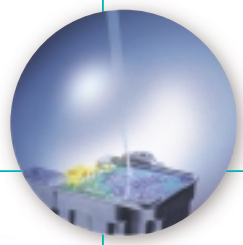
DOW CORNING
TORAY
SILICONE



# SILICONE FOR ELECTRONICS

DOW CORNING

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TORAY
SILICONE

# Introduction

Reliable long-term protection of sensitive circuits and components is important for many delicate and demanding electronic applications today.

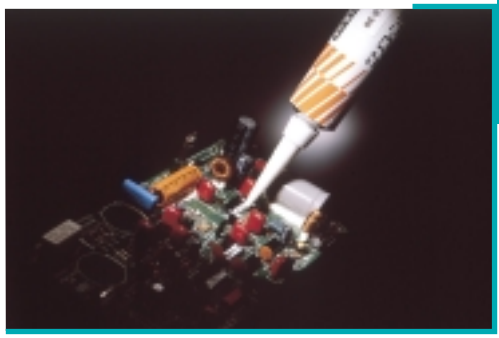
Silicones, which can sustain their physical and electrical properties under many different temperature and humidity ranges, are commonly used for dielectric insulation. Silicones can protect against common environmental contaminants, provide stress relief and act as absorbers against shock and vibration. They are resistant to ozone and ultraviolet degradation and have good chemical stability.

DOW CORNING TORAY SILICONE offers a broad range of general-purpose and specialty silicone products. These products come in many useful forms such as adhesives, conformal coatings and encapsulants. A broad range of products is available to fulfill your electronic application needs.

DOW CORNING TORAY SILICONE was established in 1966, as a joint venture between Dow Corning Corp. and Toray Industries. Today, DOW CORNING TORAY SILICONE is one of Japan's leading silicone suppliers, with fully integrated research, development, manufacturing, marketing and sales activities. Through partnership with Dow Corning, DOW CORNING TORAY SILICONE can also supply the same high quality products and services to its many Japanese customers worldwide. This partnership serves customers by comprehensively meeting their needs, in Japan or anywhere else in the world.

# Contents

# Adhesive & Sealant



TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

| Description | One-Part RTV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Alcohol Type | | | | | | | | | |
| Product | SE9157 | SE9152HT | SE9166 | SE9120 | SE9185 | SE9186 | SE9186L | SE9187L | SE9168 | SE9178 |
| Features | Fast tack-free time | | | | | | | | | |
| | Non-corrosive | | Non-corrosive | | | | | | | |
| | Low viscosity | Heat resistance 275°C (registered for Electrical Appliance and Material Control Law) | Controlled volatility | | | | | Controlled volatility | | |
| | | | | | | | | UL94 HB (SE9187L BLACK) | UL94 V-0 | |
| Potential Applications | Sealing of electronic equipment and modules | Sealing of sheathed heater terminations | Parts fixing on circuit board | EL,LCD module assembly | Sealing of electronic equipment and modules, Parts fixing on circuit board | | Parts fixing on circuit board,LCD, module assembly | LCD module assembly, LED module assembly potting | Parts fixing on CRT or circuit board of power supply modules | |
| Mix Ratio | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Color | Translucent | Reddish brown | Translucent | Translucent (SE9120 CLEAR), White (SE9120 S WHITE) | Translucent, White | Translucent, White | Translucent, Black | Translucent, White,Black | Gray | Gray |
| Viscosity at 25°C(mPa.s) | 6,000 | 11,000 | 46,000 | 8,200 | Non-flow | 63,000 | 27,000 | 1,100 | Non-flow | Non-flow |
| Tack-Free Time at 25°C (min) | 6 | 16 | 6 | 9 | 5 | 9 | 8 | 9 | 6 | 9 |
| Working Time at 25°C (hours)*1) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Cure Time (hours/°C) | 48*3) | 24*3) | 24*3) | 24*3) | 48*3) | 48*3) | 48*3) | 48*3) | 48*3) | 48*3) |
| **Physical Properties, cured at hours/ßC** | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 |
| Specific Gravity at 25°C | 1.00 | 1.06 | 1.03 | 1.03 | 1.05 | 1.04 | 1.02 | 1.00 | 1.32 | 1.29 |
| Durometer, JIS Type A | 26 | 30 | 28 | 23 | 31 | 20 | 25 | 17 | 46 | 36 |
| Tensile Strength (MPa) | 0.77 | 1.6 | 2.7 | 1.5 | 2.8 | 2.1 | 1.6 | 0.44 | 3.6 | 2.7 |
| Elongation (%) | 230 | 250 | 440 | 420 | 530 | 490 | 320 | 170 | 300 | 330 |
| Linear Coefficient of Thermal Expansion (1/K) | - | 3E-04 | - | - | - | - | - | - | - | - |
| Thermal Conductivity (W/m.K) | 0.17 | - | - | 0.18 | - | - | - | - | - | - |
| Content of Low Molecular Siloxane (%)*4) | - | - | 0.02 | 0.009 | 0.009 | 0.01 | 0.008 | 0.009 | 0.01 | - |
| **Adhesion Property, cured at hours/ßC** | 168/25 | 168/25 | 168/25 | 168/25 | 168/25 | 168/25 | 168/25 | 168/25 | 168/25 | 168/25 |
| Adhesion Strength ($N/cm^2$) | 59/GL | 55/GL | 106/GL | 38/GL | 145/GL | 158/GL | 113/GL | 30/GL | 210/GL | 165/GL |
| **Electrical Properties, cured at hours/ßC** | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 |
| Dielectric Strength (kV/mm) | 27 | 25 | 34 | 23 | 22 | 23 | 23 | 20 | 26 | 30 |
| Volume Resistivity (ohm.cm) | 4E+15 | 3E+16 | 5E+15 | 7E+15 | 2E+16 | 2E+16 | 6E+15 | 3E+15 | 8E+15 | 2E+14 |
| Dielectric Constant at 1MHz | 2.7 | 2.6 | 2.7 | 2.7 | 2.8 | 2.8 | 2.7 | 2.8 | 3.2 | 3.2 |
| Dissipation Factor at 1MHz | 6E-04 | 1E-03 | 6E-04 | 4E-04 | 7E-04 | 9E-04 | 1E-03 | 9E-04 | 2E-03 | 3E-03 |

