

Product Information

Specialty Lubricants

Dow Corning® 7400 Water Dilutable Dry Film Lubricant

FEATURES

- Long wear-life
- Good resistance to oils and greases
- Water-dilutable, nonflammable, essentially nontoxic
- Stable dispersion
- Air-drying, room temperature cure, but may be heat-accelerated

COMPOSITION

- Dark gray dispersion of solid lubricants in water-dilutable organic resin
- Supplied as slightly thixotropic liquid, cures to dry lubricating film

Provides dry film lubrication for metal parts

USES

Dow Corning® 7400 Water Dilutable Dry Film Lubricant is recommended to meet the following conditions:

- Very high loads, low speeds
- Sliding or oscillating movement
- Extreme temperatures
- When fretting is likely or dust is a problem
- Where oil and grease are not acceptable or relubrication is not possible
- When very low friction is needed
- When optimum running-in is required

Typical mechanisms or components on which *Dow Corning* 7400 Water Dilutable Dry Film Lubricant may be used include:

- Threaded fasteners, gears, splines
- Sliding parts in cranes and earthmovers
- Screw actuators
- Hinges
- Brake parts, ball joints
- Lubricant for cold-forming metals, including stainless steel and titanium

TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

Test	Unit	Result
As Supplied		
Viscosity at 20°C (68°F), DIN 4 cup	seconds	18 - 30
Specific Gravity, DIN 53 217		1.18
pH		7.5 - 9
Thinner, if required		Tap water
Cleaning Agent		Water, detergent
Flash Point		None
Drying Time at 23°C (73°F) and 70% relative humidity,		
Tack Free	minutes	15
Dry	minutes	40 - 90
at 50 to 90°C (122 to 194°F)	minutes	5 - 10
Approximate Coverage, 0.00059-in (15-micron) cured film thickness	ft ² /gal (m ² /kg)	770 (16)
As Cured		
Coefficient of Friction, LFW-1		0.03
Falex Test ¹ , O.K. load	lb (N)	p: 2540 (11,300) s: 1738 (7900)
Wear Life ¹ , LFW-1 load 2860 N, 72 rpm, number of revolutions until $\mu = 0.1$		p: >200,000

¹Surface treatment of test ring before application of bonded lubricant: p = phosphated, s = sandblasted.

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.

Table I: Recommended Pretreatments for Metal Surfaces

Pretreatment	Stainless Steel	Steel	Plated Cr or Ni	Metals, Cd or Zn	Al Alloys	Cu Alloys	Mg Alloys	Ti Alloys
Degrease	•	•	•	•	•	•	•	•
Remove oxides via bright dip						•		
Remove oxides via sandblast	•	•	•					•
Anodize					•			
Dichromate							•	
Phosphate		•		•				
Oxalic acid	•							

DESCRIPTION

Dow Corning 7400 Water Dilutable Dry Film Lubricant is a dispersion of solid lubricants in an air-curing, water-dilutable organic resin. When applied to metal surfaces, the cured coating is an extremely adherent dry film with good oil resistance and an operating temperature range of -70 to 200°C (-95 to 390°F). The solid lubricants provide a low coefficient of friction and a high load-carrying capacity under conditions where conventional lubricants are ineffective or undesirable.

HOW TO USE

Components to be coated should be cleaned and degreased thoroughly. The coating may be applied by spraying, dipping or brushing.

Dow Corning 7400 Water Dilutable Dry Film Lubricant is supplied as a stable dispersion that may be diluted with tap water if a thinner film is desired. Deionized or distilled water should be used if the tap water in your area is unusually hard. Mild agitation is required to keep the lubricating solids in suspension and to provide a homogeneous mixture. Excessive agitation is undesirable because it may cause foaming, which can be detrimental to the performance of the product.

Spraying

Spraying will usually produce the most uniform and precisely controlled film thickness. With small parts, the bonded lubricant can best be applied by using an air brush.

For larger parts, use a normal paint spraying system. The recommended cured film thickness is 0.3 to 0.6 mils (8 to 15 microns).

Dipping

For cylindrical or irregular parts requiring a uniform, closely controlled film thickness, parts must be jigged and withdrawn at a controlled rate determined by experimentation. The film thickness can also be controlled by the dilution rate. The dilution rate should be determined by experimentation. When the coating thickness or uniformity is not critical, parts may be placed in a basket and dipped briefly.

Note: The expected bath life when exposed to atmospheric conditions is from 1 to 2 weeks.

Brushing

This method is recommended only if the other two methods are impractical or if uniformity is not required. Use an ordinary paint brush and the product as supplied.

Drying

The drying time with all three methods of application can be significantly reduced by blowing warm air over and around the parts.

USE LIMITATIONS

These products are neither tested nor represented as suitable for medical or pharmaceutical uses.

SHIPPING LIMITATIONS

None.

STORAGE AND SHELF LIFE

When stored at or below 32°C (90°F), *Dow Corning* 7400 Water Dilutable Dry Film Lubricant has a shelf life of 12 months from date of manufacture. Refer to product packaging for "Use By" date. **DO NOT FREEZE.**

PACKAGING

Dow Corning 7400 Water Dilutable Dry Film Lubricant is available in 11- and 397-lb (5- and 180-kg) drums, 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 SERVICE, 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.

