Technical Data Sheet

DOWSIL™ 3-6265 HP Adhesive

DOWSIL™ 3-6265 HP Adhesive is a one-part, black, non-flowing adhesive with high tensile strength

Features & Benefits

- Non-flowing
- Heat cure
- Low void formation after cure for sensitive substrates
- High tensile strength
- No mixing required
- Rapid, versatile cure processing controlled by temperature

Composition

- One-part adhesive

Applications

- Sealing lids and housings
- Attaching baseplates
- Gasketing
- Connector sealing
- Engine controllers
- ABS
- Transmission controllers
- Power Supply

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
One or Two-part		One
Color		Black
Viscosity	Poise Pa-sec	10,700 1,070
Heat Cure Time at 100°C	minutes	240
Heat Cure Time at 120°C	minutes	50
Heat Cure Time at 125°C	minutes	25
Heat Cure Time at 150°C	minutes	10

UNRESTRICTED – May be shared with anyone
®™The DOW Diamond and DOWSIL are trademarks of The Dow Chemical Company

© 2017 The Dow Chemical Company. All rights reserved.

Typical Properties (Cont.)

Property	Unit	Result
Specific Gravity (Cured)		1.33
Tensile Strength	psi	850
	MPa	5.8
	kg/cm^2	59
Elongation	%	275
Tear Strength (Die B)	ppi	80
	N/cm	54
Durometer Shore A		68
Linear CTE (by TMA)	ppm/°C	215
Unprimed Adhesion - Lap Shear to Aluminum	psi	825
	MPa	5.7
	N/cm^2	568
Dielectric Strength	volts/mil	550
	kV/mm	24
Volume Resistivity	Ohm-cm	1.0 E+15
Dielectric Constant at 100 Hz		3.20
Dielectric Constant at 100 kHz		3.15
Dissipation Factor at 100 Hz		0.0036
Dissipation Factor at 100 kHz		<0.003

Description

Dow one-part heat cure (addition-curing) adhesives cure rate is rapidly accelerated with heat (see cure schedules in table) and an optimum cure schedule will balance processing performance and costs. For thicker sections or if voiding is observed the use of a 30-minute pre-cure at 70°C (158°F) or the use of an adhesive with low-void technology may reduce voids. Addition-cure silicones are formulated with all necessary ingredients for cure and there are no by-products generated during the cure process. Deep-section or confined cures are possible as cure reactions progress evenly throughout the material. These adhesives generally have long working times so users can enjoy the greatest manufacturing flexibility and reduce waste. Dow silicone adhesives retain their original physical and electrical properties over a broad range of operating conditions which enhance the reliability of and service life of PCB system asemblies.

Application Methods

Automated or manual needle dispense

Mixing And De-Airing

Upon standing, some filler may settle to the bottom of the liquid containers after several weeks. To ensure a uniform product mix, the material in the container should be thoroughly mixed prior to use. Automated airless dispense equipment can be used to reduce or avoid the need to de-air. If de-airing is required to reduce voids in the cured elastomer, consider a vacuum de-air schedule of >28 inches Hg for 10 minutes or until bubbling subsides.

UNRESTRICTED – May be shared with anyone
®™The DOW Diamond and DOWSIL are trademarks of The Dow Chemical Company
DOWSIL™ 3-6265 HP Adhesive

© 2017 The Dow Chemical Company. All rights reserved.

Adhesion

Dow silicone adhesives are specially formulated to provide unprimed adhesion to many reactive metals, ceramics and glass, as well as to selected laminates, resins and plastics. However, good adhesion cannot be expected on non-reactive metal substrates or non-reactive plastic surfaces such as Teflon®, polyethylene or polypropylene. Special surface treatments such as chemical etching or plasma treatment can sometimes provide a reactive surface and promote adhesion to these types of substrates. Dow primers can be used to increase the chemical activity on difficult substrates. Poor adhesion may be experienced on plastic or rubber substrates that are highly plasticized, because the mobile plasticizers act as release agents. Small-scale laboratory evaluation of all substrates is recommended before production trials are made.

