



Product Data Sheet

Somos[®] PerFORM

Description

Somos[®] PerFORM produces strong, stiff, high-temperature resistant composite parts on standard 355 nm stereolithography machines. This material's lower viscosity makes processing parts faster. It exhibits superior sidewall quality, along with excellent detail resolution compared to other composite stereolithography materials.

Applications

Somos[®] PerFORM is an easy to process material with excellent detail resolution. It is the ideal material for creating strong, stiff parts with excellent high heat resistance, including wind tunnel models for aerospace and automotive applications, as well as rapid tooling for injection molding.

| TECHNICAL DATA – LIQUID PROPERTIES | |
|------------------------------------|--------------------------------|
| Appearance | Off-White |
| Viscosity | ~1,000 cps @ 30°C |
| Density | ~1.61 g/cm ³ @ 25°C |

| TECHNICAL DATA – OPTICAL PROPERTIES | | |
|-------------------------------------|------------------------|--|
| E _c | 7.8 mJ/cm ² | [critical exposure] |
| D _p | 4.3 mils | [slope of cure-depth vs. ln (E) curve] |
| E ₁₀ | 80 mJ/cm ² | [exposure that gives 0.254 mm (.010 inch) thickness] |

| TECHNICAL DATA* | | | |
|--|----------------------------------|-------------------------------|---------------|
| Mechanical and Thermal/Electrical Properties | | Somos® PerFORM UV Postcure | |
| ASTM Method | Property Description | Metric | Imperial |
| D638-10 | Tensile Strength | ~68 MPa | 9.9 ksi |
| D638-10 | Tensile Modulus | ~10,500 MPa | 1,520 ksi |
| D638-10 | Elongation at Break | ~1.1% | ~1.1% |
| D790-10 | Flexural Strength | ~120 MPa | 16.5 ksi |
| D790-10 | Flexural Modulus | ~10,000 MPa | 1,340 ksi |
| D256-10 | Izod Impact (Notched) | 17 J/m | 0.32 ft-lb/in |
| D2240-05 | Hardness (Shore D) | 94 | 94 |
| D570-98 | Water Absorption | 0.2% | 0.2% |
| E831-12 | C.T.E. -40 – 0°C (-40 - 32°F) | 29.9 µm/m°C | 16.6 µin/in°F |
| E831-12 | C.T.E. 0 – 50°C (32 - 122°F) | 49.4 µm/m°C | 27.4 µin/in°F |
| E831-12 | C.T.E. 50 – 100°C (122 - 212°F) | 79.1 µm/m°C | 43.9 µin/in°F |
| E831-12 | C.T.E. 100 – 150°C (212 - 302°F) | 80.9 µm/m°C | 44.9 µin/in°F |
| D150-11 | Dielectric Constant 60 Hz | 4.0 | 4.0 |
| D150-11 | Dielectric Constant 1 KHz | 3.8 | 3.8 |
| D150-11 | Dielectric Constant 1 MHz | 3.6 | 3.6 |
| D149-09 | Dielectric Strength | 26.3 kV/mm | 668 V/mil |

*Typical performance properties. Results are dependent upon processing.

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