



INVISISIL™ Silicone Solutions for Optical Bonding



Momentive is a pioneer in developing solutions for silicone optical bonding, with a portfolio of proven materials that are in wide use around the world. Momentive offers a wide range of off-the-shelf solutions to help deliver design flexibility and long-term reliability to components operating under harsh conditions.

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Key Features

- High transmittance
- Low cure shrinkage
- Good elasticity
- High stability, low modulus

Typical Benefits

- Optical clarity
- Stability/low modulus to help avoid Mura effect
- CTE mismatch relief
- Outgas permeability for use on plastics
- Wide working temperature range

Potential Applications

- Displays for high ambient light environments
- Automotive, consumer, and industrial electronics
- Heavy-duty displays and touchscreens
- Direct view technologies

Optical Bonding Materials

LOCA Material Portfolio

| Product | System | Mix Ratio [by weight] | Viscosity [Pas] | Penetration [1/10mm] | Transparency | Cure Condition | Feature |
|------------|--------|--------------------------|--------------------|-------------------------|--------------|--|--|
| OP1012 | AC | 1 to 1 | 0.8 | 65 | >99 % | 30min at 70°C | Thermal cure and high elongation |
| SN1001 | AC | 1 to 1 | 1.0 | 40 | >99 % | Gel Time 18min or 30min at 60°C | Excellent adhesion, fast cure at RT |
| SN3001 | AC | 1 to 1 | 1.0 | 40 | >99 % | Gel Time 30min or 30min at 60°C | Excellent adhesion |
| SN3003HR | AC | 1 to 1 | 3.3 | 58 | >99 % | Gel Time 40min or 30min at 60°C | Excellent adhesion; HRI 1.51 |
| SN4591 | AC | 1 to 1 | 0.1 | 23 | >99 % | Gel Time 45min or 30min at 60°C | Very low viscosity, excellent adhesion; suitable for injection process |
| XE13-OP007 | AC/UV | 1P | 2.5 | 35 | >99 % | UV 365nm LED, >1000mJ/cm ² | UV cure, preactivated with shadow-cure capability, good adhesion |
| XE14-D0059 | AC/UV | 1 to 1 | 7.0 | 35 | >99 % | UV 365nm LED, >1000mJ/cm ² | UV cure, preactivated with shadow-cure capability, good adhesion |
| OP1822 | AC/UV | 1 to 1 | 46 | 20 | >99 % | UV 365nm LED, >1000mJ/cm ² | High viscosity stencil printable, good adhesion |

DAM Material Portfolio

| Product | System | Mix Ratio [by weight] | Viscosity [Pas] | Penetration [1/10mm] / Hardness | Color | Cure Condition | Feature |
|---------|--------|--------------------------|--------------------|---------------------------------------|-------------|--|----------------------------------|
| OP1912 | AC | 1 to 1 | 89 | 58 | Translucent | 30min at 60°C | Stress absorbing thixotropic gel |
| OP1922 | AC/UV | 1 to 1 | 66 | 45 | Black | UV 365nm LED, >3000mJ/cm ² | Black thixotropic gel |
| OP2922 | AC/UV | 10 to 1 | 50 | 50 shore 00 | Translucent | UV 365nm LED, >4000mJ/cm ² | Thixotropic gel, higher hardness |

Typical properties are average data and are not to be used as or to develop specifications

1P = One Part
AC = Addition Cure
HRI = High Refractive Index
RT = Room Temperature
LOCA = Liquid Optically Clear Adhesive

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

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www.momentive.com

260 Hudson River Road,
Waterford, NY 12188 USA

+1 800 295 2392 +1 614 986 2495

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please visit momentive.com/Customerservice