

# CALIBRE™ 2061-22

## Trinseo - Polycarbonate Resin

### General Information

#### Product Description

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

#### 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 <sup>1</sup>		
Appearance	• Clear/Transparent	• Colors Available	
Forms	• Pellets		
Processing Method	• Injection Molding		

### Properties<sup>2</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	g/10 min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	ASTM D955
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 <sup>3</sup>	339000	psi	ASTM D638
Tensile Modulus	334000	psi	ISO 527-1/1
Tensile Strength <sup>4</sup> (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength <sup>4</sup> (Break)	9500	psi	ASTM D638
Tensile Stress (Break)	9430	psi	ISO 527-2/50
Tensile Elongation <sup>4</sup> (Yield)	6.0	%	ASTM D638
Tensile Elongation <sup>4</sup> (Break)	120	%	ASTM D638
Tensile Strain (Break)	120	%	ISO 527-2/50
Flexural Modulus	350000	psi	ASTM D790
Flexural Modulus <sup>5</sup>	348000	psi	ISO 178
Flexural Strength	14000	psi	ASTM D790

# CALIBRE™ 2061-22

## Trinseo - Polycarbonate Resin

Mechanical	Nominal Value	Unit	Test Method
Flexural Stress <sup>5</sup>	14100	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	5.2	ft·lb/in <sup>2</sup>	
73°F	9.5	ft·lb/in <sup>2</sup>	
Notched Izod Impact (73°F)	14	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	35	ft·lb/in <sup>2</sup>	ISO 180/1A
Instrumented Dart Impact <sup>6</sup> (73°F, Total Energy)	640	in·lb	ASTM D3763
Tensile Impact Strength	180	ft·lb/in <sup>2</sup>	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	280	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	288	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Annealed)	288	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	259	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	252	°F	
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ISO 75-2/A
Vicat Softening Temperature	300	°F	ASTM D1525 <sup>7</sup>
Vicat Softening Temperature	288	°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	2.0E+17	ohms·cm	ASTM D257
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Dielectric Strength	420	V/mil	ASTM D149
Electric Strength	430	V/mil	IEC 60243-1
Dielectric Constant			ASTM D150
60 Hz	3.00		
1 MHz	3.00		
Relative Permittivity			IEC 60250
100 Hz	3.00		
1 MHz	3.00		
Dissipation Factor			ASTM D150
50 Hz	1.0E-3		
1 MHz	2.0E-3		
Dissipation Factor			IEC 60250
100 Hz	1.0E-3		
1 MHz	2.0E-3		
Flammability	Nominal Value	Unit	Test Method
Flame Rating <sup>8</sup>			UL 94
0.12 in	HB		
0.030 in	V-2		
0.11 in	V-2		

## CALIBRE™ 2061-22

### Trinseo - Polycarbonate Resin

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

### Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	4.0	hr
Processing (Melt) Temp	500 to 536	°F
Mold Temperature	158 to 194	°F

### Notes

<sup>1</sup> 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.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> 0.039 in/min

<sup>4</sup> 2.0 in/min

<sup>5</sup> 0.079 in/min

<sup>6</sup> 11.1 ft/sec

<sup>7</sup> Rate B (120°C/h), Loading 1 (10 N)

<sup>8</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.