CELANEX® 2402MT® ECO-B 352

CELANEX® PBT

Celanex 2402MT ECO-B 352 is a special grade developed for medical industry applications and complies with:

- CFR 21 (177.1660) of the Food and Drug Administration (FDA), and
- the corresponding EU and national registry regulatory requirements;
- biocompatibility corresponding to USP 23 Class VI/ISO 10993;
- is listed in the Drug Master File (DMF 10047 (US)/ 10033 (EU)) and the Device Master File (MAF 443 (US)/ 1078 (EU)),
- and contains no animal products.

Celanex® 2402MT ECO-B 352 incorporates 39% of biobased content derived from waste by weight in the finished product through mass balance allocation. The product is a drop-in replacement to the standard grade with the same performance and processing properties and contributes to the displacement of virgin fossil fuel resources. The biobased source and allocated content in the product are certified according to ISCC PLUS mass balance approach.

Product information

Resin Identification	PBT	ISO 1043
Part Marking Code	>PBT<	ISO 11469

Rheological properties

Melt volume-flow rate	40	cm^3/10min	ISO 1133
Temperature	482	°F	
Load	4.76	lb	
Molding shrinkage range, parallel	1.8 - 2.2	%	ISO 294-4, 2577
Molding shrinkage range, normal	1.8 - 2.2	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	392000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	8700	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	4	%	ISO 527-1/-2
Tensile stress at break, 5mm/min	7980	psi	ISO 527-1/-2
Nominal strain at break	15	%	ISO 527-1/-2
Flexural modulus	370000	psi	ISO 178
Flexural strength	11600	psi	ISO 178
Charpy impact strength, 23°C	64.2	ftlb/in^2	ISO 179/1eU
Charpy impact strength, -30°C	61.8	ftlb/in^2	ISO 179/1eU
Charpy notched impact strength, 23°C	2.14	ftlb/in^2	ISO 179/1eA
Charpy notched impact strength, -30°C	1.9	ftlb/in^2	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	437	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	140	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	140	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	320	°F	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	374	°F	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	0.61	E-4/°F	ISO 11359-1/-2

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CELANEX® PBT

Flammability

Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.0315	in	IEC 60695-11-10

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.45	%	Sim. to ISO 62
Density	0.0473	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	266[1]	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	482	°F
Min. melt temperature	464	°F
Max. melt temperature	500	°F
Max. screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	176	°F
Min. mold temperature	140	°F
Max. mold temperature	266	°F

[1]: Limits: from 120 °C to 140 °C

Characteristics

Processing	Injection Molding
Additives	Release agent, Nucleated
Sustainability	Bio-Content

Additional information

Injection molding

To minimize the volatile content in the final product, dry the resin to <0.02%, preferably ≤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.

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 4 to min. 2 hours. In case of longer residence times in the dry-air

dryer, the temperature should be reduced to below 80°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.

Processing Notes

Pre-Drying

To avoid hydrolytic degradation during processing, CELANEX PBT resins have to be dried to a moisture level to less than 0.02%, preferably equal or less than 0.01%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°C (-40°F) at 120°C - 140°C (284°F) for 4 +/- 2 hours.

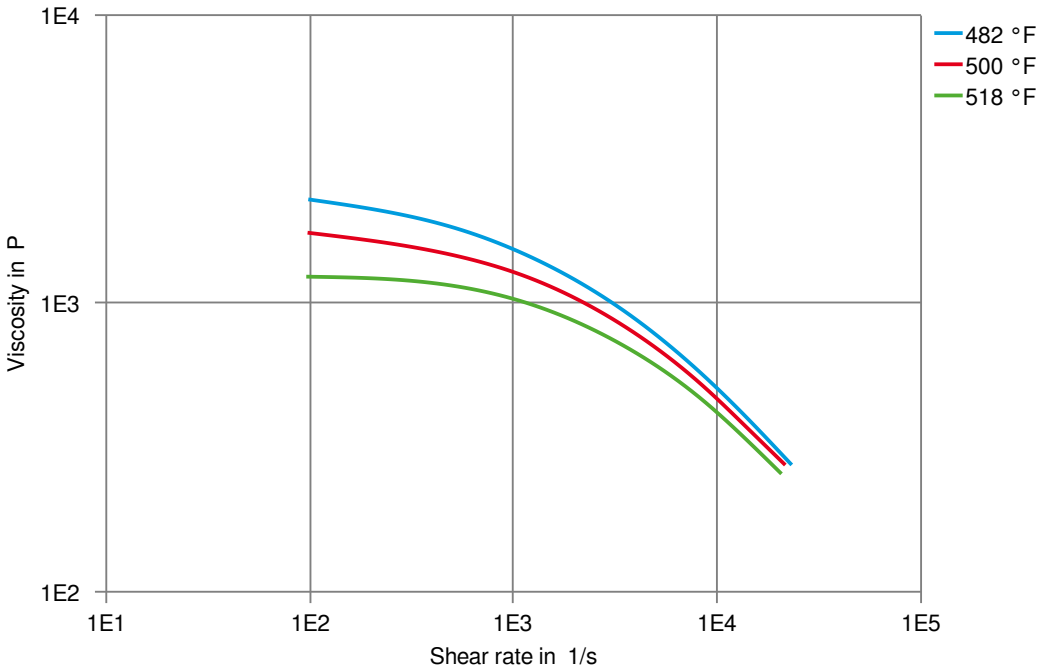
Storage

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature below 80° C.

