

Optoelectronics and electronics silicones



Silicones that are sharper, brighter and pure

SUPERIOR PERFORMANCE FROM SILICONE INDUSTRY LEADERS

As one of the original pioneers in silicones for LEDs, NuSil® has served customers for decades with formulations for demanding environments and applications. We continue to develop silicones to meet the increasing demands for cutting-edge solutions, including optically clear, temperature-resistant and high-purity products, in the optoelectronics and electronics industry.

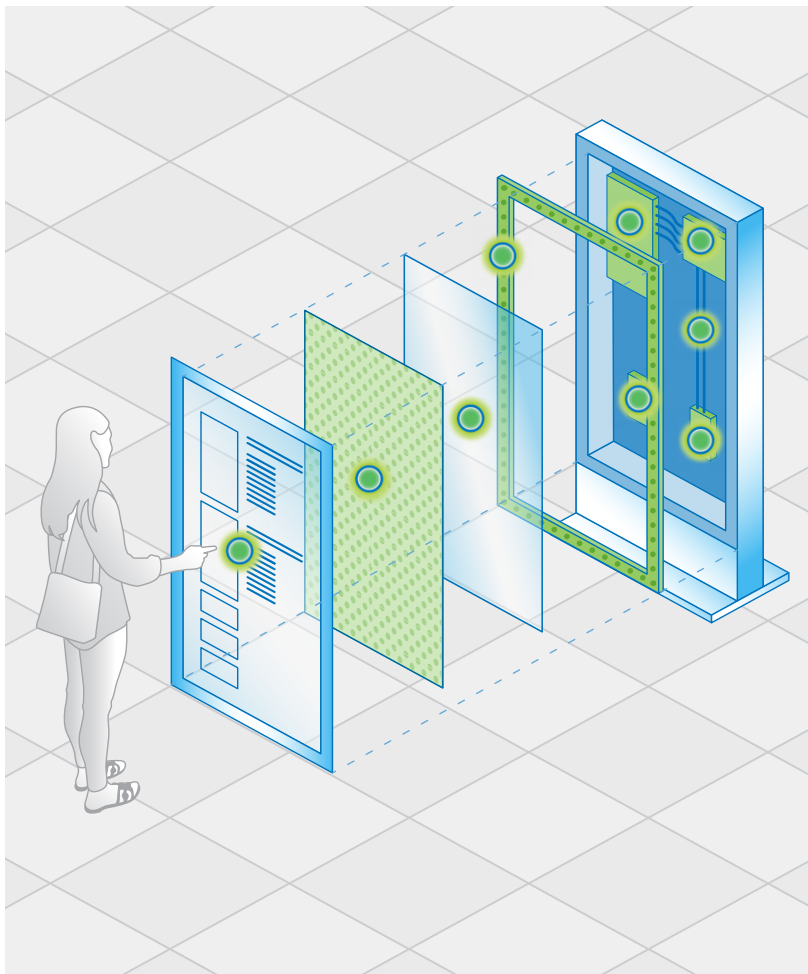
Customers can rely on our deep experience to provide highly customized solutions to each project's unique specifications. Our ability to customize allows us to design silicones that fit customers' processes, rather than forcing them to adapt to our products. This translates into solutions that are rapidly and economically scalable to accelerate time to market.



Applications

From smartphones to stadium screens, NuSil brand silicones are ideal for a wide range of uses. Leading applications for our broad portfolio of standard and customized silicones include:

- Next-generation displays
- General electronics assembly
- Sensors
- Gaskets



CUSTOMIZATION MASTERED

NuSil customers can rely on our proven expertise and extensive support systems to meet their unique needs throughout the entire commercialization process. With tested processes, proprietary equipment and over 3,000 products available for customization, we guide customers to the right silicone for their application. We work with manufacturers to seamlessly integrate our silicones into their processes.

NUSIL SUPPORT

We develop our silicones to meet or exceed industry and international quality, reliability and consistency standards with comprehensive, documented systems. NuSil is ISO 9001 certified to ensure consistent manufacturing processes and quality standards. We also support customers with testing and documentation for RoHS and REACH compliance.

Silicones for optoelectronics and electronics

HIGH-PURITY SILICONES THAT BRING CLARITY TO DEVICES & SUBASSEMBLIES

As end-users demand better reliability and longer operating life from optoelectronic and electronic devices, our customers need high-purity silicones refined to virtually eliminate common impurities. Our chemists develop silicones that absorb stress while allowing greater light output and viewing angles. NuSil silicones can also improve the ruggedness of displays used in challenging environments.

For applications that require optically clear materials, we have developed specialty silicones in a wide range of refractive indices for displays. Our optically clear silicones enable displays that are sharper, brighter and more durable.

Leading optoelectronics and electronics manufacturers use our comprehensive line of high-purity silicones to reliably protect sensitive components while improving performance and extending their life.