DOW CORNING TORAY SILICONE offers two adhesive cure types for sealing, adhering and bonding applications. Condensation-cure products harden into "rubber-like" elastomers when reacted with atmosphere moisture. Addition-cure products require heat to cure to an elastomer.

Both cure types are available as either one- or two-part products.

**Condensation-Cure Products**

One-part condensation-cure adhesives are available in nonflowable and flowable forms, with alcohol, oxime and acetoxy variations.
Because it does not corrode copper or plastics, the alcohol variation is especially suitable for eletronics applications. Alcohol-based products are available as one- and two-part products.



In our daily business operations, we are constantly challenged to reduce production and working times for our customers. DOW CORNING TORAY SILICONE offers a range of RTV products with fast tack-free times. DOW CORNING TORAY SILICONE also offers silicone products that could potentially minimize contact failure of electronic components, such as micromotors or microswitches, due to the reduced low-molecular-weight siloxane content of these products.

**Addition-Cure Products**

Addition-cure adhesives quickly heat cure to a "rubber-like" elastomer.
These adhesives can develop good, primerless adhesion to a wide variety of common substrates such as metals and plastics.

| One-Part RTV | | | | | | Two-Part RTV | Heat Cure (Addition Cure Type) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alcohol Type | | | | | | Alcohol Type | One-Part | | | | Two-Part | |
| SE9188 | SE9189 | SE9189L | SE9184 | SE738 | SE739 | CY51-019 | SE1750 | SE1713 | SE1714 | SE1715 | SE1700 | SE1701 |
| Fast tack-free time | | | | | | | High strength | | | | | |
| Non-corrosive | | | | | | | | | | | | |
| Controlled volatility | | | | | Good adhesion | | | Good adhesion | | | | |
| | | | Thermally conductive | | | | | | | | | |
| UL94 V-0 | | | | UL94 HB | UL94 V-0 | | | | | | | |
| Parts fixing on CRT or circuit board of power supply modules | Parts fixing on circuit board of power supply modules | PDP module assembly, Parts fixing on circuit board | Parts fixing on circuit board of power supply modules,Heat transmission for electronics parts | Fixing capacitors or coils to circuit board | Wedge bonding on CRT | Solar cell sealing | Sealing lids and housings for ECUs,power modules,Fixing electronic parts to circuit boards, Reinforcing or fixing parts of connectors | | | Parts fixing of flyback transformers | Sealing ceramic condensers, sealing electronic components, Bonding agent for key pad of PC | |
| NA | NA | NA | NA | NA | NA | 100:10 | NA | NA | NA | NA | 100:10 | 100:10 |
| Gray | White | White,Gray | White | White | White | White | White | Beige | Beige, Black | Black | Translucent, White | Beige |
| Non-flow | Non-flow | 22,000 | Non-flow | Non-flow | Non-flow | 11,000 | 65,000 | 80,000 | 60,000 | 330,000 | Non-flow 610,000 | 80,000 |
| 9 | 5 | 9 | 2 | 100 | 30 | NA | NA | NA | NA | NA | NA | NA |
| NA | NA | NA | NA | NA | NA | 4*2) | NA | NA | NA | NA | 7 | 6 |
| 48*3) | 72*3) | 72*3) | 48*3) | 72*3) | 72*3) | 72/25˚C | 0.5/150˚C | 0.5/150˚C | 0.5/150˚C | 0.5/150˚C | 0.5/150˚C | 0.5/150˚C |
| 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 1.25/150 | 1.25/150 | 1.25/150 | 1.25/150 | 0.75/130 | 0.25/120 |
| 1.29 | 1.71 | 1.19 | 2.22 | 1.05 | 1.40 | 1.27 | 1.50 | 1.25 | 1.30 | 1.33 | 1.12 | 1.29 |
| 37 | 76 | 32 | 72 | 33 | 24 | 34 | 66 | 61 | 65 | 71 | 46 | 64 |
| 2.8 | 4.9 | 1.9 | 2.9 | 2.5 | 1.4 | 1.1 | 6.4 | 7.4 | 7.1 | 7.4 | 6.9 | 6.9 |
| 350 | 80 | 250 | 70 | 410 | 500 | 200 | 120 | 220 | 250 | 240 | 420 | 200 |
| - | - | - | - | - | - | - | - | - | 2E-04 | - | - | - |
| - | 0.8 | - | 0.84 | - | - | - | - | - | 0.30 | - | - | - |
| 0.007 | 0.003 | 0.006 | 0.003 | - | - | - | - | - | - | - | - | 0.5 |
| 168/25 | 168/25 | 168/25 | 168/25 | 168/25 | 168/25 | 72/25 | 0.5/150 | 0.5/150 | 0.5/150 | 0.5/150 | 0.5/150 | 0.5/150 |
| 181/GL | 188/GL | 141/GL | 205/GL | 56/AL | 98/GL | 82/AL/GL | 347/AL | 510/AL | 520/AL | 546/AL | 289/AL | 568/AL |
| 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 1.25/150 | 1.25/150 | 1.25/150 | 1.25/150 | 1.25/150 | 1.25/150 |
| 30 | 31 | 25 | 20 | 20 | 25 | 22 | 28 | 30 | 30 | 27 | 22 | 29 |
| 1E+15 | 2E+15 | 9E+14 | 1E+15 | 3E+15 | 2E+15 | 9E+14 | 9E+14 | 5E+15 | 5E+15 | 2E+15 | 5E+14 | 1E+15 |
| 3.4 | 3.2 | 3.1 | 3.9 | 2.8 | 3.5 | 3.6 | 3.2 | 3.0 | 3.1 | 3.0 | 3.0 | 3.0 |
| 3E-03 | 1E-03 | 4E-03 | 2E-03 | 7E-04 | 4E-03 | 3E-03 | 2E-03 | 3E-03 | 3E-03 | 2E-03 | 1E-03 | 3E-03 |

*1)Working Time : Time to give double the viscosity
*2)Snap Time
*3)Cure Time : 3 mm thickness /20˚C/55%RH
*4)Low Molecular Siloxane : D4-D10

