CALIBRE™ 2061-10

Trinseo - Polycarbonate Resin

General Information

Product Description

CALIBRE™ 2061-10 resin provides exceptional clarity, heat resistance, impact strength, processability, and has low contamination levels. CALIBRE 2061-10 resin has been tested according to ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications. It is compatible with most medical sterilization methods.

Main Characteristics:

- Tested under ISO 10993
- Contains Mold Release

Applications:

- Medical Applications
- Surgical Device Handles
- Drug Delivery Devices
- Fluid Delivery 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 [1]		
Appearance	• Clear/Transparent	• Colors Available	
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties [2]

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)	10	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	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	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)	10300	psi	ASTM D638
Tensile Stress (Break)	10300	psi	ISO 527-2/50
Tensile Elongation [3] (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation [3] (Break)	130	%	ASTM D638

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strain (Break)	140	%	ISO 527-2/50
Flexural Modulus	350000	psi	ASTM D790
Flexural Modulus [4, 5]	348000	psi	ISO 178
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	6.2	ft·lb/in²	
73°F	17	ft·lb/in²	
Notched Izod Impact (73°F)	16	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	43	ft·lb/in²	ISO 180/1A
Instrumented Dart Impact [6] (73°F, Total Energy)	783	in·lb	ASTM D3763
Tensile Impact Strength	248	ft·lb/in²	ASTM D1822
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	73		
R-Scale	118		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	289	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	291	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	291	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	262	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	257	°F	
Deflection Temperature Under Load (264 psi, Annealed)	286	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	286	°F	ISO 75-2/A
Vicat Softening Temperature	295	°F	ISO 306/B50
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 [7]			UL 94
0.12 in	HB		
0.030 in	V-2		
0.11 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

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Optical	Nominal Value	Unit	Test Method
Haze	< 1.00	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	4.0	hr
Processing (Melt) Temp	554 to 590	°F
Mold Temperature	158 to 212	°F

Notes

[1] Biocompatibility testing following ISO Guidelines 10993 has been completed on select classic resins in this series. Please consult Trinseo for details. ISO guidelines include a sensitization test.

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

[3] 2.0 in/min

[4] 0.079 in/min

[5] 3-points

[6] 10.8 ft/sec

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