Compatibility

Certain materials, chemicals, curing agents and plasticizers can inhibit the cure of addition cure adhesives. Most notable of these include: organotin and other organometallic compounds, silicone rubber containing organotin catalyst, sulfur, polysulfides, polysulfones or other sulfur containing materials, unsaturated hydrocarbon plasitcizers, and some solder flux residues. If a substrate or material is questionable with respect to potentially causing inhibition of cure, it is recommended that a small scale compatibility test be run to ascertain suitability in a given application. The presence of liquid or uncured product at the interface between the questionable substrate and the cured gel indicates incompatibility and inhibition of cure.

Usable Life And Storage

Refer to product label for storage temperature conditions. Containers should be kept tightly closed and kept in cold storage at all times to extend shelf life. The product should be stored in its original packaging with the cover tightly attached to avoid any contamination. Store in accordance with any special instructions listed on the product label. The product should be used by its Use Before date as indicated on the product label.

Preparing Surfaces

All surfaces should be thoroughly cleaned and/or degreased with Dow OS fluids, naphtha, mineral spirits, methyl ethyl ketone (MEK) or other suitable solvent. Solvents such as acetone or isopropyl alcohol (IPA) do not tend to remove oils well, and any oils remaining on the surface may interfere with adhesion. Light surface abrasion is recommended whenever possible, because it promotes good cleaning and increases the surface area for bonding. A final surface wipe with acetone or IPA is also useful. Some cleaning techniques may provide better results than others; users should determine the best techniques for their particular applications.

Substrate Testing

Due to the wide variety of substrate types and differences in substrate surface conditions, general statements on adhesion and bond strength are impossible. To ensure maximum bond strength on a particular substrate, cohesive failure of the product in a lap shear or similar test is needed to ensure compatibility of the adhesive with the substrate being considered. Also, this test can be used to determine minimum cure time or to detect the presence of surface contaminants such as mold release agents, oils, greases and oxide films.

UNRESTRICTED – May be shared with anyone
®™The DOW Diamond and DOWSIL are trademarks of The Dow Chemical Company

© 2017 The Dow Chemical Company. All rights reserved.

Useful Temperature Ranges

For most uses, silicone adhesives should be operational over a temperature range of -45 to 200°C (-49 to 392°F) for long periods of time. However, at both the low- and high temperature ends of the spectrum, behavior of the materials and performance in particular applications can become more complex and require additional considerations. For low-temperature performance, thermal cycling to conditions such as -55°C (-67°F) may be possible, but performance should be verified for your parts or assemblies. Factors that may influence performance are configuration and stress sensitivity of components, cooling rates and hold times, and prior temperature history. At the high-temperature end, the durability of the cured silicone elastomer is time and temperature dependent. As expected, the higher the temperature, the shorter the time the material will remain useable.

Solvent Exposure

The silicone adhesive discussed in this literature is intended only to survive splash or intermittent exposures. It is not suited for continuous solvent or fuel exposure. Testing should be done to confirm performance of the adhesives under these conditions.

Packaging Information

Multiple packaging sizes are available for this product.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

Health And Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.

How Can We Help You Today?

Tell us about your performance, design, and manufacturing challenges. Let us put our silicon-based materials expertise, application knowledge, and processing experience to work for you.

For more information about our materials and capabilities, **visit www.consumer.dow.com**.

To discuss how we could work together to meet your specific needs, go to **www.consumer.dow.com** for a contact close to your location. Dow has customer service teams, science and technology centers, application support teams, sales offices, and manufacturing sites around the globe.

UNRESTRICTED – May be shared with anyone
®™The DOW Diamond and DOWSIL are trademarks of The Dow Chemical Company

© 2017 The Dow Chemical Company. All rights reserved.

Teflon is a registered trademarks of E. I. du Pont de Nemours and Company or its affiliates

http://www.consumer.dow.com

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY
The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that our products are safe, effective, and fully satisfactory for the intended end use. Suggestions of use shall not be taken as inducements to infringe any patent.

Dow's sole warranty is that our products will meet the sales specifications in effect at the time of shipment.

Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted.

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, DOW SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY.

DOW DISCLAIMS LIABILITY FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

® Trademark of The Dow Chemical Company