# Encapsulant

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

| Description | Two-part Elastomer Type | | | | | | |
|---|---|---|---|---|---|---|---|
| | Condensation Cure Type | | Addition Cure Type | | | | |
| Product | CY51-038 | CY51-065 | SH850 | SE1815CV | SE1816CV | SE1819CV | SE9207 |
| Features | Room temperature cure | | UL94 V-0 | | | | |
| | | | | | Lower temperature cure | | |
| | Self-priming | | | Self-priming | | | |
| | | | | Controlled volatility | | | |
| Potential Applications | Electrode potting for solar cell modules, sensor potting | Sensor potting, Power supply encapsulation | General potting applications such as DC/DC converters and transformers | Encapsulant for flyback transformers and power supply modules | | | Encapsulant for LED modules |
| Mix Ratio | 100:10 | 100:10 | 100:100 | 100:100 | 100:100 | 100:100 | 100:100 |
| Color | White | White | Reddish brown | Reddish brown | Black | White | Black |
| Viscosity at 25˚C(mPa.s) *1) | 7,300 | 2,200 | 3,500 | 2,300 | 2,400 | 2,600 | 700 |
| Working Time at 25˚C(hours) *2) | 0.3*3) | 3*3) | 3 | 8 | 24 | 20 | 6 |
| Cure Time (hours/˚C) | 72/25 | 72/25 | 0.25/100 | 0.5/150 | 1/100 | 1/100 | 2/80+72/25 |
| **Physical Properties,cured at hours/˚C** | 72/25 | 72/25 | 0.25/100 | 1.25/150 | 1/100 | 1/100 | 2/80+72/25 |
| Specific Gravity at 25˚C | 1.25 | 1.06 | 1.53 | 1.55 | 1.36 | 1.02 | 0.97 |
| Durometer,JIS Type A | 37 | 19 | 68 | 72 | 38 | 36 | 4 |
| Penetration,JIS K2220(10/mm) | NA | NA | NA | NA | NA | NA | NA |
| Tensile Strength (MPa) | 1.4 | 0.63 | 3.0 | 4.2 | 2.7 | 3.2 | - |
| Elongation (%) | 140 | 170 | 100 | 90 | 200 | 200 | - |
| Linear Coefficient of Thermal Expansion (1/K) | - | - | 2E-04*5) | 2E-04 | 3E-04 | - | - |
| Thermal Conductivity (W/m.K) | - | - | 0.6*5) | 0.6 | 0.4 | - | - |
| Content of Low Molecular Siloxane (%)*6) | - | - | - | 0.03 | 0.02 | 0.06 | 0.01 |
| **Adhesion Property, cured at hours/˚C** | 72/25 | 72/25 | NA | 0.5/150 | 1/100 | 1/100 | 2/80+72/25 |
| Adhesion Strength ($N/cm^2$) | 114/AL/GL | 51/GL | NA | 226/AL | 145/AL | 128/AL | 20/PC |
| **Electrical Properties, cured at hours/˚C** | 72/25 | 72/25 | 1/100 | 1.25/150 | 1/100 | 1/100 | 2/80+72/25 |
| Dielectric Strength (kV/mm) | 23 | 24 | 29 | 30 | 26 | 28 | 21 |
| Volume Resistivity (ohm.cm) | 1E+16 | 9E+15 | 1E+14 | 1E+15 | 2E+15 | 2E+14 | 3E+14 |
| Dielectric Constant at 1MHz | 2.3 | 3.1 | 3.2 | 3.1 | 4.3 | 3.2 | 2.6 |
| Dissipation Factor at 1MHz | 4E-03 | 4E-03 | 1E-03 | 3E-03 | 1E-02 | 2E-03 | 5E-04 |

DOW CORNING TORAY SILICONE offers encapsulants in both gel and elastomer forms for protection of electronic applications.
These silicone encapsulants provide excellent humidity resistance, shock absorbency over a wide temperature range, and maintainance of electrical properties over a broad range of operating conditions.
Elastomer-based encapsulants are available in addition- and condensation-cure forms in both self-priming and non-priming variations. The addition-cure product range includes encapsulants that cure and adhere at temperature below 100°C.
Gel-based encapsulants are available in addition-cure form, providing a very soft gel formed through heating. The stress-relieving gel acts as a cushion to protect the electronic components.
In our wide range of gels, you will also find types that provide reliable performance at low temperatures.



