CALIBRE™ MEGARAD™ 2081-6LR

Polycarbonate Resin

Trinseo

Message:

CALIBRE™ MEGARAD™ 2081-6LR Polycarbonate resin was developed for medical applications requiring improved resistance to lipids over standard polycarbonate resins. When exposed to a 20% intralipid emulsion solution under strained conditions, CALIBRE MEGARAD 2081-6LR exhibits significant property retention compared to standard polycarbonate. It also provides end-users of radiation sterilized medical devices a color closer to the water-clear look of the natural resin. When exposed to high energy radiation (gamma or electron beam), CALIBRE MEGARAD 2081-6LR can reduce the color shift by 50% compared to general purpose polycarbonate resins.
CALIBRE MEGARAD 2081-6LR has been evaluated with respect to ISO 10993 (Biological Evaluation of Medical Devices) and is suitable for use in approved medical applications.
Main Characteristics
Improved lipid resistance
Stabilized for high-energy radiation
Transparent
Contains mold release
Tested under ISO 10993
Applications
Medical applications

General Information	
Additive	Mold Release
Uses	Electrical/Electronic Applications General Purpose Medical/Healthcare Applications
Agency Ratings	ISO 10993 2
Appearance	Clear/Transparent
Forms	Pellets
Processing Method	Injection Molding
Multi-Point Data	Specific Heat vs. Temperature (ASTM D3417) Specific Volume vs Temperature (ISO 11403-2) Tensile Stress vs. Strain (ASTM D638) Thermal Conductivity vs. Temperature (ASTM E1530)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.50 to 0.70	%	ASTM D955
Water Absorption			ASTM D570
23°C, 24 hr	0.15	%	
Equilibrium, 23°C, 50% RH	0.32	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	118		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**

Tensile Modulus [1]	2340	MPa	ASTM D638
Tensile Strength [2]			ASTM D638
Yield	65.5	MPa	
Break	68.3	MPa	
Tensile Elongation [3]			ASTM D638
Yield	6.0	%	
Break	130	%	
Flexural Modulus [4]	2410	MPa	ASTM D790
Flexural Strength [5]	96.5	MPa	ASTM D790
Taber Abrasion Resistance	45	%	ASTM D1044
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	850	J/m	ASTM D256
Unnotched Izod Impact (23°C)	No Break		ASTM D256
Instrumented Dart Impact [6] (23°C, Total Energy)	89.3	J	ASTM D3763
Tensile Impact Strength	567	kJ/m^2	ASTM D1822
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Annealed	145	°C	
1.8 MPa, Unannealed	129	°C	
1.8 MPa, Annealed	142	°C	
Vicat Softening Temperature	151	°C	ASTM D1525 [7]
CLTE - Flow	6.8E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	2.0E+17	ohms·cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.00		
1 MHz	3.00		
Dissipation Factor			ASTM D150
50 Hz	1.0E-3		
1 MHz	2.0E-3		
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.586		ASTM D542
Transmittance	85.0	%	ASTM D1003
Haze	1.0	%	ASTM D1003
NOTE			
1.	50 mm/min		
2.	50 mm/min		
3.	50 mm/min		
4.	Method I (3 point load), 2.0 mm/min		

5.	Method I (3 point load), 2.0 mm/min
6.	3.39 m/sec
7.	Rate A (50°C/h), Loading 2 (50 N)

Recommended distributors for this material

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