

# CALIBRE™ MEGARAD™ 2081-22

## Trinseo - Polycarbonate Resin

### General Information

#### Product Description

CALIBRE™ MEGARAD™ 2081-22 Polycarbonate resin is a high-flow resin designed for injection molded medical parts. It is stabilized to reduce color shift associated with exposure to high energy radiation (gamma or electron-beam). It is available in light purple transparent color designation FC030006.

#### Main Characteristics:

- Stabilized for high-energy radiation
- Transparent
- Contains mold release
- Tested under ISO 10993 and USP

#### Applications:

- Medical applications

#### General

Additive	• Mold Release
Features	• Biocompatible • Good Processability • Radiation Sterilizable
Uses	• Medical Devices • Medical/Healthcare Applications • Surgical Instruments
Agency Ratings	• ISO 10993 <sup>1</sup>
Appearance	• Clear/Transparent
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 (24 hr, 73°F)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	334000	psi	ISO 527-1/1
Tensile Strength <sup>3</sup> (Yield)	8990	psi	ASTM D638
Tensile Stress (Yield)	8990	psi	ISO 527-2/50
Tensile Strength <sup>3</sup> (Break)	9860	psi	ASTM D638
Tensile Stress (Break)	9860	psi	ISO 527-2/50
Tensile Elongation <sup>3</sup> (Yield)	6.0	%	ASTM D638
Tensile Elongation <sup>3</sup> (Break)	120	%	ASTM D638
Tensile Strain (Break)	120	%	ISO 527-2/50
Flexural Modulus	350000	psi	ASTM D790
Flexural Modulus <sup>4</sup>	348000	psi	ISO 178
Flexural Strength	14000	psi	ASTM D790
Flexural Stress <sup>4</sup>	14100	psi	ISO 178

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Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F)	14	ft-lb/in	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 264 psi, Unannealed	252	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed	244	°F	ISO 75-2/A
Vicat Softening Temperature	288	°F	ASTM D1525 <sup>5</sup>
Vicat Softening Temperature	279	°F	ISO 306/B50
CLTE - Flow (-40 to 176°F)	3.8E-5	in/in/°F	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Electric Strength	430	V/mil	IEC 60243-1
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542
Refractive Index	1.586		ISO 489
Light Transmittance	71.0 to 85.0	%	ASTM D1003
Haze	< 2.00	%	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> 2.0 in/min

<sup>4</sup> 0.079 in/min

<sup>5</sup> Rate B (120°C/h), Loading 1 (10 N)