

Celanex® 2003HR

Polybutylene Terephthalate

Celanese Corporation

Message:

Celanex 2003HR is an unfilled polybutylene terephthalate which has an excellent hydrolysis resistance, mechanical properties and processability

General Information			
Features	Workability, good		
	Hydrolysis resistance		
	Hydrolysis stability		
RoHS Compliance	Contact manufacturer		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage			
Flow	1.8 - 2.0	%	ASTM D955
Vertical flow direction	1.8 - 2.0	%	ISO 294-4
Flow direction	1.8 - 2.0	%	ISO 294-4
Water Absorption (Equilibrium, 23°C, 50% RH)	0.14	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2700	MPa	ISO 527-2/1A/1
Tensile Stress			ISO 527-2/1A/50
Yield	60.0	MPa	ISO 527-2/1A/50
Fracture	55.0	MPa	ISO 527-2/1A/50
Tensile Strain			ISO 527-2/1A/50
Yield	4.0	%	ISO 527-2/1A/50
Fracture	25	%	ISO 527-2/1A/50
Nominal Tensile Strain at Break	40	%	ISO 527-2/1A/50
Flexural Modulus (23°C)	2550	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	4.3	kJ/m ²	ISO 179/1eA
23°C	4.3	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	35	kJ/m ²	ISO 179/1eU
23°C	110	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	4.0	kJ/m ²	ISO 180/1A

Unnotched Izod Impact Strength			ISO 180/1U
-30°C	33	kJ/m ²	ISO 180/1U
23°C	31	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	150	°C	ISO 75-2/B
1.8 MPa, not annealed	55.0	°C	ISO 75-2/A
Vicat Softening Temperature	190	°C	ISO 306/B50
Melting Temperature ¹	225	°C	ISO 11357-3, ASTM D3418
Linear thermal expansion coefficient			ISO 11359-2
Flow	1.2E-4	cm/cm/°C	ISO 11359-2
Lateral	1.1E-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+15	ohms·cm	IEC 60093
Dielectric Strength	15	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	3.20		IEC 60250
Dissipation Factor (1 MHz)	0.020		IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Injection	Nominal Value	Unit	
Drying Temperature	120 - 130	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Max Regrind	25	%	
Hopper Temperature	20.0 - 50.0	°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	65.0 - 93.0	°C	
Injection Rate	Moderate-Fast		
Back Pressure	0.00 - 0.345	MPa	
Injection instructions			
Manifold Temperature: 250 to 260°CZone 4 Temperature: 240 to 260°CFeed Temperature: 230 to 240°C			
NOTE			
1.	10°C/min		

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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

