

CALIBRE™ 2061-12

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ 2061-12 resin is suitable for steam and ethylene oxide sterilization required by the health care industry. CALIBRE 2061-12 provides exceptional clarity, heat resistance, impact strength, processability, and has low contamination levels. CALIBRE 2061-12 resin is compliant with ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications. This product contains mold release.

Main Characteristics:

ISO 10993

Applications:

Medical applications

General Information			
Additive	Mold Release		
Features	Biocompatible		
	Ethylene Oxide Sterilizable		
	Good Processability		
	High Clarity		
	High Impact Resistance		
	High Purity		
	Steam Sterilizable		
	Uses	Medical/Healthcare Applications	
Agency Ratings	ISO 10993		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm³	ASTM D792, ISO 1183/A
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	12	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955, ISO 294-4
Water Absorption			ASTM D570, ISO 62
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.32	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	73		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2220	MPa	ASTM D638
--	2200	MPa	ISO 527-2/50
Tensile Strength			

Yield ²	62.9	MPa	ASTM D638
Yield	62.9	MPa	ISO 527-2/50
Break	73.7	MPa	ISO 527-2/50
Tensile Elongation			
Yield ³	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁴	150	%	ASTM D638
Break	150	%	ISO 527-2/50
Flexural Modulus			
-- ⁵	2220	MPa	ASTM D790
--	2250	MPa	ISO 178
Flexural Strength			
-- ⁶	99.2	MPa	ASTM D790
--	92.5	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	12	kJ/m ²	
23°C	46	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
23°C	750	J/m	ASTM D256
23°C	65	kJ/m ²	ISO 180/A
Unnotched Izod Impact (23°C)	No Break		ASTM D256, ISO 180
Instrumented Dart Impact ⁷ (23°C, Total Energy)	82.2	J	ASTM D3763
Tensile Impact Strength	378	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Annealed	140	°C	ASTM D648
1.8 MPa, Unannealed	126	°C	ASTM D648
1.8 MPa, Unannealed	130	°C	ISO 75-2/A
1.8 MPa, Annealed	129	°C	ASTM D648
1.8 MPa, Annealed	136	°C	ISO 75-2/A
Vicat Softening Temperature	147	°C	ISO 306/B50
CLTE - Flow			
-40 to 82°C	6.8E-5	cm/cm/°C	ASTM D696
-40 to 82°C	7.0E-5	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			
--	2.0E+17	ohms · cm	ASTM D257

--	> 1.0E+13	ohms·cm	IEC 60093
Dielectric Strength	17	kV/mm	ASTM D149, IEC 60243-1
Dielectric Constant			
60 Hz	3.00		ASTM D150
1 MHz	3.00		ASTM D150, IEC 60250
100 Hz	3.00		IEC 60250
Dissipation Factor			
50 Hz	1.0E-3		ASTM D150
1 MHz	2.0E-3		ASTM D150, IEC 60250
100 Hz	1.0E-3		IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating ⁸ (1.50 mm)	HB		UL 94
Oxygen Index ⁹	26	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542, ISO 489
Transmittance	89.0	%	ASTM D1003
Haze	1.0	%	ASTM D1003
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	50 mm/min		
5.	Method I (3 point load), 2.0 mm/min		
6.	Method I (3 point load), 2.0 mm/min		
7.	3.39 m/sec		
8.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		
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