strain



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