CALIBRE™ 2060-6

Trinseo - Polycarbonate Resin

Tuesday, November 5, 2019

General Information

Product Description

CALIBRE™ 2060-6 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 2060-6 provides exceptional clarity, heat resistance, impact strength, and processability, and has low contamination levels. The CALIBRE 2000 series of resins have been evaluated by certain biocompatibility tests based on on ISO 10993-1 (Biological Evaluation of Medical Devices) and are suitable for use in approved medical applications.

Main Characteristics:

- Tested under ISO 10993 and USP
- FDA 21 CFR 177.1580

Applications:

- Medical applications

General			
Material Status	• Commercial: Active		
Availability	• Latin America	• North America	
Features	• Biocompatible • Ethylene Oxide Sterilizable • Good Processability	• High Clarity • High Heat Resistance • High Impact Resistance	• Steam Sterilizable
Uses	• Medical/Healthcare Applications		
Agency Ratings	• ISO 10993 [1]		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [2]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm³	ISO 1183/A
Melt Mass-Flow Rate (300°C/1.2 kg)	6.0	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0	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 (24 hr, 73°F)	0.15	%	ASTM D570
Water Absorption (24 hr, 73°F)	0.15	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [3]	350000	psi	ASTM D638
Tensile Modulus	350000	psi	ISO 527-2/1
Tensile Strength [4] (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength [4] (Break)	10500	psi	ASTM D638
Tensile Stress (Break)	10400	psi	ISO 527-2/50
Tensile Elongation [4] (Break)	150	%	ASTM D638

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Mechanical	Nominal Value	Unit	Test Method
Tensile Strain (Break)	150	%	ISO 527-2/50
Flexural Modulus [5]	350000	psi	ASTM D790
Flexural Modulus [6]	350000	psi	ISO 178
Flexural Strength [5]	14000	psi	ASTM D790
Flexural Stress [6]	13900	psi	ISO 178
Taber Abrasion Resistance	45	%	ASTM D1044
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (73°F)	17	ft·lb/in	ASTM D256A
Notched Izod Impact Strength (73°F)	42	ft·lb/in²	ISO 180/A
Unnotched Izod Impact (73°F)	No Break		ASTM D256
Unnotched Izod Impact Strength (73°F)	No Break		ISO 180
Instrumented Dart Impact [7] (73°F)	800	in·lb	ASTM D3763
Tensile Impact Strength	280	ft·lb/in²	ASTM D1822
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	73		
R-Scale	118		

Notes

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

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

[3] 0.039 in/min

[4] 2.0 in/min

[5] Method I (3 point load), 0.079 in/min

[6] 0.079 in/min

[7] 11.1 ft/sec