Product Information
Solar

DOW CORNING

Dow Corning® PV-7020 Potting Agent

FEATURES

- High thermal conductivity
- Compatible with automated dispensing equipment
- Heat cure
- Minimal shrinkage
- No solvents or cure byproducts
- Thick section cure
- UL 94 V1, V0 classification
- UL RTI 105°C (221°F)

COMPOSITION

- Two-part silicone elastomer supplied as flowable liquid
- 1:1 mix ratio by weight or volume

Thermally conductive silicone potting materials for junction box components providing environmental protection and thermal management

APPLICATIONS

Potting of solar module junction boxes

TYPICAL PROPERTIES

Specification Writers: Please contact your local Dow Corning sales office or your Global Dow Corning contact before writing specifications on this product.

Test	Unit	Result
Color		Grey
Viscosity	centipoise or mPas	14000
Specific Gravity[1]		2.36
Working Time[2]	minutes	300
UL Flammability Classification		94 V1, V0
Thermal Conductivity	Watt/meter-°K	1.34
Heat Cure Time	minutes	45 @125°C (257°F)
Dielectric Strength	volts/mil	127
	kV/mm	13

[1]Cured or uncured A & B.
[2]Time to double initial viscosity (initial mixed viscosity for two-part products) at room temperature.

DESCRIPTION

Dow Corning® PV-7020 Potting Agent s supplied as two-part liquid component kits comprised of Part A/Part B to be mixed in a 1:1 ratio by weight or volume. It is suitable for manual mixing or automated mixing and dispensing. When liquid components are thoroughly mixed, the mixture cures to a flexible elastomer.

HOW TO USE

Mixing Two-Part Gels

Dow Corning PV-7020 Potting Agent can be dispensed manually or by using one of the available types of static mix equipment. Typically, the two components are of matched viscosities and are readily mixed with static mixers. For low-volume applications, manual weighing and simple hand mixing may be appropriate.

Inaccurate proportioning or inadequate mixing may cause localized or wide-spread problems affecting the gel properties or cure characteristics. If possible, the potential for entrapment and incorporation of gas (typically air) should be considered during design of the part and selection of a process to mix and dispense the gel. Degassing at >28 inches (10-20 mm) Hg vacuum may be necessary to ensure a void-free, protective layer.

Working Time and Cure

Working time (or pot life) is the time required for the initial mixed viscosity to double at room temperature (RT). For two-part, addition-cure products, such as *Dow Corning PV*-7020 Potting Agent, the cure reaction begins when Parts A and B are mixed but is very slow unless accelerated by heat. The normal pot life is 5 hours. Gels will reach a no-flow state prior to full cure. *Dow Corning PV*-7020 Potting Agent can be cured via heat-accelerated cure.

USEFUL PROPERTIES

For most uses, *Dow Corning*® PV-7020 Potting Agent should be operational over a wide temperature and humidity range. It should function as a heat transfer media, durable electric insulator, barrier against environmental contaminants, and as a stress relieving shock and vibration absorber. Performance should be verified for specific parts and 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, durability of cured silicone gels is time and temperature dependent.

CURE COMPATIBILITY

Certain materials, chemicals, curing agents and plasticizers can inhibit the cure of *Dow Corning PV*-7020 Potting Agent. Most notable of these include:

- Organotin and other organometallic compounds
- Silicone rubber containing organotin catalyst
- Sulfur, polysulfides, polysulfones, or other sulfur-containing materials
- Amines, urethanes, or amine-containing materials
- Phosphorous or phosphorous-containing materials
- Unsaturated hydrocarbon plasticizers
- Acidic materials (usually organic acids)
- Some solder flux residues

If a substrate or material is questionable with respect to potentially causing inhibition of cure, a small-scale compatibility test should 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. In certain situations, the gel may appear fully cured but have reduced or no adhesion. This may result from slight inhibition at the interface.

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND MATERIAL SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL, AND HEALTH HAZARD INFORMATION. THE MATERIAL SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE AT WWW.DOWCORNING.COM, OR FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY CALLING YOUR GLOBAL DOW CORNING CONNECTION.

USABLE LIFE AND STORAGE

When stored at or below 35°C (95°F) in the original unopened containers, *Dow Corning PV*-7020 Potting Agent has a usable life of 6 months from the date of manufacture.

Storage conditions and shelf life ("Use By" date) are indicated on the product label.

PACKAGING

Dow Corning PV-7020 Potting Agent is available in batch-matched kits containing both Part A and Part B components. Packages that are typically available include 210-ml dual cartridges, five-gallon, and 55 gallon (20 and 181.4 kg) containers, net weight.

LIMITATIONS

Use of this product must be based on the results of your product testing, manufacturing processes, and end applications. Full environmental exposure testing is recommended for all applications.

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 Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

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

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 Dow Corning's 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.

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