CELANEX® 2402MT® ECO-B 352

CELANEX® PBT

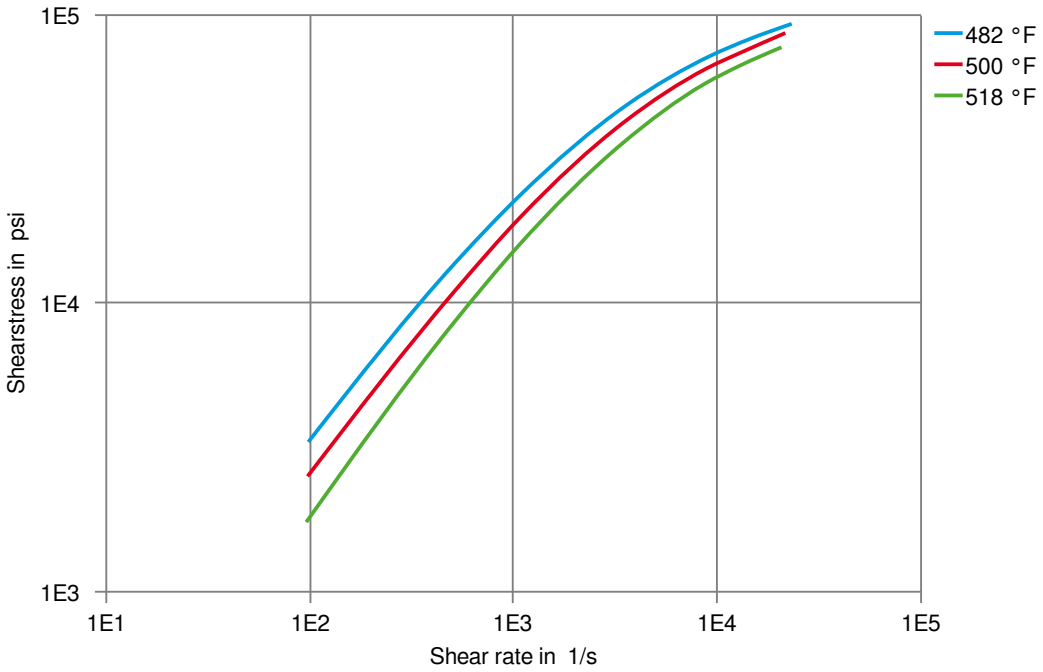
Viscosity-shear rate



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CELANEX® PBT

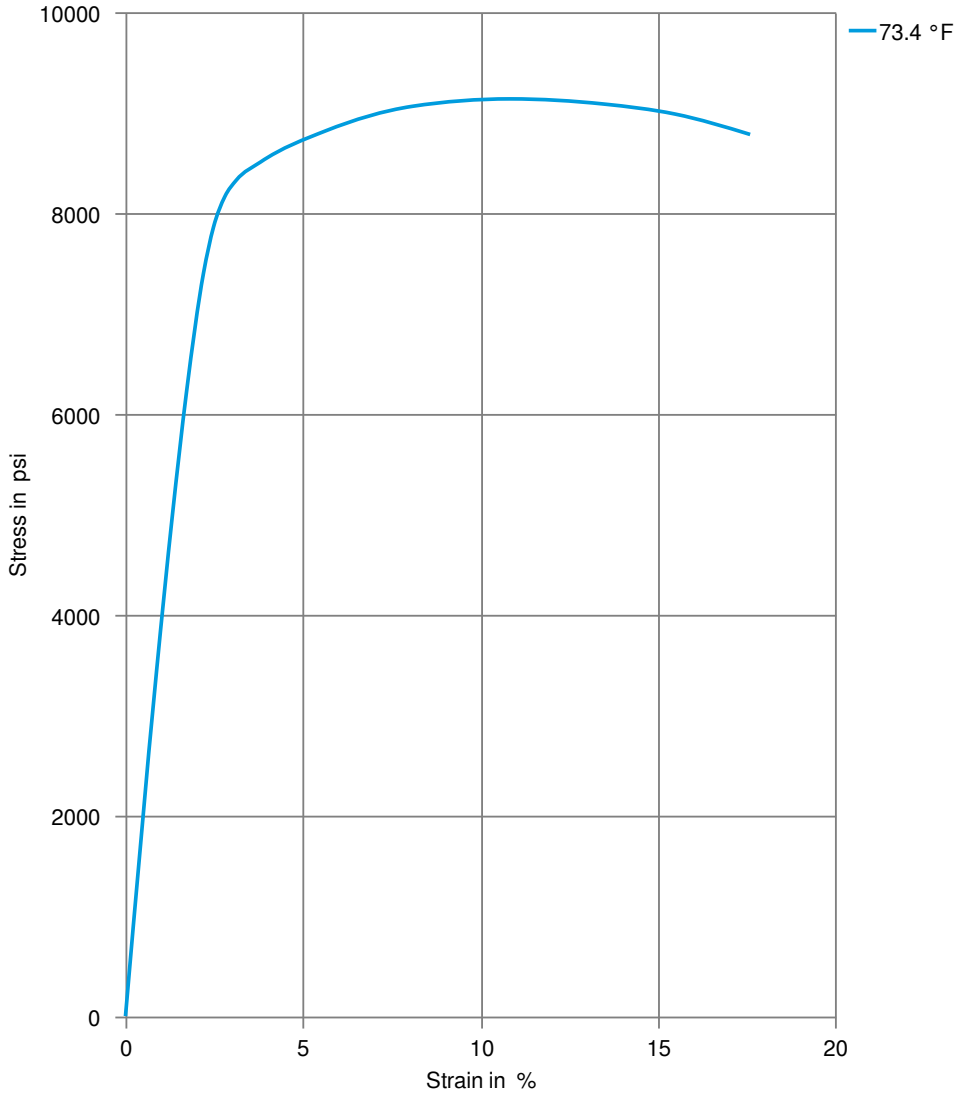
Shearstress-shear rate