OPTICALLY CLEAR MATERIALS

From bigger, brighter displays to wearable devices, our silicones are optimized for applications that require greater light output and optical stability.



POTTING AND ENCAPSULATING

The size of electronics continues to shrink even as they grow in complexity. Our encapsulants provide a reliable, low-stress alternative for electronic packaging.



ADHESIVES AND SEALANTS

From precise bond line control to minimal cleanup, our adhesives and sealants bond to a wide variety of substrates and are engineered to boost manufacturing throughput.



ELECTRICALLY CONDUCTIVE AND THERMALLY CONDUCTIVE

Whether optoelectronic and electronic devices need protection from static accumulation and discharge or thermal management, NuSil silicones safeguard sensitive components.



FLUOROSILICONES

Engineered to reliably operate in a broad temperature range, our fluorosilicones protect components, even under prolonged exposure to damaging solvents, like fuel.

Optically clear materials

Description

Optical clarity is essential when manufacturing LEDs, LCDs and other displays that will be viewed from multiple angles and in varying light conditions. NuSil helps manufacturers by offering one of the industry's widest ranges of Refractive Index (RI) silicones, from 1.38 to 1.54. These options allow engineers to increase viewing angle and brightness to reduce power consumption.

Applications

Our optically clear materials, which include molding elastomers, adhesives and other formulations, are commonly used in a wide variety of displays, such as next-generation screens that are thinner and brighter.

OPTICALLY CLEAR MATERIALS

| MOLDING ELASTOMERS | | | | | | | | |
|------------------------------------|----------------------------|----------------------|----------------------------|-------------------|---|--|-----------|---|
| PRODUCT NUMBER | REFRACTIVE INDEX at 589 nm | DUROMETER TYPE A | VISCOSITY (cP/mPa-s) | TENSILE psi (mPa) | ELONGATION % | SPECIAL FEATURES | | |
| LS1-6140 | 1.41 | 50 | 3,200 | 900 (6.2) | 90 | For casting, low-compression molding and dispensing. Low volatility and requires heat to cure. | | |
| LS1-6941 | 1.41 | 50 | 62,500 | 750 (5.2) | 305 | For liquid-injection molding and casting. Requires heat to cure. | | |
| LS-8941 | 1.41 | 80 | 21,500 | 1,250 (8.6) | 65 | For liquid-injection molding, compression molding and casting. Requires heat to cure. | | |
| ADHESIVES & SEALANTS - TWO-PART | | | | | | | | |
| PRODUCT NUMBER | REFRACTIVE INDEX at 589 nm | VISCOSITY (cP/mPa-s) | LAP SHEAR psi (mPa) | DUROMETER TYPE A | TENSILE psi (mPa) | ELONGATION % | WORK TIME | SPECIAL FEATURES |
| LS2-6140 | 1.41 | 3,000 | 390 (2.7) | 47 | 940 (6.5) | 125 | > 8 h | Primerless adhesion and tested per UL 94 and passed V-0 at 3.7 mm. Low volatility for use in high-temperature environments. |
| LS-6143 | 1.43 | 3,000 | 180 (1.2) | 40 | 600 (4.1) | 125 | 2 h | Low volatility, broad operating temperature, optically robust |
| LS-6943 | 1.43 | 5,400 | - | 40 | 900 (6.2) | 120 | ~ 2 h | Broad operating temperature, optically robust |
| LS-6946 | 1.46 | 37,500 | 510 (3.5) | 30 | 675 (4.7) | 275 | 2 h | Tough elastomer that index matches fused glass |
| POTTING & ENCAPSULATING GELS | | | | | | | | |
| PRODUCT NUMBER | REFRACTIVE INDEX at 589 nm | VISCOSITY (cP/mPa-s) | PENETRATION (mm) DUROMETER | WORK TIME | SPECIAL FEATURES | | | |
| LS-3238 | 1.38 | 1,500 | 15 (00) | 11 h | Firm fluorosilicone gel. Resistant to hydrocarbon solvents. | | | |
| GEL-8136 | 1.40 | 450 | 13 mm | 2 h | RTV or cures rapidly with heat. High tack. | | | |
| LS4-3441 | 1.40 | 500 | 35 (00) | 5 h | Optically robust in harsh environments, low viscosity, very firm | | | |
| LS-3140 | 1.40 | 12,250 | 0.4 mm | 24 h | Optically robust in harsh environments, tough, low volatility, firm | | | |
| LS-3441 | 1.40 | 14,500 | 0.3 mm | 24 h | - | | | |
| LS1-3443 | 1.43 | 650 | 8 mm | 2 h | Optically robust, recommended for high-temperature environments | | | |
| LS-3246 | 1.46 | 1,000 | 10 (00) | 8 h | Index matches fused glass | | | |
| LS1-3252 | 1.52 | 425 | 25 (00) | ~ 3 h | Index matches borosilicate-crown glass (BK7) | | | |
| LS-3354 | 1.54 | 8,000 | 75 (000) | ~ 2 h | Low permeability and high refractive index | | | |
| LS3-3354 | 1.54 | 8,000 | 75 (000) | ~ 2 h | Designed to have improved adhesion | | | |
| POTTING & ENCAPSULATING ELASTOMERS | | | | | | | | |
| PRODUCT NUMBER | REFRACTIVE INDEX at 589 nm | VISCOSITY (cP/mPa-s) | DUROMETER TYPE A | TENSILE psi (mPa) | ELONGATION % | WORK TIME | MIX RATIO | SPECIAL FEATURES |
| LS2-6941 | 1.41 | 1,000 | 30 | 120 (0.8) | 100 | 5.5 h | 1:1 | RTV or cures rapidly to heat |
| LS-6140 | 1.41 | 3,125 | 50 | 850 (5.9) | 90 | 3 h | 1:1 | Low volatility |
| LS1-6140 | 1.41 | 3,200 | 50 | 900 (6.2) | 90 | > 8 h | 1:1 | Low volatility and requires heat to cure. Designed for dispensing. |
| R-2613 | 1.41 | 5,500 | 45 | 1,140 (8.0) | 150 | 2 h | 10:1 | RTV or cures rapidly with heat within 48 hours. Tested to UL 94 V-0. |
| LS-6941 | 1.41 | 5,800 | 50 | 1,300 (9.0) | 95 | 5 h | 10:1 | Heat not required to cure |

