Technical Data Sheet

DOWSIL™ 92-009 Dispersion Coating

Air-drying, one-part silicone coating

Features & Benefits

- High tear; excellent adhesion, release, and anti-abrasion characteristics
- Cured at 72 hours at 25°C (77°F) and 50% relative humidity

Applications

- Environmental sealing/protection for various parts and substrates

Application Methods

- Brush
- Dip
- Pour
- Spray

Typical Properties

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

Test[1]	Property	Unit	Result
	As Supplied		
	Physical Form		35% silicone solids dispersed in hydrocarbon solvent
CTM 0176	Color		Translucent
CTM 0021A	Flash Point	°C °F	18 65
CTM 0050	Viscosity	poise	82
CTM 0095	Tack-Free Time	minutes	40
	As Cured		
	Physical Form		Tough, transparent silicone rubber coating
CTM 0022	Specific Gravity		1.11
	Adhesion, 2024 Aluminum (Primed)		Excellent
ASTM D 412	Tensile Strength	psi	1300
ASTM D 412	Elongation	%	680
ASTM D 624	Tear Strength, Die B	ppi	180
ASTM D 676	Durometer Hardness, Shore A	points	46
CTM 0249	Volume Resistivity	ohm-cm	5.4×10^{14}
CTM 0224	Thermal Conductivity	Btu-in/ft^2 hour °F	1.26

1. CTMs (Corporate Test Methods) correspond to standard ASTM tests in most instances. Copies of CTMs are available upon request.
ASTM: American Society for Testing and Materials

Form No. 10-108-01-0220 DOW

Description

DOWSIL™ 92-009 Dispersion Coating is a one-part, room temperature curing silicone rubber material. The coating is easily applied by brushing, dipping, pouring, or spraying, and cures within 72 hours to a tough, transparent, rubbery film. Similar to other Dow silicones, DOWSIL™ 92-009 Dispersion Coating resists weathering, ozone, chemicals, moisture, ice, and ultraviolet radiation at temperatures up to 260°C (500°F). Additional features include:

- Excellent adhesion
- Excellent release properties

Uses

DOWSIL™ 92-009 Dispersion Coating is a highly versatile material used to protect various parts and substrates on missiles, rockets, aircraft, and launch equipment from corroding and eroding. The coating has also been successfully applied to electrical and steel cables; fuel transfer lines; structural members and undersides of aircraft; engine cases and struts; fan blades used in wind tunnels; and radar antennae.

DOWSIL™ 92-009 Dispersion Coating can be readily pigmented and applied as paint to mark, identify, or color-code various materials or parts – including those made of silicone rubber. When pigmented with white zinc oxide or titanium dioxide, this product also makes an effective thermal control coating for protecting vehicles orbiting in space.

How to Use

Surface Preparation

In most cases, substantially stronger and more uniform adhesion is obtained by preparing the surface to be treated with DOWSIL™ 1200 OS Primer. The following steps are recommended for all surfaces except silicone rubber. (Silicone rubber surfaces should be roughened with sandpaper and then cleaned with acetone before applying the coating.)

1. Thoroughly clean and degrease the surface.
2. Rinse all cleaning agents off surface with acetone or methyl ethyl ketone.
3. After rinse agent has dried, apply a coat of DOWSIL™ 1200 OS Primer by dipping, brushing, or spraying. Typically, a very thin coating of primer will provide the best adhesion. If cracks appear in the chalked film, too much primer was applied.
4. Under typical room temperature and humidity conditions, the primer should be allowed to air-dry for 60 to 90 minutes. Because the prime coat is moisture sensitive, low humidity will necessitate a longer drying time.
5. Apply DOWSIL™ 92-009 Dispersion Coating.

Application

DOWSIL™ 92-009 Dispersion Coating can be applied by brushing, dipping, or pouring as supplied. If spraying is the preferred application method, the coating can be thinned with naphtha to any viscosity necessary for use with the intended spray equipment (see Mixing Recommendations). As supplied, the average build per coat is 5 to 6 mils.

For the smoothest coat, the following procedure is recommended:

1. Dilute the coating using a 1.3 to 1 ratio of naphtha to coating by volume (1 to 1 by weight).
2. Apply four passes in rapid succession per coat.
3. If extra buildup is desired, apply successive coats within 30 minutes after the preceding coat was applied. If this is not possible, allow the coated surface to air-dry four hours before applying the next coat.

Application (Cont.)

Thicker coatings may also be achieved by using less naphtha; however, a rougher surface may result.

Pigmentation

DOWSIL™ 92-009 Dispersion Coating is easily pigmented for applications requiring color. To obtain good coverage, the pigment should comprise at least 3 percent of the total formulation by weight. When pigmenting the coating white, zinc oxide or titanium dioxide is recommended. Using the smallest available particle size will minimize settling problems. For other colors, silicone color concentrates–pigment dispersed in a silicone oil to form a paste material–provide the easiest application with the best results. Only two parts per 100 are required (see Mixing Recommendations).

Mixing Recommendations

Any solvent or pigment added to DOWSIL™ 92-009 Dispersion Coating must be free of moisture to prevent premature gellation. This can be accomplished by adding the solvent or filler to the coating and rolling the combination in a closed container until thoroughly mixed, or by mixing in a commercial paint shaker. Zinc oxide or titanium dioxide should be dried 24 hours at 200°C (392°F) in trays before adding it to the coating.

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

Usable Life and Storage

When stored below 30°C (86°F) in closed containers, DOWSIL™ 92-009 Dispersion Coating has a shelf life of 9 months from date of manufacture.

Packaging Information

DOWSIL™ 92-009 Dispersion Coating is available in 150 kg drum; 14.5 kg pail; 2.9 kg pail & 75 ml cartridge.

Limitations

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

Shipping Limitations

DOT Classification: Flammable.

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, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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