# Plexiglas® SG10

Polymethyl Methacrylate Acrylic

Altuglas International of Arkema Inc.

## Message:

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

| General Information | |
|---|---|
| UL YellowCard | E39437-102073164 |
| Additive | Impact Modifier |
| Features | Alcohol Resistant |
| | Biocompatible |
| | Bondability |
| | BPA Free |
| | E-beam Sterilizable |
| | Ethylene Oxide Sterilizable |
| | Good Chemical Resistance |
| | Good Moldability |
| | High Clarity |
| | High ESCR (Stress Crack Resist.) |
| | High Impact Resistance |
| | Impact Modified |
| | Radiation (Gamma) Resistant |
| Uses | Medical Devices |
| | Medical/Healthcare Applications |
| Agency Ratings | ISO 10993 Part 4 |
| | ISO 10993 Part 5 |
| | USP Class VI |

| | |
|---|---|
| RoHS Compliance | RoHS Compliant |
| Appearance | Clear/Transparent |
| Forms | Pellets |
| Processing Method | Extrusion |
| | Injection Molding |

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Specific Gravity | 1.15 | g/cm³ | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (230°C/3.8 kg) | 3.3 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.30 to 0.80 | % | ASTM D955 |
| Water Absorption (24 hr) | 0.40 | % | ASTM D570 |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Rockwell Hardness (M-Scale) | 38 | | ASTM D785 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus | 1860 | MPa | ASTM D638 |
| Tensile Strength (Break) | 36.5 | MPa | ASTM D638 |
| Tensile Elongation (Break) | 50 | % | ASTM D638 |
| Flexural Modulus | 1860 | MPa | ASTM D790 |
| Flexural Strength (Yield) | 71.0 | MPa | ASTM D790 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Notched Izod Impact (23°C) | 48 | J/m | ASTM D256 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load [1] | | | ASTM D648 |
| 0.45 MPa, Annealed | 87.8 | °C | |
| 1.8 MPa, Annealed | 82.8 | °C | |
| Vicat Softening Temperature | | | |
| -- | 93.0 | °C | ASTM D1525 [2] |
| -- | 80.0 | °C | ASTM D1525 [3] |
| Thermal Conductivity | 0.22 | W/m/K | ASTM C177 |
| **Flammability** | **Nominal Value** | | **Test Method** |
| Flame Rating | HB | | UL 94 |
| **Optical** | **Nominal Value** | **Unit** | **Test Method** |
| Refractive Index [4] | 1.490 | | ASTM D542 |
| Transmittance (3180 µm) | 90.0 | % | ASTM D1003 |
| Haze (3180 µm) | < 2.0 | % | ASTM D1003 |
| **Additional Information** | **Nominal Value** | | **Test Method** |
| ASTM Classification | PMMA 0230V2 | | ASTM D788 |
| **NOTE** | | | |
| 1. | Annealing cycle: 4hrs @ 176°F | | |
| 2. | Rate A (50°C/h), Loading 1 (10 N) | | |
| 3. | Rate A (50°C/h), Loading 2 (50 N) | | |

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|---|---|
| 4. | ND @ 72°F |



## Recommended distributors for this material

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