| Description | Two-part Elastomer Type | One-part Gel Type | Two-part Gel Type | | | |
|---|---|---|---|---|---|---|
| | Addition Cure Type | | | | | |
| Product | SE1740 | SE1880 | SE1885 | SE1885M | SE1886 | CY52-276 |
| Features | Lower temperature cure<br>Self-priming | | | Long working time | | |
| | Transparent | Low temperature resistance | | | | Controlled volatility |
| Potential Applications | Potting for optical devices | Protecting and sealing of delicate electronic circuits, hybrid devices of ECU and power modules | | | Raw material for thermally conductive gel sheets | |
| Mix Ratio | 100:100 | NA | 100:100 | 100:100 | 100:100 | 100:100 |
| Color | Transparent | Transparent | Transparent | Transparent | Transparent | Transparent |
| Viscosity at 25˚C(mPa.s) *1) | 900 | 800 | 400 | 500 | 1,100 | 1,000 |
| Working Time at 25˚C(hours) *2) | 24 | NA | 1 | 4 | 3 | <0.5 |
| Cure Time (hours/˚C) | 0.5/80 | 0.5/150 | 0.5/70 | 1/70 | 1/130 | 0.5/70 |
| **Physical Properties,cured at hours/˚C** | 0.5/80 | 0.5/150 | 0.5/70 | 1/70 | 1/130 | 0.5/70 |
| Specific Gravity at 25˚C | 1.00 | 0.97 | 0.97 | 0.98 | 0.98 | 0.98 |
| Durometer,JIS Type A | 34*4) | NA | NA | NA | NA | NA |
| Penetration,JIS K2220(10/mm) | NA | 85 | 90 | 95 | 50 | 75 |
| Tensile Strength (MPa) | - | - | - | - | - | - |
| Elongation (%) | - | - | - | - | - | - |
| Linear Coefficient of Thermal Expansion (1/K) | - | 4E-04 | 6E-04 | 4E-04 | - | 3E-04 |
| Thermal Conductivity (W/m.K) | - | - | - | - | - | 0.2 |
| Content of Low Molecular Siloxane (%)*6) | - | 0.8 | - | - | - | 0.005 |
| **Adhesion Property, cured at hours/˚C** | 1/80 | NA | NA | NA | NA | NA |
| Adhesion Strength (N/cm$^2$) | 20/GL | NA | NA | NA | NA | NA |
| **Electrical Properties, cured at hours/˚C** | 0.5/80 | 0.5/150 | 0.5/70 | 1/70 | 1/130 | 0.5/70 |
| Dielectric Strength (kV/mm) | 17 | 20 | 17 | 14 | 13 | 14 |
| Volume Resistivity (ohm.cm) | 1E+15 | 1E+15 | 4E+14 | 4E+14 | 2E+15 | 1E+15 |
| Dilelectric Constant at 1MHz | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.5 |
| Dissipation Factor at 1MHz | 1E-04 | 2E-04 | 7E-04 | 1E-04 | 2E-04 | 1E-04 |

*1)Two-Part products : mixed 1 : 1 (A&B) or 10:1 (W/C) by weight
*2)Working Time : Time to give double the viscosity
*3)Snap time
*4)Durometer "00"
*5)cured at 1 hour/100˚C
*6)Low Molecular Siloxane : D4-D10

# Thermally Conductive

TYPICAL PROPERTIES

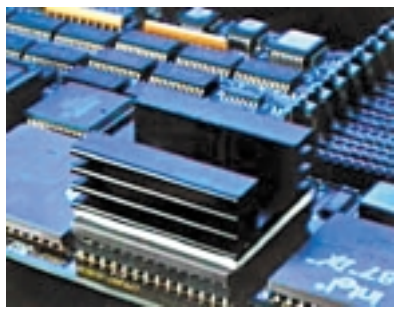
These values are not intended for use in preparing specifications.

| Description | Elastomer Type | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | One-Part RTV | | | | One-Part Heat Cure | | Two-Part Heat Cure | |
