

Product Texts

Celanex 2003-5FC is a general purpose, unreinforced polybutylene terephthalate with a good balance of mechanical properties and processability for use in food contact applications. Celanex 2003-5FC is a medium to high flow material that contains an internal lubricant and nucleant.

Flammability at thickness h (0.8 HB mm)

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Melt volume-flow rate, MVR	40	cm ³ /10min	ISO 1133
Temperature	250	°C	-
Load	2.16	kg	-
^[C] Molding shrinkage, parallel	2.0	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.9	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	2700	MPa	ISO 527
^[C] Yield stress	63	MPa	ISO 527
^[C] Yield strain	4	%	ISO 527
^[C] Nominal strain at break	15	%	ISO 527
^[C] Charpy impact strength, +23°C	135	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	130	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	5	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	4.5	kJ/m ²	ISO 179/1eA

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	60	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	60	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	160	°C	ISO 75-1/-2
^[C] Vicat softening temperature, B	190	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.8	mm	-

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
^[C] Water absorption	0.45	%	Sim. to ISO 62
^[C] Humidity absorption	0.2	%	Sim. to ISO 62
^[C] Density	1310	kg/m ³	ISO 1183

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	121	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.02	%	-
Melt temperature	235 - 260	°C	-
Mold temperature	65 - 93	°C	-

Characteristics

Processing

Injection Molding

Certifications

Food contact

Delivery form

Pellets

Applications

General Purpose

Additives

Lubricants, Release agent

Regional Availability

North America, Europe, Asia Pacific

Features

Nucleated

Other text information

Injection molding

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 <-30°F (-34°C) at 250°F (121°C) for 4 hours.

Rear Temperature 450-470 (230-240) deg F (deg C)

Center Temperature 460-480 (235-250) deg F (deg C)

Front Temperature 470-500 (240-260) deg F (deg C)

Nozzle Temperature 480-500 (250-260) deg F (deg C)

Melt Temperature 465-500 (240-260) deg F (deg C)

Mold Temperature 165-200 (74-93) deg F (deg C)

Back Pressure 0-50 psi

Screw Speed Medium

Injection Speed Fast

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, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.