Potting and encapsulating

Description

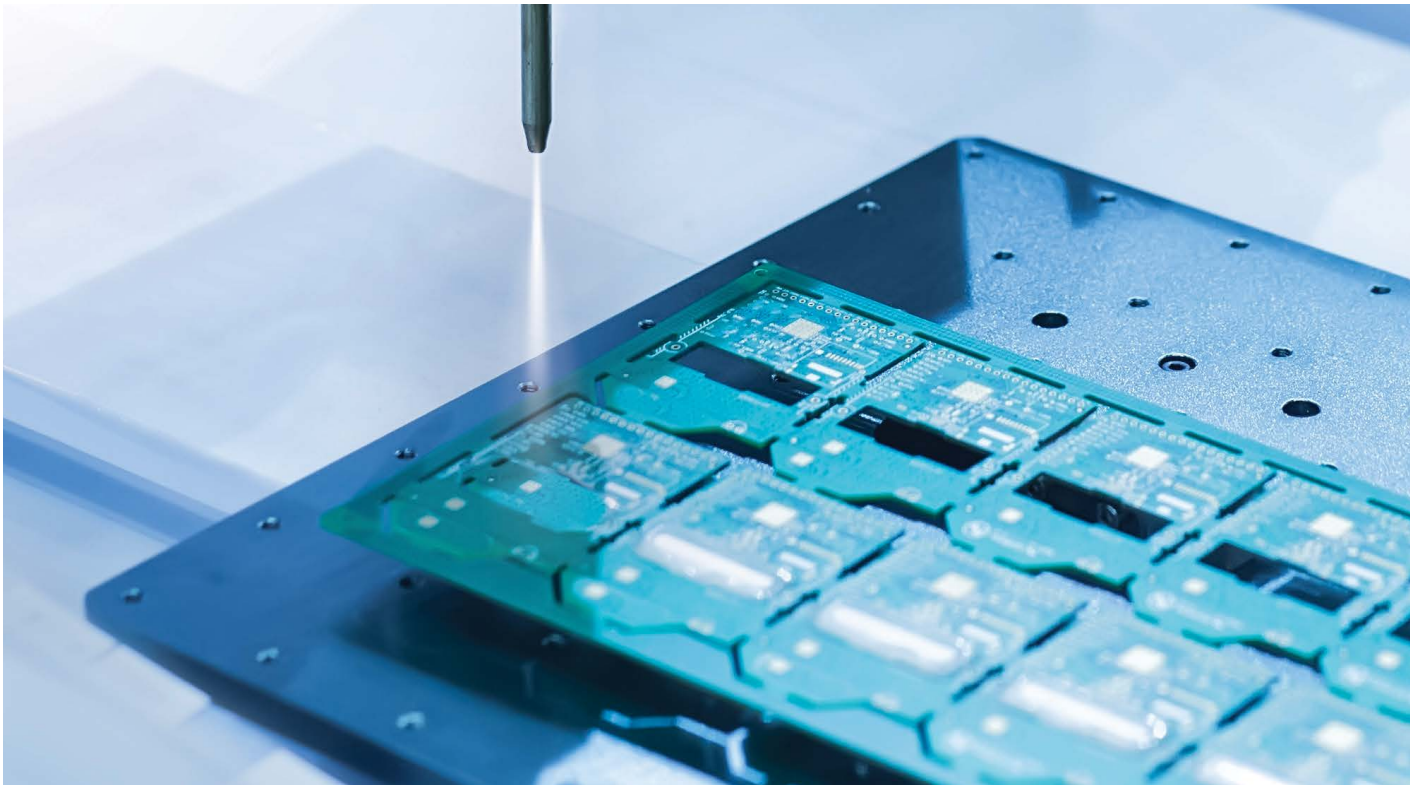
NuSil silicones protect optoelectronic and electronic components from damaging elements, such as moisture, contaminants, shock and heat. For electronics with more complex geometries, our low modulus gels and lightweight foams protect components from warping and wire bonds from shearing. We also provide elastomers for stability and surface protection as well as conformal coatings that extend the operating life of circuit boards.