| | Alcohol Type | | | | Addition Cure Type | | | |
| Product | SE9184 | SE4422 | SE4420 | SE4486 | SE4402 | SE4450 | SE4400 | SE4410 |
| Features | UL94 V-0 | UL94 V-1 | | Higher thermally conductive | | Higher thermally conductive | UL94 V-0 | |
| | Controlled volatility | | | Controlled volatility | | | | |
| Potential Applications | Parts fixing on circuit board of power supply modules,Heat transmission for electronics parts | Sealing gas hot-water supply burners | Heat transmission for power supply parts and ink-jet or dot printer head/ Bonding ECU or driver IC to heat sinks/Filling for transformers | | | | | |
| Mix Ratio | NA | NA | NA | NA | NA | NA | 100:100 | 100:100 |
| Color | White | Gray | White | White | Gray | Gray | Gray | Gray |
| Viscosity at 25˚C(mPa.s) *1) | Non-flow | 200,000 | 108,000 | 19,000 | 34,000 | 61,000 | 76,000 | 6,000 |
| Consistency,JIS K 2220(10/mm | NA | NA | NA | NA | NA | NA | NA | NA |
| Oil Separation, JIS K 2220(%) *2) | NA | NA | NA | NA | NA | NA | NA | NA |
| Volatile content(%) *3) | NA | NA | NA | NA | NA | NA | NA | NA |
| Tack-Free Time(min) | 2 | 10 | 10 | 4 | NA | NA | NA | NA |
| Working Time at 25˚C(hours)*4) | NA | NA | NA | NA | NA | NA | 17 | 24 |
| Cure Time (hours/˚C) | 48*5) | 144*5) | 200*5) | 120*5) | 0.5/150 | 0.5/150 | 0.5/150 | 1/150 |
| **Physical Properties,cured at hours/˚C** | 72/25 | 72/25 | 72/25 | 72/25 | 1.25/150 | 1.25/150 | 1.25/150 | 1.25/150 |
| Specific Gravity at 25˚C | 2.22 | 2.17 | 2.26 | 2.59 | 2.16 | 2.74 | 2.15 | 2.14 |
| Durometer,JIS Type A | 72 | 69 | 74 | 78 | 74 | 95 | 78 | 87 |
| Penetration,JIS K2207(10/MM) | NA | NA | NA | NA | NA | NA | NA | NA |
| Tensile Strength(MPa) | 2.9 | 5.2 | 5.0 | 3.8 | 6.1 | 7.2 | 5.8 | 6.7 |
| Elongation(%) | 70 | 120 | 90 | 50 | 120 | 40 | 90 | 60 |
| Thermal Conductivity(W/m.k) | 0.84 | 0.84 | 0.92 | 1.59 | 0.92 | 1.92 | 0.92 | 0.92 |
| Content of Low Molecular Siloxane(%)*7) | 0.003 | - | - | 0.002 | 0.002 | - | - | - |
| **Adhesion Property,cured at hours/˚C** | 168/25 | 168/25 | 168/25 | 168/25 | 0.5/150 | 0.5/150 | 0.5/150 | 1/150 |
| Adhesion Strength(N/cm$^2$) | 205/GL | 167/Cu | 253/AL | 237/GL | 337/AL | 367/AL | 303/AL | 257/AL |
| **Electrical Properties,cured at hours/˚C** | 72/25 | 72/25 | 72/25 | 72/25 | 1.25/150 | 1.25/150 | 1.25/150 | 1.25/150 |
| Dielectric Strength(kV/mm) | 20 | 30 | 28 | 20 | 26 | 24 | 25 | 26 |
| Volume Resistivity(ohm.cm) | 1E+15 | 5E+15 | 1E+15 | 2E+14 | 3E+15 | 2E+15 | 1E+15 | 1E+15 |
| Dielectric Constant at 1MHz | 3.9 | 4.9 | 4.1 | 4.8 | 4.8 | 4.7 | 3.9 | 4.4 |
| Dissipation Factor at 1MHz | 2E-03 | 6E-03 | 2E-03 | 3E-03 | 3E-03 | 2E-03 | 2E-03 | 2E-03 |