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CELANEX® PBT

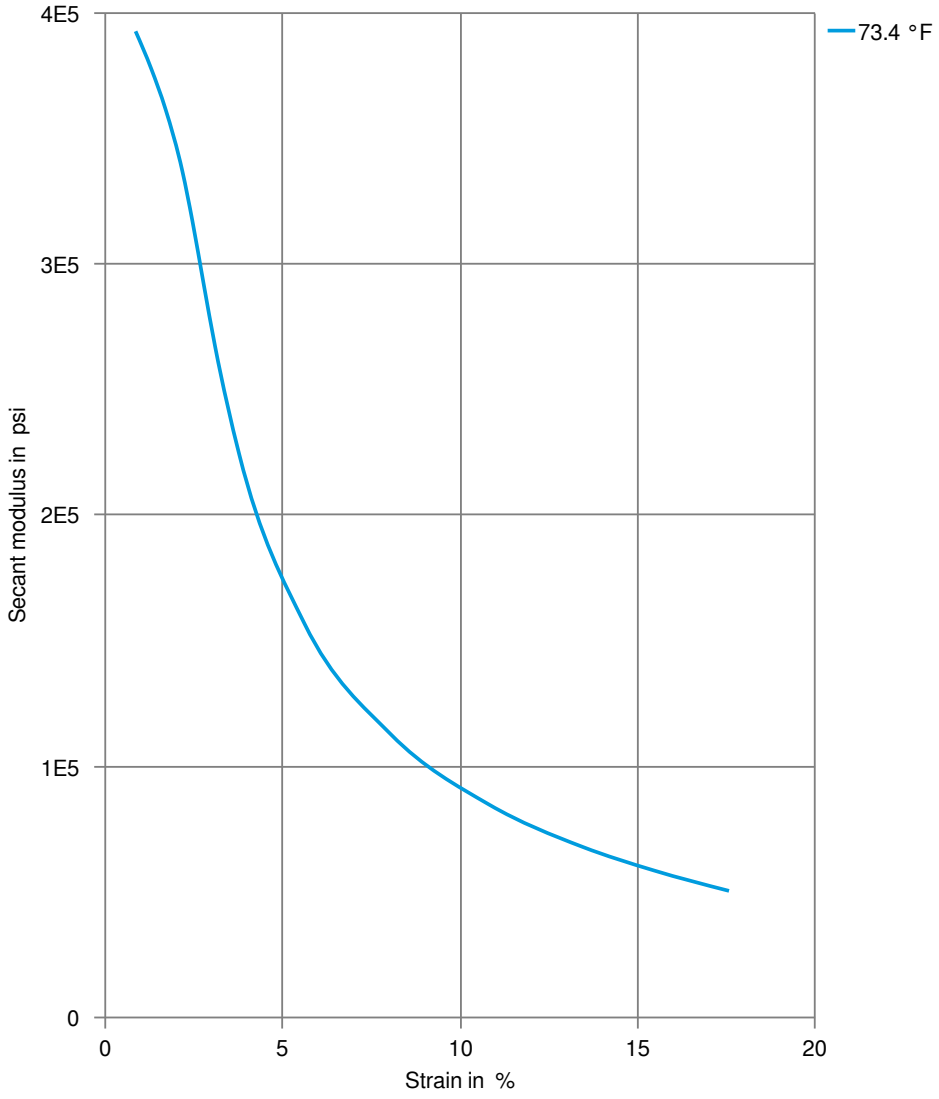
Stress-strain



CELANEX® 2402MT® ECO-B 352

CELANEX® PBT

Secant modulus-strain



Revised: 2026-07-09 Source: Celanese Materials Database

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