Applications

Potting and encapsulation materials are found in a wide range of assemblies, such as general assembly and sensors as well as vehicle and avionics equipment. They are also suitable for modules, relays and a variety of AC/DC converters, including high-power and planar packages.

POTTING & ENCAPSULATING MATERIALS

| GELS | | | | | | | | |
|----------------|----------------------|----------------------|------------------|--|--------------|-----------|-----------|--|
| PRODUCT NUMBER | VISCOSITY (cP/mPa-s) | PENETRATION (mm) | WORK TIME | SPECIAL FEATURES | | | | |
| GEL-8136 | 450 | 13 | 2 h | RTV or cures rapidly with heat. High tack. | | | | |
| GEL-8150 | 500 | 5 | 4 h | Cures with heat | | | | |
| GEL8-8150 | 500 | 5 | 1.5 h | RTV in 48 hours or cures rapidly with heat | | | | |
| GEL-8100 | 535 | 9 | > 24 h | Very soft, flows when cured | | | | |
| GEL-8111 | 535 | 10 | > 24 h | Low volatility, very soft | | | | |
| GEL-8170 | 600 | 8 | 6 h | - | | | | |
| LS1-3443 | 650 | 8 | 2 h | RTV, or cures rapidly with heat, high tack gel with broad operating temperature. | | | | |
| GEL1-8155 | 14,500 | 0.4 | 24 hr | Very firm | | | | |
| ELASTOMERS | | | | | | | | |
| PRODUCT NUMBER | APPEARANCE | VISCOSITY (cP/mPa-s) | DUROMETER TYPE A | TENSILE psi (mPa) | ELONGATION % | WORK TIME | MIX RATIO | SPECIAL FEATURES |
| R-2613 | Clear | 4,000 | 45 | 1,140 (7.9) | 140 | 6.5 h | 10:1 | RTV or cures rapidly with heat within 48 hrs. Tested per UL 94 and passed V-0 at 4.6 mm. |
| R-2615 | Clear | 5,300 | 50 | 1,300 (9.0) | 100 | 4 h | 10:1 | Pourable and RTV or cures rapidly with heat |
| R21-2615 | Clear | 25,000 | 75 | 1,200 (8.3) | 65 | 2 h | 1:1 | Requires minimum 40°C to cure |
| R-2188 | Translucent | 11,000 | 20 | 475 (3.3) | 350 | > 8 h | 1:1 | Excellent dielectric properties for medium- and low-power electronics. Flexible cure. Tested to UL 94 V-1. |
| CF19-2186 | Translucent | 75,000 | 25 | 1,100 (7.6) | 600 | 15 m | 1:1 | Excellent dielectric properties for actuators |
| R-2560 | Red | 31,000 | 55 | 700 (4.8) | 125 | 1 h | 100:0.5 | Resists breakdown at high temperatures. Not recommended for deep section cures. |
| R-2160 | Red | 250,000 | 20 | 750 (5.2) | 625 | 50 m | 10:1 | Flowable, high-performance elastomer at elevated temperatures |
| R-2175 | Black | 2,100 | 50 | 525 (3.5) | 130 | 1 h | 1:1 | Flowable. RTV. 0.4 W/m-K. Fast cure version available. |
| R-2165 | Gray | 4,000 | 60 | 500 (3.4) | 100 | 10 m | 1:1 | Flowable. RTV. 0.6 W/m-K. Fast cure and white version available. |
| EPM-2496 | Gray | 4,250 | 60 | 700 (4.8) | 115 | 25 m | 1:1 | Low volatility. Flowable RTV. 0.5 W/m-K and tested to UL 94 V-1 at 4.77mm. |



COATINGS

| PRODUCT NUMBER | CURE SYSTEM | VISCOSITY (cP/mPa-s) | DUROMETER TYPE A | PERCENT SOLIDS % | TENSILE psi (mPa) | ELONGATION % | SPECIAL FEATURES |
|----------------|-------------|----------------------|------------------|------------------|-------------------|--------------|--|
| R-2180 | Platinum | 3,075 | 40 | 20 | 1,700 (11.7) | 1,050 | High-strength coating, requires heat to cure |
| R-1008-0 | Oxime | 1,300 | 20 | 70 | 235 (1.6) | 220 | Suitable for dip casting into thin films without further dilution |
| R-1077 | Oxime | 3,400 | 40 | 60 | 745 (5.1) | 330 | - |
| R-1099 | Oxime | 6,600 | 45 | 30 | 1,050 (7.2) | 570 | High-strength coating recommended for coating PCBs and other electronic assemblies. RTV or cures rapidly with heat. |
| EPM-2850 | Oxime | 7,400 | 16 | 100 | 80 (0.6) | 200 | Low volatility. Solventless coating. For applications requiring a broader operating temperature range. RTV or cures rapidly with heat. |

