

# *Molykote*<sup>®</sup> 3400A Corrosion Protective Coating

## **FEATURES**

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- Good solvent resistance
- Excellent lubrication and corrosion protection

## **COMPOSITION**

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- Dispersion of solid lubricants and corrosion inhibitors

## **Long-term “dry” lubricant providing enhanced corrosion protection**

### **APPLICATIONS**

*Molykote*<sup>®</sup> 3400A Corrosion Protective Coating is recommended for use in:

#### **Aerospace applications**

- Hinge pins, sleeve bearings and cams
- Self-aligning bearings and linkage controls
- Servo-mechanisms and instrument bearings
- Disconnects and threaded fasteners
- Splines and geared couplings
- Engine control bellows

#### **Automotive applications**

- Under-the-hood linkages exposed to dust, moisture, fuels, oils and other contaminants
- Pins, springs and bearing surfaces in brakes; body hinges and linkages
- Moving parts in locks, switches, ventilation controls and servo-mechanisms

#### **Farm and construction equipment applications**

- Hinges and pins on access doors
- Self-aligning, trunnion and other plain bearings
- Swivels and bearings on drawbar torsion devices
- Splines, exterior gears and drive linkages
- Truck undercarriages on adjustable tandem wheels

### **DESCRIPTION**

*Molykote* 3400A Corrosion Protective Coating is a dispersion of solid lubricants and corrosion inhibitors in a thermosetting resin. The coating is distinguished by its ability to protect bearing surfaces against corrosion and provide excellent lubrication under conditions of:

- High loads
- Low speeds
- Dirty or abrasive environments
- Mating surfaces that are inaccessible for relubrication
- Run-in for new or rebuilt equipment

Similar materials require special handling during cure, but *Molykote* 3400A Corrosion Protective Coating does not. Its adhesive strength is much

greater than its cohesive strength; i.e., parts coated with it do not tend to stick to oven racks, fixtures or each other during cure.

The bonded lubricant can be used on steel and other metals; however, when used on metals that cannot tolerate high temperature, such as aluminum, longer cure times are required. For more complete curing information, see “Application Methods.”

### **HOW TO USE**

#### **Surface Preparation**

*Molykote* 3400A Corrosion Protective Coating may be applied directly to clean, oil-free machined surfaces. However, additional surface treatment will enhance endurance life and

## TYPICAL PROPERTIES

These values are not intended for use in preparing specifications.

Test	Unit	Result
Specific Gravity at 25°C (77°F)		1.14
Density	lb/gal	9.5
Viscosity at 25°C (77°F), Zahn #1	sec	35
Recommended Coating Thickness	mils	0.5
Approximate Coverage (0.5 mil thick)	ft <sup>2</sup> /gal	720
Flash Point	°C (°F)	21 (70)
Corrosion Resistance, salt-spray test using 5% salt solution <sup>1</sup> (Method 4001, Fed Std 791)	hours	>500
Temperature Resistance after 3 hr at 260°C (500°F) 24 hr at 43°C (110°F)		No adhesion loss No adhesion loss
Oil Resistance		Excellent
Wear Life		
Falex Test Method 3809 of Federal Standard 791 LA (specimens vapor-blasted 20 to 30 RMS), endurance life, average	minutes	500
LFW #1 Standard (tested on Dow Corning LFW #1 machine) at 72 rpm, 285-kg (630-lb) load, RC 60 steel (vapor-blasted) specimens, 25°C (77°F)	cycles	100,000
Load Carrying Capacity, Falex Test Method, ASTM D 2625		3,890
Adhesion, perform tape test after immersed in water for 24 hours, MIL-T-106, pressure-sensitive tape used		No loss of film or exposure of base metal
Storage Stability (no gelation, loss of wear-life, or loss of corrosion protection)	months	>6

<sup>1</sup>Acceptable as a lubricant where there is no possibility of food contact.

corrosion protection when used on:

- Steel alloys
  - Where maximum corrosion protection is required (outdoor installations or wide temperature variations) – degrease, cadmium plate 0.3 mil, and phosphate with zinc or manganese phosphate
  - On parts that will be protected from weather and will not be subjected to corrosion (indoor installation or sealed mechanisms) – degrease and phosphate with zinc or manganese phosphate
- Stainless steel – degrease and sandblast (120 mesh)
- Titanium and titanium alloys – degrease and sandblast (120 mesh)
- Copper and copper alloys – degrease and:
  - Bright dip and sandblast (120 mesh), or
  - Use black oxide according to MIL-F-495
- Aluminum and aluminum alloys – degrease with trichloroethylene (MIL-T-7003) and anodize and seal according to finish number 7.2.1 of MIL-STD-171

### Application Methods

*Molykote 3400A* Corrosion Protective Coating can be applied by dipping, tumbling or brushing, but optimum properties are obtained by spraying.

Spray from solution as received. If, over a period of time, solvent loss takes place because of evaporation, original viscosity can be restored by adding a premixed solution of 1 part ethyl alcohol (by volume), 1 part methyl ethyl ketone and 2 parts toluene.<sup>1</sup>

The coating should be air dried for at least 30 minutes to ensure complete solvent removal, then cured at 205°C (400°F) for one hour. Materials that cannot be cured at 205°C (400°F) may be cured for 2 hours or more at 150°C (300°F). Curing at lower temperatures leads to reduced properties.

## **HANDLING PRECAUTIONS**

Caution: *Molykote 3400A* Corrosion Protective Coating is supplied in a flammable solvent. Keep away from heat, sparks and open flame. Use only with adequate ventilation and avoid prolonged breathing of vapors.

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 FROM YOUR DOW CORNING REPRESENTATIVE, OR DISTRIBUTOR, OR BY CALLING YOUR GLOBAL DOW CORNING CONNECTION.

## **STORAGE AND SHELF LIFE**

When stored under normal warehouse conditions, *Molykote 3400A* Corrosion Protective Coating has a shelf life of 24 months from date of manufacture. Refer to product packaging for “Use By” date.

## **PACKAGING**

*Molykote 3400A* Corrosion Protective Coating is supplied in 1-kg/0.94-L (2.25-lb/1-qt) and 20.4-kg/18.9-L (45-lb/5-gal) containers, net weight.

## **USE LIMITATIONS**

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

## **SHIPPING LIMITATIONS**

DOT Classification: Flammable liquid.

## **WARRANTY INFORMATION**

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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<sup>1</sup>When using any solvent, always provide adequate ventilation and follow safe handling precautions on solvent container label or Material Safety Data Sheet.