DOW CORNING TORAY SILICONE offers a variety of thermally conductive silicone products such as elastomers, gels and non-curing compounds. These can potentially be used as elastomeric heat transmitting agents between heat sinks and heat-generating devices such as hybrid integrated circuits. Flowable products may also be suitable as thermally conductive potting materials.



| Description | Gel Type<br>Two-Part Heat Cure<br>Addition Cure Type | | | Compound |
|---|---|---|---|---|
| Product | SE4440-LP | SE4445CV | SE4446CV | SC102 |
| Features | | UL94 V-0<br>Controlled volatility | UL94 V-0 could consider applying upon request | |
| Potential Applications | Heat transmission of control IC for fuel pump and pressure sensors | Thermally conductive gel sheets, Radiating heat of DRAM modules | | Radiating heat of inverter for motor, Sealing thermister for rice cookers/Applied between power transistor and heat sink |
| Mix Ratio | 100:100 | 100:100 | 100:100 | NA |
| Color | Gray | Gray | Gray | White |
| Viscosity at 25˚C(mPa.s) *1) | 2,800 | 14,000 | 22,000 | NA |
| Consistency,JIS K 2220(10/mm) | NA | NA | NA | 308 |
| Oil Separation, JIS K 2220(%) *2) | NA | NA | NA | 0.02 |
| Volatile content(%) *3) | NA | NA | NA | 0.4 |
| Tack-Free Time(min) | NA | NA | NA | NA |
| Working Time at 25˚C(hours)*4) | 24 | 6 | 4 | NA |
| Cure Time (hours/˚C) | 0.5/120 | 0.5/120 | 0.5/120 | NA |
| **Physical Properties,cured at hours/˚C** | 0.5/120 | 0.5/120 | 0.5/120 | NA |
| Specific Gravity at 25˚C | 2.03 | 2.36 | 2.14 | 2.37*6) |
| Durometer,JIS Type A | NA | NA | NA | NA |
| Penetration,JIS K2207(10/mm) | 64 | 57 | 55 | NA |
| Tensile Strength(MPa) | NA | NA | NA | NA |
| Elongation(%) | NA | NA | NA | NA |
| Thermal Conductivity(W/m.k) | 0.83 | 1.34 | 1.32 | 0.80*6) |
| Content of Low Molecular Siloxane(%)*7) | - | 0.09 | 0.04 | NA |
| **Adhesion Property,cured at hours/˚C** | NA | NA | NA | NA |
| Adhesion Strength(N/cm$^2$) | NA | NA | NA | NA |
| **Electrical Properties,cured at hours/˚C** | 0.5/120 | 0.5/120 | 0.5/120 | NA |
| Dielectric Strength(kV/mm) | 12 | 6 | 5 | 2.1*6)*8) |
| Volume Resistivity(ohm.cm) | 1E+15 | 3E+15 | 3E+16 | 2E+16*6) |
| Dielectric Constant at 1MHz | 4.0 | 6.2 | 6.0 | 4.0*6)*9) |
| Dissipation Factor at 1MHz | 1E-03 | 9E-03 | 1E-02 | 2E-02*6)*9) |



