Technical Data Sheet

DOWSIL™ 1200 OS Primer

Versatile, adhesion enhancing, clear primer dispersed in low molecular weight silicone fluid

Features & Benefits

- Useful for both moisture curing RTV and heat curing silicones
- Diluted in low molecular weight silicone fluid
- Meets many international regulations for low VOC content (including European Union)
- Similar to DOWSIL™ P5200 Adhesion Promoter
- Useful on most metals, glass, ceramics, masonry, wood, fabric and some plastics (including FR-4)

Applications

DOWSIL™ 1200 OS Primer enhances bonding/adhesion of RTV and heat cure silicones to many:

- Metals
- Ceramics
- Glass
- Wood
- Masonry
- Structural plastics

Typical Properties

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

Property	Unit	Result
Flash Point	°F	81
	°C	27
Volatile Organic Content (OS Fluid exempt)	grams/liter	112
Volatile Organic Content (OS Fluid non-exempt)	grams/liter	742
Shelf Life at 25°C	months	18

Description

Dow primers, prime coats and adhesion promoters are dilute solutions of silane coupling agents and other active ingredients. The surface reactive components typically must be applied in a very thin layer for best bonding. The solvents used in these products serve to deliver the active ingredients in a thin, uniform coating, enhance surface cleaning, and in some cases, aid in the penetration of the active ingredients into the bonding surface. Primers can be used to increase design flexibility, reduce total costs or increase performance reliability of PCB system assemblies. They do this by enabling adhesion to lower-cost substrates or lower temperature processes which reduce energy budgets, among other possibilities.

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Application Methods

- Apply in a very light, even coat by:
  - Wiping
  - Dipping
  - Spraying
- Excess material should be wiped off to avoid over-application
- Diluting by a factor of 2 to 4 with additional solvent may avoid excessive build-up

How To Use

These products should be applied in a very light, even coat by wiping, dipping or spraying. Excess material should be wiped off to avoid overapplication, which generally appears as a white, chalky surface. When dip or spray coating, diluting by a factor of 2 to 4 with additional solvent may avoid excessive build-up. Apply additional cleaner/primer to the cloth every 3 to 5 minutes to ensure fresh material can react with the substrate.

Preparing Surfaces

The active ingredients must thoroughly wet-out and coat the bonding surfaces. Mild abrasion, solvent cleaning, plasma, corona discharge and other pre-treatments have been used to clean and enhance surface reactivity to bonding. In general, light surface abrasion is recommended whenever possible, because it promotes good cleaning and increases the surface area for bonding. Surfaces should be cleaned and/or degreased with Dow OS fluids, naphtha, mineral spirits, methyl ethyl ketone (MEK) or other suitable solvents that will remove oils and other contaminants that may be present. A final surface wipe with acetone or IPA may also be helpful. Different cleaning techniques may give better results than others.

Users should determine the best technique for their applications. For especially difficult-to-bond-to surfaces, it may be necessary to increase the surface reactivity by chemical etchants or oxidizers, or by exposing the surface to UV, corona, plasma or flame sources. Allow solvents to completely evaporate before applying the primer.

Processing/Curing

These products require moisture in the air to cure, and are generally cured at room temperature and in a range of 20 to 90 percent relative humidity for 1 to 2 hours. Low humidity and/or low temperature conditions require longer cure times. Mild heat acceleration of the cure rate may be possible but temperatures above 60°C (140°F) are not recommended. During application, the carrier solvent typically evaporates off quickly, allowing the active ingredients to begin to react with atmospheric moisture and bonding surfaces. For optimal bonding, different cure times may be required for different temperature and humidity conditions. Users should determine the best cure schedule and conditions for their applications. The desired silicone elastomer should be applied after the primer, prime coat or adhesion promoter has fully cured.

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.COMSUMER.DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life And Storage

Shelf life is indicated by the “Use Before” date found on the product label. For best results, Dow primers, prime coats and adhesion promoters should be stored below 32°C (90°F).

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Usable Life And Storage (Cont.)

Special precautions must be taken to prevent moisture from contacting these materials before use. Containers should be kept tightly closed and head or air space minimized. Partially filled containers should be purged with dry air or other gases such as nitrogen to maximize shelf life. Small amounts for immediate use should be poured into clean, dry containers and discarded when finished. Material should not be used once it takes on a milky appearance or a large amount of white precipitate is observed, indicating moisture contamination. Repeated opening of the container can cause a small amount of white precipitate to form inside the container cap area, which does not affect the bulk material.

Packaging Information

In general, Dow primers, prime coats and adhesion promoters are supplied in nominal 1 gallon (3.8 L) and 13.5 fl oz (400 mL) or 1 pint (473 mL) containers, net volume. Not all products may be available in all packages and some additional packages may be available for certain products.

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.

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