TRINSEO™

PLEXIGLAS® SG10

Overview

Plexiglas® SG10 is an impact modified acrylic resin suitable for injection molding and extrusion. This grade is formulated for approved medical applications. It is a high flow resin designed to provide outstanding light transmission and water white clarity for disposable medical applications.

Some of the features and benefits of Plexiglas® SG10 are:

- Chemical Resistance
  - Good resistance to lipids and drug formulations
  - Good resistance to isopropyl alcohol (IPA)
  - Property retention after exposure to hospital antiseptics, acids and bases
- Sterilization
  - Stable to gamma radiation, E-beam, and ETO
  - Rapid recovery with excellent color stability
  - Retention of transparency and clarity
  - Retention of mechanical properties
- Durability and Processability
  - Moldflow simulation data available
  - Excellent melt processability
  - Reduced cycle times
  - Suitable for thin-wall applications and complex multi-cavity molds
  - Good bondability using solvent, ultrasonic, or radio frequency methods

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.15	g/cm³	1.15	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	3.3	g/10 min	3.3	g/10 min	ASTM D1238
Molding Shrinkage - Flow	3.0E-3 to 8.0E-3	in/in	0.30 to 0.80	%	ASTM D955
Water Absorption (24 hr)	0.40	%	0.40	%	ASTM D570
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus	270000	psi	1860	MPa	ASTM D638
Tensile Strength (Break)	5300	psi	36.5	MPa	ASTM D638
Tensile Elongation (Break)	50	%	50	%	ASTM D638
Flexural Modulus	270000	psi	1860	MPa	ASTM D790
Flexural Strength (Yield)	10300	psi	71.0	MPa	ASTM D790
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Notched Izod Impact (73°F (23°C))	0.90	ft·lb/in	48	J/m	ASTM D256
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness (M-Scale)	38		38		ASTM D785
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load [1]					ASTM D648
66 psi (0.45 MPa), Annealed	190	°F	87.8	°C	
264 psi (1.8 MPa), Annealed	181	°F	82.8	°C	
Vicat Softening Temperature					
--	199	°F	93.0	°C	ASTM D1525 [2]
--	176	°F	80.0	°C	ASTM D1525 [3]
Thermal Conductivity	1.5	Btu·in/hr/ft²/°F	0.22	W/m/K	ASTM C177

Flammability	Nominal Value (English)		Nominal Value (SI)		Test Method
Flame Rating	HB		HB		UL 94
Optical	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
Refractive Index [4]	1.490		1.490		ASTM D542
Light Transmittance (125.0 mil (3175 µm))	90.0	%	90.0	%	ASTM D1003
Haze (125.0 mil (3175 µm))	< 2.00	%	< 2.00	%	ASTM D1003
Additional Information	**Nominal Value (English)**		**Nominal Value (SI)**		**Test Method**
ASTM Classification	PMMA 0230V2		PMMA 0230V2		ASTM D788