*1)Two-Part products : mixed 1 : 1 by weight
*2) 24 hours at 120˚C
*3) 24 hours at 120˚C
*4)Working Time : Time to give double the viscosity
*5)Cure Time : 3 mm thickness /20˚C/55%RH
*6)Compound does not cure
*7)Low Molecular Siloxane : D4-D10
*8)kV/0.25mm
*9)at 50Hz

# Conformal Coating

DOW CORNING TORAY SILICONE has specially designed solventless silicone RTV coatings that can be cured into soft, stress-relieving materials at room temperature.

These RTV coatings are potentially suitable for protecting circuit boards from humidity and for electronic applications requiring excellent electrical insulation, high thermal stability and good chemical stability.

## TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

| Description | One-Part RTV | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Alcohol Type | | | | | | | |
| Product | SE9157 | SE9186L | SE9187L | HC2100 | HC2000 | SE9189L | HC1000 | HC1100 |
| Features | Fast tack-free time | | | | | | | |
| | Non-corrosive | Non-corrosive | | | | | | |
| | Medium viscosity | Controlled volatility | | | | | | |
| | | High viscosity | Medium viscosity | Low viscosity | | UL94 V-0 | | UL94 V-0 could consider applying upon request |
| | | | | | | High viscosity | | Medium viscosity |
| Potential Applications | Coating for connectors,electronic components or circuit boards | | | | | Coating for connectors,electronic components or circuit boards of power supply modules | | |
| Mix Ratio | NA | NA | NA | NA | NA | NA | NA | NA |
| Color | Translucent | Translucent, Black | Translucent, White,Black | Translucent | Translucent | White,Gray | Gray | Gray |
| Viscosity at 25˚C(mPa.s) | 6,000 | 27,000 | 1,100 | 400 | 130 | 22,000 | 12,000 | 2,300 |
| Tack-Free Time at 25˚C(min) | 6 | 8 | 9 | 9 | 15 | 9 | 12 | 12 |
| Working Time at 25˚C(hours)*1) | NA | NA | NA | NA | NA | NA | NA | NA |
| Cure Time (hours/˚C)*2) | 0.5 | 5*3) | 0.5 | 0.5 | 1.5 | 6*3) | 5*3) | 5*3) |
| **Physical Properties,cured at hours/˚C** | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 |
| Specific Gravity at 25˚C | 1.00 | 1.02 | 1.00 | 0.98 | 1.01 | 1.19 | 1.07 | 1.08 |
| Durometer,JIS Type A | 26 | 25 | 17 | 10 | 25 | 32 | 24 | 23 |
| Thermal Conductivity (W/m.k) | 0.17 | - | - | - | - | - | - | - |
| Content of Low Molecular Siloxane (%)*4) | - | 0.008 | 0.009 | 0.005 | 0.0007 | 0.006 | 0.005 | 0.009 |
| **Electrical Properties,cured at hours/˚C** | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 | 72/25 |
| Dielectric Strength (kV/mm) | 27 | 23 | 20 | 25 | 33 | 25 | 21 | 23 |
| Volume Resistivity (ohm.cm) | 4E+15 | 6E+15 | 3E+15 | 5E+15 | 1E+17 | 9E+14 | 2E+15 | 2E+15 |
| Dielectric Constant at 1MHz | 2.7 | 2.7 | 2.8 | 2.4 | 2.7 | 3.1 | 3.2 | 3.2 |
| Dissipation Factor at 1MHz | 6E-04 | 1E-03 | 9E-04 | 1E-03 | 5E-03 | 4E-03 | 3E-03 | 3E-03 |

*1)Working Time : Time to give double the viscosity
*2)Cure Time : 0.3 mm thickness /20˚C/55%RH
*3)Cure Time : 1.0 mm thickness /20˚C/55%RH
*4)Low Molecular Siloxane : D4-D10

## How To Contact Us

Dow Corning has sales offices, manufacturing sites, as well as science and technology laboratories around the globe. Telephone numbers of locations near you are available on the world wide web at **www.dowcorning.com**, or by calling one of our primary locations listed below.

