



CALIBRE™ 5201S-12

Trinseo - Polycarbonate Resin

General Information

Product Description

CALIBRE™ 5201S-12 polycarbonate resin is 20% glass reinforced and contains silicone for improved lubricity. This resin exhibits high modulus and excellent dimensional stability. CALIBRE 5201S-12 has been tested according to ISO 10993 (Biological Evaluation of Medical Devices). It is suitable for radiation, ethylene oxide, and steam sterilization as needed in the health care industry.

Main Characteristics:

- Tested under ISO 10993
- Lubricious

Applications:

- Medical applications
- Surgical device handles

General

Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight		
Additive	• Mold Release	• Silicone Lubricant	
Features	• Biocompatible • Ethylene Oxide Sterilizable • Good Processability	• High Heat Resistance • High Impact Resistance • Lubricated	• Radiation Sterilizable • Steam Sterilizable
Uses	• Medical Devices	• Medical/Healthcare Applications • Surgical Instruments	
Agency Ratings	• ISO 10993 ¹		
Appearance	• Colors Available	• Opaque	
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties ²

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.36		ASTM D792
Density	1.36	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	12	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	12	g/10 min	ISO 1133
Molding Shrinkage - Flow	3.0E-3 to 4.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	5.0E-3 to 6.0E-3	in/in	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ³	856000	psi	ASTM D638
Tensile Modulus	812000	psi	ISO 527-1/1
Tensile Strength ⁴ (Yield)	12300	psi	ASTM D638
Tensile Stress (Yield)	12600	psi	ISO 527-2/5
Tensile Strength ⁴ (Break)	12100	psi	ASTM D638
Tensile Stress (Break)	12300	psi	ISO 527-2/5
Tensile Elongation ⁴ (Yield)	3.5	%	ASTM D638
Tensile Strain (Yield)	3.2	%	ISO 527-2/5
Tensile Elongation ⁴ (Break)	3.7	%	ASTM D638
Tensile Strain (Break)	3.5	%	ISO 527-2/5
Flexural Modulus	783000	psi	ASTM D790

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Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus ⁵	783000	psi	ISO 178
Flexural Strength	18700	psi	ASTM D790
Flexural Stress ⁵	19600	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F)	1.6	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	10	ft·lb/in ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	289	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Unannealed)	289	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed	280	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed	282	°F	ISO 75-2/A
Vicat Softening Temperature	311	°F	ASTM D1525 ⁶
Vicat Softening Temperature	295	°F	ISO 306/B50

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.020	%
Processing (Melt) Temp	545 to 599	°F
Mold Temperature	176 to 230	°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 0.039 in/min

⁴ 0.20 in/min

⁵ 0.079 in/min

⁶ Rate B (120°C/h), Loading 1 (10 N)