FOAMS

| PRODUCT NUMBER | FOAM DENSITY lbs/ft ³ (g/cm ³) | VISCOSITY (cP/mPa-s) | WORK TIME | COLOR | MIX RATIO | SPECIAL FEATURES |
|----------------|---|----------------------|-----------|-------|-----------|---|
| R-2360 | 12 (0.2) | 40,000 | 2 m | White | 1:1 | Tough |
| SFM5-2350 | 25 (0.4) | 55,000 | 20 m | Gray | 1:1 | Tested per UL 94 and passes V-0 at 4.8 mm |
| CF3-2350 | 25 (0.4) | 100,000 | 20 m | Black | 1:1 | - |

All foams are platinum cure

Processing tips

Blend both components of the material into a homogenous mixture and de-air, if necessary, to remove bubbles. Foams do not require a de-airing process. Gels may need to be mixed longer and more aggressively compared to other silicone systems due to their low viscosity.

Note: Heat can easily be generated during the mixing process, which can cause an adverse effect on pot life.

Adhesives and sealants

Description

From next-generation adhesives to traditional liquid adhesives, our silicones are developed to maximize manufacturing throughput, so products go to market faster. We work closely with customers to identify the right silicone adhesive for their application, balancing competing factors like energy consumption, weight reduction, longer operating life and high operating temperatures.

Applications

Manufacturers rely on our silicone adhesives — from assemblies in the development stage to devices in mass production — for a variety of applications. We develop products that are ideal for general electronics assembly and complex components or those used in harsh environments.

ADHESIVES & SEALANTS

| ONE-PART | | | | | | | | | | |
|----------------|-------------|--|--|------------------------|----------------------|----------------------|-----------------|-------------------|--|--|
| PRODUCT NUMBER | APPEARANCE | CURE SYSTEM | VISCOSITY (cP/mPa-s) EXTRUSION RATE (g/minute) | LAP SHEAR psi (mPa) | DUROMETER TYPE A | TENSILE psi (MPa) | ELONGATION % | TACK-FREE TIME | SPECIAL FEATURES | |
| R-1130 | Translucent | Oxime | Thixotropic | 485 (3.3) | 35 | 850 (5.9) | 325 | 25 m | Recommended for polycarbonate (PC) substrates | |
| R-1600 | Translucent | Oxime | 80 g/minute | 205 (1.4) | 50 | 545 (3.8) | 240 | 25 m | For applications requiring a broader operating temperature range | |
| EPM-2840 | Translucent | Oxime | 30 g/minute | 280 (1.9) | 35 | 685 (4.7) | 280 | 25 m | Low volatility, broad operating temperature range. Available in black and white. | |
| EPM-2411-2 | Black | Platinum | 0.9 g/minute | - | 20 | 750 (5.2) | 700 | ~ 8 h | Low volatility, glob top. Requires heat to cure. | |
| TWO-PART | | | | | | | | | | |
| PRODUCT NUMBER | MIX RATIO | VISCOSITY (cP/mPa-s) EXTRUSION RATE (g/minute) | ADHESION LAP SHEAR psi (mPa) | DUROMETER TYPE A | TENSILE psi (mPa) | ELONGATION % | WORK TIME | COLOR | PRIMERLESS ADHESION | SPECIAL FEATURES |
| LS2-6140 | 1:1 | 3,000 cP | 390 (2.7) | 47 | 940 (6.5) | 125 | > 8 h | Clear | • | Low volatility and tested per UL 94 and passed V-0 at 3.7 mm |
| R32-2186 | 1:1 | 80,000 | 130 (0.9) | 15 | 850 (5.9) | 800 | 15 h | Translucent | • | Long pot life, requires minimum 80°C to cure |
| R31-2186 | 1:1 | 82,000 | 110 (0.8) | 20 | 1,000 (6.9) | 775 | 15 m | Translucent | • | RTV or cures rapidly with heat. Tested per UL 94 and passed V-0 at 4.8 mm. |
| R33-2186 | 1:1 | 83,000 | 100 (0.7) | 20 | 1,015 (7.0) | 740 | 2 h | Translucent | • | RTV or cures rapidly with heat, available in white. Tested per UL 94 and passed V-1 at 4.7 mm. |
| R-2141 | 1:1 | 90,000 | 350 (2.4) | 40 | 650 (4.5) | 250 | 1.5 h | Translucent | • | Tested per UL 94 and passed V-1 at 4.8 mm |
| R34-2186 | 1:1 | 520 g/minute | 150 (1.0) | 45 | 800 (5.5) | 400 | > 8 h | Translucent | • | Minimum 60°C to cure. Adheres to plastic films such as PET. Tested per UL 94 and passed V-1 at 4.7 mm. |
| R-2145 | 1:1 | 295 g/minute | 560 (3.9) | 45 | 1,050 (7.2) | 400 | 15 m | Dark gray | • | Fast cure |
| R1-2145 | 1:1 | 285 g/minute | 540 (3.7) | 45 | 1,000 (6.9) | 400 | 1 h | Dark gray | • | Tough and RTV or cures rapidly with heat |
| EPM1-2412 | 1:1 | 0.1 g/minute | - | 40 | 900 (6.2) | 440 | 5 m | Translucent | • | Low volatility. Designed for forming gaskets in place, 0.8 aspect ratio, dispensable through 21-gauge needle tip. Tested per UL 94 and passed V-1 at 5.0 mm. |
| EPM2-2412 | 1:1 | 0.05 g/minute | - | 28 | 830 (5.7) | 540 | 2 h | Cures translucent | • | Low volatility. Adheres well to plastics and rubbers. Dispensable through 21-gauge needle tip. |
| R-2187 | 10:1 | 23,000 | - | 42 | 790 (5.4) | 175 | 6 h | Translucent | | Broad operating temperature |
| R-2160 | 10:1 | 250,000 | - | 20 | 750 (5.2) | 625 | 50 m | Red | | Recommended for high-temperature applications |

