



CALIBRE™ MEGARAD™ 2091-15

Trinseo - Polycarbonate Resin

Tuesday, November 5, 2019

General Information

Product Description

CALIBRE™ MEGARAD™ 2091 Polycarbonate Resin is designed for medical devices that require oxygen-free gamma sterilization. Under these conditions, this material delivers an accelerated color recovery. In addition, the resins have a more water white appearance rather than the traditional purple tinted resin used to compensate for these sterilization methods. CALIBRE™ MEGARAD™ 2091-15 Polycarbonate Resin has undergone biocompatibility testing based on ISO 10993 standards (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications.

Main Characteristics

- Tested under ISO 10993
- Contains mold Release
- Suitable for Oxygen-free radiation sterilization

Applications

- Medical Applications

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Additive	• Mold Release
Features	• Biocompatible • E-beam Sterilizable • Radiation Sterilizable
Uses	• Electrical/Electronic Applications • Medical/Healthcare Applications
Agency Ratings	• ISO 10993
Appearance	• Water White
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm ³	ISO 1183/B
Melt Mass-Flow Rate (300°C/1.2 kg)	15	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	ASTM D955
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Water Absorption (24 hr, 73°F)	0.15	%	ASTM D570
Water Absorption (24 hr, 73°F)	0.15	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	0.32	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	334000	psi	ASTM D638
Tensile Modulus	334000	psi	ISO 527-2/1
Tensile Strength ³ (Yield)	9000	psi	ASTM D638
Tensile Stress (Yield)	8990	psi	ISO 527-2/50
Tensile Strength ³ (Break)	9900	psi	ASTM D638
Tensile Stress (Break)	9860	psi	ISO 527-2/50

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Mechanical	Nominal Value	Unit	Test Method
Tensile Elongation ³ (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	150	%	ASTM D638
Tensile Strain (Break)	150	%	ISO 527-2/50
Flexural Strength ⁴	14000	psi	ASTM D790
Flexural Stress ^{5, 6}	14200	psi	ISO 178
Taber Abrasion Resistance	45	%	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F)	14	ft-lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	36	ft-lb/in ²	ISO 180/A
Unnotched Izod Impact (73°F)	No Break		ASTM D256
Unnotched Izod Impact Strength (73°F)	No Break		ISO 180
Instrumented Dart Impact ⁷ (73°F, Total Energy)	720	in-lb	ASTM D3763
Tensile Impact Strength	180	ft-lb/in ²	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ASTM D785

Notes

¹ Typical properties: these are not to be construed as specifications.

² 0.039 in/min

³ 2.0 in/min

⁴ Method I (3 point load), 0.079 in/min

⁵ 0.079 in/min

⁶ 3-points

⁷ 11.1 ft/sec