CALIBRE™ 2061-3

Trinseo - Polycarbonate Resin

General Information

Product Description

CALIBRE™ 2061-3 Polycarbonate resin is used in medical applications involving steam or ethylene oxide sterilization - though suitability for use in these applications is dependent upon autoclave cycle times and temperatures. CALIBRE 2061-3 provides exceptional clarity, heat resistance, impact strength, and processability, and has low contamination levels. CALIBRE 2061 has been evaluated by certain biocompatibility tests based on ISO 10993-1 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications. This product contains mold release.

Main Characteristics

- Tested under ISO 10993

Applications

- Medical Applications

General			
Additive	• Mold Release		
Features	• Biocompatible • Ethylene Oxide Sterilizable • Good Processability	• High Clarity • High Heat Resistance • High Impact Resistance	• Radiation Sterilizable • Steam Sterilizable
Uses	• Medical Devices	• Medical/Healthcare Applications	• Surgical Instruments
Agency Ratings	• ISO 10993		
Appearance	• Clear/Transparent	• Colors Available	
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	3.5	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	3.5	g/10 min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	ASTM D955
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.32	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [2]	360000	psi	ASTM D638
Tensile Modulus	334000	psi	ISO 527-1/1
Tensile Strength [3] (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength [3] (Break)	10400	psi	ASTM D638
Tensile Stress (Break)	10400	psi	ISO 527-2/50
Tensile Elongation [3] (Yield)	6.0	%	ASTM D638
Tensile Elongation [3] (Break)	140	%	ASTM D638
Tensile Strain (Break)	150	%	ISO 527-2/50
Flexural Modulus	350000	psi	ASTM D790
Flexural Modulus [4, 5]	348000	psi	ISO 178

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Mechanical	Nominal Value	Unit	Test Method
Flexural Strength	14000	psi	ASTM D790
Flexural Stress [4, 5]	14100	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	6.7	ft·lb/in²	
73°F	26	ft·lb/in²	
Notched Izod Impact (73°F)	18	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	44	ft·lb/in²	ISO 180/1A
Instrumented Dart Impact [6] (73°F, Total Energy)	830	in·lb	ASTM D3763
Tensile Impact Strength	300	ft·lb/in²	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	74		
R-Scale	118		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Annealed)	295	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	295	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	270	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	266	°F	
Deflection Temperature Under Load (264 psi, Annealed)	289	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	289	°F	ISO 75-2/A
Vicat Softening Temperature	304	°F	ASTM D1525 [7]
CLTE - Flow (-40 to 176°F)	3.8E-5	in/in/°F	ASTM D696
CLTE - Flow	3.9E-5	in/in/°F	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Electric Strength	430	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	3.00		
1 MHz	3.00		
Dissipation Factor			IEC 60250
100 Hz	1.0E-3		
1 MHz	2.0E-3		
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating [8]			UL 94
0.12 in	HB		
0.030 in	V-2		
0.06 in	V-2		
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.586		ASTM D542
Refractive Index	1.586		ISO 489
Light Transmittance	87.0 to 91.0	%	ASTM D1003
Haze	< 1.00	%	ASTM D1003

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Processing Information		
Injection	**Nominal Value**	**Unit**
Drying Temperature	248	°F
Drying Time	4.0	hr
Processing (Melt) Temp	554 to 626	°F
Mold Temperature	176 to 230	°F

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 0.039 in/min

[3] 2.0 in/min

[4] 0.079 in/min

[5] 3-points

[6] 11.1 ft/sec

[7] Rate B (120°C/h), Loading 1 (10 N)

[8] This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.