Processing tips

For the best bond, ensure the substrate is thoroughly clean. Activating and/or priming the surface can also improve adhesion. When working with silicone adhesives, it is important to consider the solvents, chemicals or substrates they may contact in their uncured state. Certain chemical elements and compounds can retard or inhibit the adhesive's curing.

Next-generation adhesives

Curable silicone film adhesives from NuSil serve as an alternative to traditional liquid silicone adhesives. They offer reliable bond line control in a peel-and-stick format that is simple to use and doesn't require mixing.

Customization

We put our extensive customization experience to work for customers, ensuring they have the right silicone for their device, display or assembly. From developing precise thickness options to creating silicones tuned to adhere to specific substrates, we can formulate a solution for any optoelectronics or electronics application.

ALTERNATIVE ADHESIVES

| PRESSURE-SENSITIVE ADHESIVES | | | | | |
|------------------------------|----------------------------------|-------------------------|---------------------|---------------|---|
| PRODUCT NUMBER | 180° PEEL STRENGTH ppi (kN/m) | VISCOSITY (cP/mPa-s) | SOLIDS CONTENT % | SOLVENT | SPECIAL FEATURES |
| PSA-1180 | 5.0 (0.9) | 3,500 | 70 | Ethyl acetate | For applications requiring higher cohesive strength, 2.8 lb (12 N) tack |
| PSA-1170 | 3.75 (0.7) | 300 | 50 | Ethyl acetate | - |
| PSA-1270 | 3.5 (0.6) | 1,700 | 50 | Naphtha | 1.43 RI |

| FILM ADHESIVES | | | | |
|----------------|---------------------------------|--------------------|-------------|---|
| PRODUCT NUMBER | ADHESION LAP SHEAR psi (mPa) | THICKNESS | CURE SYSTEM | SPECIAL FEATURES |
| R1-2680-4 | - | 0.004 in (0.1 mm) | Platinum | Compatible with a variety of activators |
| R-2682-12 | 100 (0.7) | 0.012 in (0.12 mm) | Platinum | Contains reinforcing mesh |

| REMOVABLE FORM-IN-PLACE GASKETS | | | | | |
|---------------------------------|-----------|------------------|---------------------------|-------------|--|
| PRODUCT NUMBER | WORK TIME | DUROMETER TYPE A | NOMINAL BEAD ASPECT RATIO | COLOR | SPECIAL FEATURES |
| EPM-2412 | 20 m | 30 | 0.8 | Translucent | Low volatility. Dispenses easily with consistent aspect ratio. RTV or cure can be accelerated with heat. |
| EPM-2412-2 | 20 m | 30 | 0.8 | Black | Low volatility. Dispenses easily with consistent aspect ratio. RTV or cure can be accelerated with heat. |

