



Somos[®] NeXt

Stereolithography



An extremely durable stereolithography material that creates parts ready for functional testing.

Somos® NeXt is a highly durable stereolithography material which produces very accurate parts with high feature resolution. This material is ideal for the production of tough, complex parts that also exhibit excellent moisture and thermal resistance. **Somos® NeXt** has a look and feel that is almost indistinguishable from finished traditional thermoplastics, making it perfect for building parts and prototypes for functional testing applications – resulting in time, money and material savings during product development.

Seeing was believing for Warrior Sports

During a test game that used professional athletes, hard rubber balls (weighing 5.25 ounces) were caught and thrown using **Somos® NeXt** prototype lacrosse heads. Speeds of 90+ mph were achieved to test the durability of not only the design of the head, but also, the durability of **Somos® NeXt**.

Key Benefits

- Superior strength and durability
- Exceptionally versatile
- Thermoplastic-like performance, look and feel

Ideal Applications

- Aerospace, automotive, medical, consumer products and electronic applications
- Tough, functional end-use prototypes
- Snap-fit designs
- Jigs and fixtures
- Packaging and sporting goods

Technical Data

| Liquid Properties | | Optical Properties | | |
|-------------------|--------------------------------|--------------------|-----------------------|------------------------------------------------------|
| Appearance | White | E_c | 12 mJ/cm ² | [critical exposure] |
| Viscosity | ~1,000 cps @ 30°C | D_p | 5.8 mils | [slope of cure-depth vs. ln (E) curve] |
| Density | ~1.17 g/cm ³ @ 25°C | E_{10} | 67 mJ/cm ² | [exposure that gives 0.254 mm (.010 inch) thickness] |

| Mechanical Properties | | UV Postcure | |
|-----------------------|---------------------------|-------------|---------------|
| ASTM Method | Property Description | Metric | Imperial |
| D638M | Tensile Modulus | 2,430 MPa | 352 ksi |
| D638M | Tensile Strength at Yield | 42.2 MPa | 6.1 ksi |
| D638M | Tensile Strength at Break | 32.8 MPa | 4.8 ksi |
| D638M | Elongation at Break | | 9% |
| D638M | Elongation at Yield | | 3% |
| D638M | Poisson's Ratio | | 0.43 |
| D790M | Flexural Strength | 69.3 MPa | 10.1 ksi |
| D2240 | Flexural Modulus | 2,470 MPa | 358 ksi |
| D256A | Izod Impact (Notched) | 50 J/m | 0.94 ft-lb/in |
| D2240 | Hardness (Shore D) | | 82 |
| D570-98 | Water Absorption | | 0.40% |

| Thermal/Electrical Properties | | UV Postcure | |
|-------------------------------|------------------------------|------------------------------------------|---------------------------------------------|
| ASTM Method | Property Description | Metric | Imperial |
| E831-05 | C.T.E. -40–0°C (-40–32°F) | 73 $\mu\text{m}/\text{m}^\circ\text{C}$ | 40.6 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| E831-05 | C.T.E. 0–50°C (32–122°F) | 111 $\mu\text{m}/\text{m}^\circ\text{C}$ | 61.7 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| E831-05 | C.T.E. 50–100°C (122–212°F) | 172 $\mu\text{m}/\text{m}^\circ\text{C}$ | 95.6 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| E831-05 | C.T.E. 100–150°C (212–302°F) | 173 $\mu\text{m}/\text{m}^\circ\text{C}$ | 96.2 $\mu\text{in}/\text{in}^\circ\text{F}$ |
| D150-98 | Dielectric Constant 60 Hz | | 4.7 |
| D150-98 | Dielectric Constant 1 KHz | | 4 |
| D150-98 | Dielectric Constant 1 MHz | | 3.6 |
| D149-97a | Dielectric Strength | 15.2 kV/mm | 386 V/mil |
| D648 | HDT @ 0.46 MPa (66 psi) | 56°C | 133°F |
| D648 | HDT @ 1.81 MPa (264 psi) | 50°C | 122°F |

These values may vary and depend on individual machine processing and post-curing practices.

More information at [am.covestro.com](https://www.am.covestro.com)



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¹Please see the "Guidance on Use of Covestro Products in a Medical Application" document.
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