

# 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/cm <sup>3</sup>	1.15 g/cm <sup>3</sup>	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 <sup>1</sup>			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 <sup>2</sup>
--	176 °F	80.0 °C	ASTM D1525 <sup>3</sup>
Thermal Conductivity	1.5 Btu-in/hr/ft <sup>2</sup> /°F	0.22 W/m/K	ASTM C177

<b>Flammability</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Flame Rating	HB	HB	UL 94
<b>Optical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Refractive Index <sup>4</sup>	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
<b>Additional Information</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
ASTM Classification	PMMA 0230V2	PMMA 0230V2	ASTM D788

### Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

<sup>1</sup> Annealing cycle: 4hrs @ 176°F

<sup>2</sup> Rate A (50°C/h), Loading 1 (10 N)

<sup>3</sup> Rate A (50°C/h), Loading 2 (50 N)

<sup>4</sup> ND @ 72°F



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