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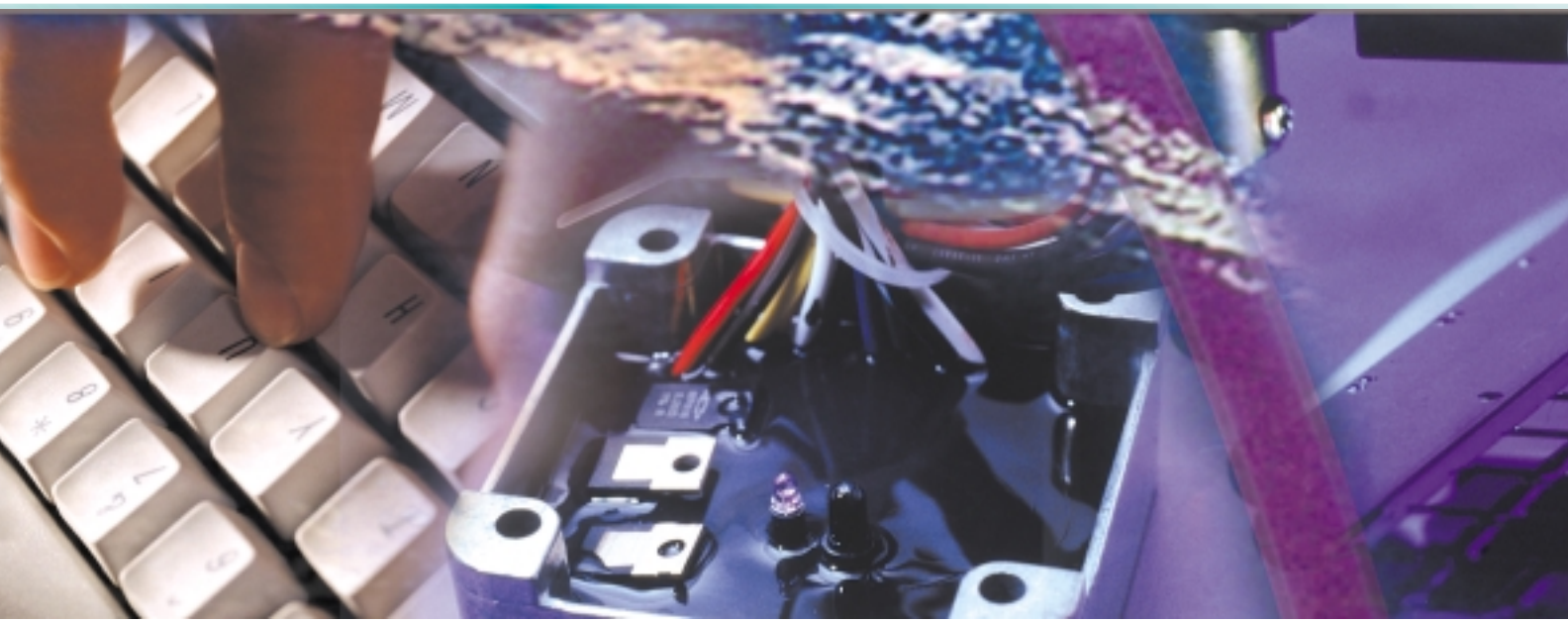

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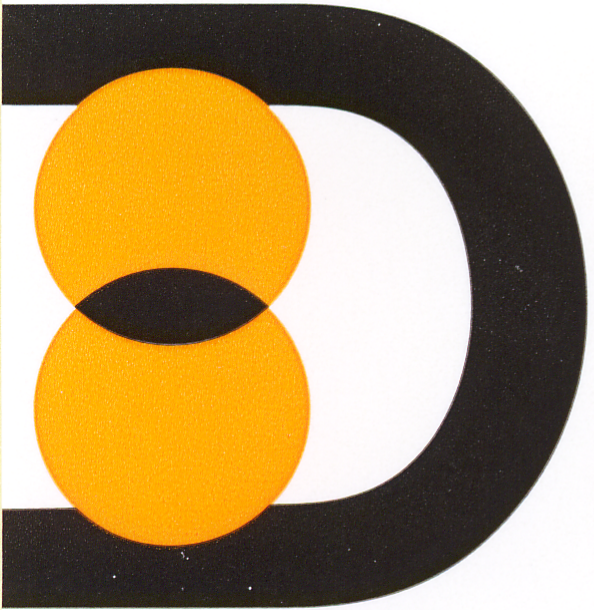

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