

Celanex® 1600USFDA

Polybutylene Terephthalate

Celanese Corporation

Message:

Celanex 1600USFDA is a high molecular weight grade of unreinforced polybutylene terephthalate for use in US FDA applications that can be used in both extrusion and injection molding applications.

General Information			
Features	High molecular weight		
Agency Ratings	FDA not rated		
RoHS Compliance	Contact manufacturer		
Processing Method	Extrusion		
	Injection molding		

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)	6.5	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	8.50	cm ³ /10min	ISO 1133
Molding Shrinkage			
Flow	1.8 - 2.0	%	ASTM D955
Transverse flow	1.8 - 2.0	%	ISO 294-4
Flow	1.8 - 2.0	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.20	%	ISO 62

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	72		ISO 2039-2

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2550	MPa	ISO 527-2/1A/1
Tensile Strength			
Yield, 23°C	55.2	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/1A/50
Fracture	33.0	MPa	ISO 527-2/1A/50
50% strain	28.0	MPa	ISO 527-2/50
Tensile Strain			
Yield	5.0	%	ISO 527-2/1A/50
Fracture, 23°C	200	%	ASTM D638
Fracture	120	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	> 50	%	ISO 527-2/1A/50
Flexural Modulus (23°C)	2200	MPa	ISO 178
Flexural Stress (23°C)	80.0	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	6.5	kJ/m ²	ISO 179/1eA
23°C	7.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	210	kJ/m ²	ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact (23°C)	5.5	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	154	°C	ASTM D648
0.45 MPa, not annealed	150	°C	ISO 75-2/B
1.8 MPa, not annealed	54.4	°C	ASTM D648
1.8 MPa, not annealed	50.0	°C	ISO 75-2/A
Glass Transition Temperature ¹	60.0	°C	ISO 11357-2
Vicat Softening Temperature	185	°C	ISO 306/B50
Melting Temperature ²	225	°C	ISO 11357-3, ASTM D3418
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.1E-4	cm/cm/°C	ISO 11359-2
Lateral	1.0E-4	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity			
--	1.0E+16	ohms · cm	ASTM D257
--	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength			
-- ³	16	kV/mm	ASTM D149
--	23	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	3.20		ASTM D150
100 Hz	4.00		IEC 60250
1 MHz	3.50		IEC 60250
Dissipation Factor			
1 kHz	1.0E-3		ASTM D150
1 MHz	1.0E-3		ASTM D150
100 Hz	1.4E-3		IEC 60250
1 MHz	0.021		IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.75 mm)	HB		UL 94
Oxygen Index	22	%	ISO 4589-2
Injection	Nominal Value	Unit	

Drying Temperature	120 - 130	°C
Drying Time	4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	20 - 50	°C
Rear Temperature	230 - 240	°C
Middle Temperature	235 - 250	°C
Front Temperature	235 - 250	°C
Nozzle Temperature	250 - 260	°C
Processing (Melt) Temp	235 - 260	°C
Mold Temperature	65 - 93	°C
Injection Rate	Moderate-Fast	

Injection instructions

Manifold Temperature: 250 to 260°C Zone 4 Temperature: 240 to 260°C Feed Temperature: 230 to 240°C

NOTE

- 10°C/min
- 10°C/min
- Method A (short time)

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



WECHAT