PRIMERS

| PRODUCT NUMBER | % SOLIDS | SOLVENT | SPECIAL FEATURES |
|----------------|----------|--------------------|---|
| SP-120 | 4 | Naphtha | General, all-purpose primer. Recommended for polyphthalamide (PPA). Use with platinum or tin-catalyzed silicones. |
| SP-121 | 3 | Naphtha | SP-120 with red pigment to identify where primer has been applied |
| SP-126 | 6 | IPA | Compatible with acrylics. Designed to use where slight platinum inhibition is of concern. |
| SP-142 | 15 | Naphtha | Recommended for increasing adhesion to plastics, such as polycarbonate (PC) and polyurethane (PU). |
| CF1-135 | 4 | Naphtha | Recommended for platinum cure silicones where there is slight cure inhibition |
| CF6-135 | 9 | Naphtha | Increased adhesion to polysulfone (PSU) and substrates where severe platinum inhibition is of concern |
| CF1-136 | 4 | Naphtha | Contains red pigment to identify where primer has been applied. Designed to use where slight platinum inhibition is of concern. |
| CF2-137 | 7 | Naphtha | CF1-135 with UV-light-detectable dye for inspections |
| CF1-141 | 6 | IPA | SP-126 with red pigment to identify where primer has been applied |
| SP-270 | 15 | Naphtha | Improved adhesion to polyimide (PI) and composite materials. Compatible with platinum cure fluorosilicones. |
| SP-271 | 20 | Naphtha | Recommended for adhering to gold substrates |
| SP-272 | 9 | Tert-butyl acetate | Contains red pigment to identify where primer has been applied. Improved adhesion to polyimide (PI) and composite materials. Compatible with fluorosilicones. |
| SP-273 | 9 | Naphtha | Designed for platinum cure fluorosilicones to reduce risk of cure inhibition |

Electrically and thermally conductive materials

Description

Electrically and thermally conductive silicones are formulated to safeguard sensitive electronics at the component level. Thermally conductive silicones manage heat transfer between components and can also be formulated to be electrically insulating. To protect electronics against static accumulations and discharge, we've developed electrically conductive silicones that allow the material to safely dissipate static.

Applications

Available in flowable and non-flowable options, our thermally conductive materials are used across a variety of applications, including heat sinks and electric bridges. Common applications for our electrically conductive silicones include grounding connections as well as RFI and EMI shielding.

ELECTRICALLY CONDUCTIVE MATERIALS

| PRODUCT NUMBER | VOLUME RESISTIVITY ohm-cm | VISCOSITY (cP/mPa-s) EXTRUSION RATE (g/minute) | CURE SYSTEM | DUROMETER TYPE A | TENSILE psi (mPa) | ELONGATION % | WORK TIME | COLOR | SPECIAL FEATURES |
|----------------|---------------------------|--|-------------|------------------|-------------------|--------------|-----------|------------|---------------------------------------|
| R-2634 | 0.001 | 160 g/minute | Alkoxy | 80 | 250 (1.7) | 90 | 3 h | Gray green | Broad operating temperature |
| EPM-2462 | 0.005 | 160,000 | Platinum | 85 | 450 (3.1) | 85 | 3 h | Tan | Low volatility |
| R-2637 | 0.006 | Thixotropic | Platinum | 60 | 210 (2.1) | 275 | 4 h | Tan | - |
| R-2630 | 6 | 11,700 | Platinum | 60 | 690 (4.7) | 95 | 15 h | Black | Self-leveling |
| R-1505 | 8 | Thixotropic | Oxime | 75 | 525 (3.6) | 25 | - | Black | One-part, broad operating temperature |
| R-2631 | 70 | 100 g/minute | Platinum | 45 | 615 (4.2) | 275 | - | Black | Moldable |
| EPM-2461 | 535 | 675,000 | Platinum | 30 | 500 (3.4) | 350 | 1 h | Black | Low volatility |

THERMALLY CONDUCTIVE

| PRODUCT NUMBER | THERMAL CONDUCTIVITY W/(mK) | VISCOSITY (cP/mPa-s) EXTRUSION RATE (g/minute) | CURE SYSTEM | DUROMETER TYPE A | TENSILE psi (mPa) | ELONGATION % | WORK TIME | COLOR | SPECIAL FEATURES |
|----------------|-----------------------------|--|-------------|------------------|-------------------|--------------|-------------|-------|--|
| EPM-2490 | 1.49 | 3,700,000 | Platinum | 75 | 200 (1.4) | 30 | 2 h | White | Low volatility |
| R-2930 | 1.46 | Thixotropic | Platinum | 80 | 260 (1.7) | 20 | 3 h | White | - |
| EPM1-2493 | 0.95 | 36,000 | Platinum | 65 | 180 (1.2) | 50 | 13 h | White | Low volatility. Recommended for bondlines 5 micron or greater. Tested per UL 94 and passed V0. |
| R-2940 | 0.84 | Thixotropic | Platinum | 90 | 700 (4.8) | 35 | 5 h | Gray | - |
| R-2949 | 0.75 | 75,000 | Platinum | 75 | 270 (1.8) | 50 | 3.5 h | White | For applications requiring a broader operating temperature range |
| R-2939 | 0.75 | 70,000 | Platinum | 70 | 300 (2.1) | 70 | 4 h | White | - |
| EPM-2495 | 0.64 | 140 g/minute | Platinum | 55 | 400 (2.8) | 225 | 3 h | White | Low volatility. Recommended for bondlines 50 micron or greater. |
| EPM-2890 | 0.61 | 40 g/minute | Oxime | 65 | 400 (2.8) | 150 | 40 m | White | Low volatility, broad operating temperature range. Recommended for bondlines of 0.4 micron or greater. |
| R-2165 | 0.50 | 4,000 | Platinum | 60 | 500 (3.4) | 100 | 10 m | Gray | Self-leveling, available in white |
| R-2175 | 0.40 | 3,000 | Platinum | 50 | 525 (3.5) | 130 | 1 h minimum | Black | Self-leveling |

Processing tips for thermally conductive materials

To ensure a homogenous blend, individually mix part A and B prior to combining. De-airing may be required to ensure a bubble-free product. For thermally conductive materials, thinner bond lines will result in lower thermal resistance.

