TRINSEO™

CALIBRE™ 2061-22
Polycarbonate Resin

Overview

CALIBRE™ 2061-22 resin is suitable for steam and ethylene oxide sterilization required by the health care industry. CALIBRE 2061-22 provides exceptional clarity, heat resistance, impact strength and processability, and has low contamination levels. CALIBRE 2061-22 resin has undergone biocompatibility testing based on ISO 10993 (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

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.20	g/cm³	1.20	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	g/10 min	22	g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	0.50 to 0.70	%	ASTM D955
Water Absorption					ISO 62
Saturation, 73°F (23°C)	0.32	%	0.32	%	
Equilibrium, 73°F (23°C), 50% RH	0.12	%	0.12	%	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus					
-- [1]	339000	psi	2340	MPa	ASTM D638
--	334000	psi	2300	MPa	ISO 527-1/1
Tensile Strength					
Yield [2]	8700	psi	60.0	MPa	ASTM D638
Yield	8700	psi	60.0	MPa	ISO 527-2/50
Break [2]	9500	psi	65.5	MPa	ASTM D638
Break	9430	psi	65.0	MPa	ISO 527-2/50
Tensile Elongation					
Yield [2]	6.0	%	6.0	%	ASTM D638
Break [2]	120	%	120	%	ASTM D638
Break	120	%	120	%	ISO 527-2/50
Flexural Modulus					
--	350000	psi	2410	MPa	ASTM D790
-- [3]	348000	psi	2400	MPa	ISO 178
Flexural Strength					
--	14000	psi	96.5	MPa	ASTM D790
-- [3]	14100	psi	97.0	MPa	ISO 178

Impact	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Charpy Notched Impact Strength					ISO 179/1eA
-22°F (-30°C)	5.2	ft·lb/in²	11	kJ/m²	
73°F (23°C)	9.5	ft·lb/in²	20	kJ/m²	
Notched Izod Impact					
73°F (23°C)	14	ft·lb/in	750	J/m	ASTM D256
73°F (23°C)	35	ft·lb/in²	74	kJ/m²	ISO 180/1A
Instrumented Dart Impact [4]					ASTM D3763
73°F (23°C), Total Energy	640	in·lb	72.3	J	
Tensile Impact Strength	180	ft·lb/in²	378	kJ/m²	ASTM D1822
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness (R-Scale)	118		118		ASTM D785
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
66 psi (0.45 MPa), Unannealed	280	°F	138	°C	ASTM D648
66 psi (0.45 MPa), Annealed	288	°F	142	°C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	259	°F	126	°C	ASTM D648
264 psi (1.8 MPa), Unannealed	252	°F	122	°C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	282	°F	139	°C	ASTM D648 ISO 75-2/A
Vicat Softening Temperature					
--	300	°F	149	°C	ASTM D1525 [5]
--	288	°F	142	°C	ISO 306/B50
CLTE - Flow					
-40 to 176°F (-40 to 80°C)	3.8E-5	in/in/°F	6.8E-5	cm/cm/°C	ASTM D696
--	3.9E-5	in/in/°F	7.0E-5	cm/cm/°C	ISO 11359-2
Electrical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Volume Resistivity					
--	2.0E+17	ohms·cm	2.0E+17	ohms·cm	ASTM D257
--	1.0E+15	ohms·cm	1.0E+15	ohms·cm	IEC 60093
Dielectric Strength					
--	420	V/mil	17	kV/mm	ASTM D149
--	430	V/mil	17	kV/mm	IEC 60243-1
Dielectric Constant					
60 Hz	3.00		3.00		ASTM D150
1 MHz	3.00		3.00		ASTM D150 IEC 60250
100 Hz	3.00		3.00		IEC 60250
Dissipation Factor					
50 Hz	1.0E-3		1.0E-3		ASTM D150
1 MHz	2.0E-3		2.0E-3		ASTM D150 IEC 60250
100 Hz	1.0E-3		1.0E-3		IEC 60250
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Flame Rating [6]					UL 94
0.12 in (3.0 mm)	HB		HB		
0.030 in (0.75 mm)	V-2		V-2		
0.11 in (2.8 mm)	V-2		V-2		
Optical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Refractive Index	1.586		1.586		ASTM D542 ISO 489
Light Transmittance	87.0 to 91.0	%	87.0 to 91.0	%	ASTM D1003
Haze	< 1.00	%	< 1.00	%	ASTM D1003

Injection	Nominal Value	(English)	Nominal Value	(SI)
Drying Temperature	248	°F	120	°C
Drying Time	4.0	hr	4.0	hr
Processing (Melt) Temp	500 to 536	°F	260 to 280	°C
Mold Temperature	158 to 194	°F	70 to 90	°C