CELANEX® 2500-6FC

CELANEX® PBT

Celanex 2500-6FC is a general purpose, unreinforced polybutylene terephthalate with a good balance of mechanical properties and processability for use in food contact applications. Celanex 2500-6FC is a medium to high flow material that contains a lubricant and nucleant additive package, which has been designed to support customers in reaching shorter cycle times and higher productivity targets.

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 - 2.3	%	ISO 294-4, 2577
Molding shrinkage range, normal	1.8 - 2.1	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	392000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	9000	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	4	%	ISO 527-1/-2
Tensile stress at break, 50mm/min	7980	psi	ISO 527-1/-2
Nominal strain at break	15	%	ISO 527-1/-2
Flexural strength	13100	psi	ISO 178
Flexural stress at 3.5%	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
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
Thermal conductivity of melt	0.133	W/(m K)	ISO 22007-2
Specific heat capacity of melt	1920	J/(kg K)	ISO 22007-4

Electrical properties

Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2

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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
Density of melt	69.3	lb/ft³	

Injection

Drying Recommended	yes	
Drying Temperature	284	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	464	°F
Min. melt temperature	464	°F
Max. melt temperature	482	°F
Max. screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	176	°F
Min. mold temperature	140	°F
Max. mold temperature	248	°F

Characteristics

Processing	Injection Molding
Additives	Release agent

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 0.02%. 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.

Celanese
The chemistry inside innovation™

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