For optimum adhesion, it is recommended to use NuSil brand primers prior to applying these conductive coatings.

Fluorosilicones

Description

Our fluorosilicones offer protection from common solvents and fuels that standard silicones simply cannot. These optimized formulations resist degradation while offering a broad operating temperature to protect sensitive electronics. NuSil has one of the most diverse fluorosilicone lines in the industry, allowing engineers to find the right fit for their application.

Applications

Fluorosilicones are ideal for gaskets, seals, rings and O-rings used in many applications such as automotive, where the presence of oil and gasoline can harm electronic components or sensors.

FLUROSILICONES

ADHESIVES & SEALANTS - TWO-PART

| PRODUCT NUMBER | VISCOSITY (cP/mPa-s) EXTRUSION (g/minute) | ADHESION LAP SHEAR (psi (mPa)) | DUROMETER TYPE A | TENSILE (psi (mPa)) | ELONGATION (%) | WORK TIME | COLOR | SPECIAL FEATURES |
|----------------|---|--------------------------------|------------------|---------------------|----------------|-----------|-------|---|
| CF1-3510 | 70,000 | - | 20 | 210 (1.5) | 135 | 4 h | Red | High-temperature, 100% fluoro |
| FS9-3521 | 50 g/minute | 280 (1.9) | 29 | 750 (5.2) | 300 | 3 h | Brown | High-temperature, 100% fluoro and available in dual-cartridge packaging |

MOLDING ELASTOMER

| PRODUCT NUMBER | EXTRUSION RATE (g/minute) | DUROMETER TYPE A | TENSILE (psi (mPa)) | ELONGATION (%) | WORK TIME | COLOR | SPECIAL FEATURES |
|----------------|---------------------------|------------------|---------------------|----------------|-----------|-------------|--|
| FS-3511 | 40 | 40 | 1150 (7.9) | 335 | > 8 h | Translucent | 100% fluoro for hydrocarbon resistance |

THERMALLY CONDUCTIVE

| PRODUCT NUMBER | THERMAL CONDUCTIVITY (W/mK) | VISCOSITY (cP/mPa-s) | CURE SYSTEM | DUROMETER TYPE A | TENSILE (psi (mPa)) |
|----------------|-----------------------------|----------------------|-------------|------------------|---------------------|
| CF1-3800 | 1.25 | Thixotropic | Platinum | 50 | 125 (0.9) |

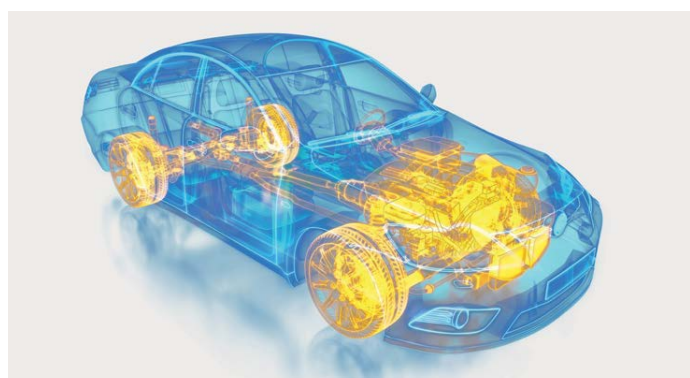
GELS

| PRODUCT NUMBER | VISCOSITY (cP/mPa-s) | DUROMETER TYPE 00 | WORK TIME | APPEARANCE | SPECIAL FEATURES |
|----------------|----------------------|-------------------|-----------|-------------|------------------|
| FS-3502-1 | 1,200 | 10 | - | White | 100% fluoro |
| LS-3238 | 1,500 | 15 | 11 h | Clear | 100% fluoro |
| GEL-3500 | 11,250 | 50 | 12 h | Translucent | - |

GREASE

| PRODUCT NUMBER | VISCOSITY (cP/mPa-s) | VOLATILITY | CURE SYSTEM | APPEARANCE | SPECIAL FEATURES |
|----------------|----------------------|------------|-------------|---------------|--|
| G-9041 | 2,000,000 | 0.20% | Non-curing | White to gray | Non-slump grease for intermittent exposures to solvents or fuels |

All curable materials are platinum catalyzed





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