Product Information

Specialty Coatings

DOW CORNING

Dow Corning® Metal Protective Coating

FEATURES

- Good corrosion protection in thin film
- Colorless
- Non-oily

COMPOSITION

- Corrosion-protective coating

Coating prevents corrosion on metal parts in storage, overseas shipments and other high-humidity, long-term exposure

USES

Dow Corning® Metal Protective Coating is typically used to protect high-value-added metal parts during production, storage and shipment – especially components exposed to high humidity, salty conditions or corrosive industrial environments.

Typical uses for *Dow Corning* Metal Protective Coating include:

- Manufacturing – machined surfaces, stampings, raw stock, work-in-progress parts and finished products
- Aircraft – corrosion protection
- Machine shop and tool room – dies, fixtures, jigs, tools, molds, guides and ways, and raw ground stock
- Maintenance – machine tools, pneumatic tools, spare parts, storage and product equipment temporarily out of service
- Finished products – machined and painted surface protection during domestic and foreign shipments

DESCRIPTION

Dow Corning Metal Protective Coating is a transparent, dry, wax-like coating that protects metal parts from corrosion. The coating has good inherent lubricating properties and usually does not require removal prior to any subsequent machining, assembly or start-up of equipment. If necessary, *Dow Corning* Metal Protective Coating may be removed by most common solvents such as mineral spirits or *Dow Corning*® OS Fluids.

Parts protected with *Dow Corning* Metal Protective Coating may be examined through the transparent coating. Additionally, the parts will remain relatively clean since the dry coating will not readily pick up dirt, dust and grit under normal handling and storage.

HOW TO USE

Dow Corning Metal Protective Coating is ready to use as supplied. However, for uniform solids distribution and coating thickness, the bulk material should be gently mixed before and during use. Dipping will provide a uniform coating; however, spraying is often the preferred method of application. For best results, three light applications are better than one heavier application. For smaller jobs and touch-up work, *Dow Corning* Metal Protective Coating may be applied from an aerosol container. Brushing may also be used. For best protection, scratching of the coating after application should be avoided.

Surface Preparation

Surfaces to be protected with *Dow Corning* Metal Protective Coating must be clean and dry.

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

Test	Unit	Result
As Supplied		
Appearance[1]		Opaque, yellow liquid
Density[1]	lb/gal	6.8
Boiling Point[1]	°F (°C)	240 (115)
Flash Point[1]	°F (°C)	82 (28)
Surface Coverage, film thickness of		
0.0001 inch	sq ft/gal	2100
0.0002 inch	sq ft/gal	1100
0.0003 inch	sq ft/gal	700
Drying Time,		
bulk, thin film, one dip	minutes	10 to 30
aerosol spray, thin film, one pass	minutes	10 to 20
Solvent,		
bulk		Mineral spirits
aerosol spray		Mineral spirits plus nonchlorofluorohydrocarbon propellant
As Applied		
Appearance		Transparent, non-oily wax
Softening Point	°F (°C)	150 (65)
Service Temperature Range, estimated	°F (°C)	-40 to 150 (-40 to 65)
Single Dip Film Thickness		
at 68°F (19.9°C)	mils	0.4
Corrosion Resistance, mild steel		
5 percent salt spray, dipped from bulk	hours	200+
5 percent salt spray, aerosol spray	hours	72+
humidity room	cycles	50
Lubrication[2]		Pass, no stick-slip
Coefficient of Friction		0.12

[1]Properties for bulk form. Aerosol contains bulk plus nonchlorofluorohydrocarbon propellant.

[2]Faville-LeValley Corp., LFW-4 Press Fit Machine.

Specification Writers: Please obtain a copy of the Dow Corning Sales Specification for this product and use it as a basis for your specifications. It may be obtained from any Dow Corning Sales Office, or from Dow Corning Customer Service in Midland, MI. Call (517) 496-6000.

Although the coating will not permit moisture to penetrate, it does not displace moisture already on the metal surface.

Film Thickness

A film thickness suitable for most requirements (0.40 mil) can be obtained by dipping at normal room temperature. For a thicker film and increased metal protection, additional dip coatings may be repeated after allowing the first coat to dry. Similar buildup of the protective film may be achieved by repeated spray or brush applications, with intervals for drying between coats. A thick film, however, may cause the wax to pull away from corners and metal edges, leaving metal exposed for corrosion. If a thinner film is desired, the liquid material may be diluted by using a suitable chlorinated solvent such as *Chlorothene*®[1], which also reduces drying time, or by using mineral spirits.

Removal of Film

In most cases, *Dow Corning* Metal Protective Coating does not have to be removed from coated parts before they are machined, assembled or started up. However, if removal is desired, degreasing with common solvents such as mineral spirits or *Dow Corning* OS Fluids will normally remove the coating as will steam cleaning or alkali cleaners.

[1]Registered trademark of The Dow Chemical Company.

Note: Caustic cleaners should not be used to remove *Dow Corning* Metal Protective Coating from aluminum surfaces.

Caution

Dow Corning Metal Protective Coating contains mineral spirits. It should be used in a well-ventilated area, and the precautions normally followed when working with this solvent should be implemented. Solvents used to dilute this material, as well as metal cleaning or alkali cleaners, should only be used with adequate ventilation. Follow handling precautions on container labels.

USE LIMITATIONS

Painted surfaces should be well cured before *Dow Corning* Metal Protective Coating is applied. If the intent is to remove *Dow Corning* Metal Protective Coating from the painted surface at a later date, only one light application should be made.

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

SHIPPING LIMITATIONS

Liquid – DOT classification: flammable liquid.

Aerosol – DOT classification: flammable gas.

STORAGE AND SHELF LIFE

When properly stored under normal warehouse conditions, *Dow Corning* Metal Protective Coating has a shelf life of 60 months from date of manufacture. To obtain uniform mixture, slight stirring after storage is recommended before use.

PACKAGING

Dow Corning Metal Protective Coating is supplied in 30-lb (13.6-kg) pails and 375-lb (170-kg) drums, net weight. *Dow Corning* Metal Protective Coating aerosol is supplied in 10-oz (284-g) containers, net weight.

SAFE HANDLING INFORMATION

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. 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 FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY WRITING TO DOW CORNING CUSTOMER SERVICES, OR BY CALLING (517) 496-6000.

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.

Dow Corning's sole warranty is that the product will meet the Dow Corning 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. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.

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