

Product Information Paints, Inks & Coatings

DOW CORNING

Dow Corning® 27 Additive

FEATURES

- Solventless
- Nonreactive silicone glycol surfactant with both silicone and organic characteristics

BENEFITS

- Effective at low concentrations
- Reducing coefficient of friction

COMPOSITION

- Amber liquid
- Silicone glycol copolymer

Primarily used in reducing coefficient of friction

APPLICATIONS

- May be incorporated into solvent, aqueous, solventless and energy curable systems.

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Nonvolatile Content, percent	100
Specific Gravity at 25°C (77°F)	1.04
Flash Point, closed cup, °C (°F)	80 (176)
Surface Tension, 0.1 % surfactant in water, dynes/cm	28
Viscosity at 25°C (77°F), cs	275
Glycol Type	Ethylene Oxide and Propylene Oxide
Endblocking	OH

DESCRIPTION

Dow Corning® 27 Additive is a non-reactive silicone glycol surfactant with both silicone and organic characteristics. *Dow Corning 27 Additive* is supplied as a 100 percent active fluid.

Dow Corning 27 Additive has been especially effective at reducing the coefficient of friction in both a water-based acrylic flexographic ink and in a UV overprint varnish that consisted of a blend of a chlorinated polyester, a urethane diacrylate and a diacrylate.

Test Conditions

In both of these applications, the control consisted of the formulation with no additive added. The coefficient of friction was tested using the Monitor Slip and Friction, Model 32-06, supplied by Testing Machines, Inc., using a 4-pound weight and testing at a rate of 6 inches per minute. The ink and overprint varnish were drawn down on an NWH Lenetta chart and tested against the uncoated NWH Lenetta chart.

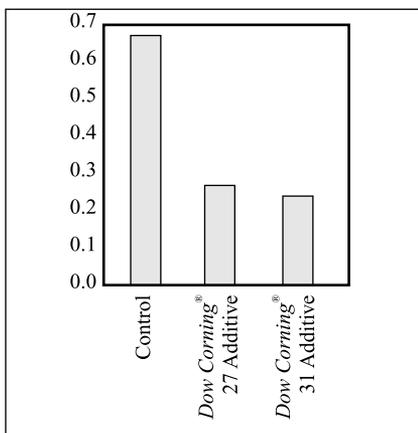
Results

In the water-based acrylic flexographic ink, the addition of *Dow Corning 27 Additive* at 0.5 weight percent based on actives gave a 25 percent reduction in the static and kinetic coefficient of friction over the control along with a 44 percent increase in 85° gloss. In the overprint varnish, the addition of *Dow Corning 27 Additive* at 0.5 weight percent based on actives gave a 63 percent reduction in the static and kinetic coefficient of friction over the control.

HOW TO USE

Dow Corning 27 Additive is effective at low concentrations. The amount required depends on the type of formulation, the resin system involved, the solvents used and the total system solids. *Dow Corning 27 Additive* is generally effective at concentrations ranging from 0.1 to 1.0 weight percent, based on total solids. *Dow Corning 27 Additive* should be added in low enough concentrations to

Figure 1. Static Coefficient of Friction versus Additive



prevent contamination. Dilute in suitable solvent or water. *Dow Corning 27 Additive* is typically added during the final thinning stage or is post-added.

Characteristics may vary when used with different systems and formulations. Thorough preproduction testing is necessary to ensure expected performance.

HANDLING PRECAUTIONS

Caution: Direct contact with eyes may cause irritation.

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.

USABLE LIFE AND STORAGE

When stored between 50°C (122°F) and -50°C (-58°F), *Dow Corning 27 Additive* has a shelf life of 30 months from date of manufacture.

PACKAGING

Dow Corning 27 Additive is available in 4-oz (100-g) samples, 40-lb (18.1-kg) pails and 441-lb (200-kg) drums.

LIMITATIONS

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

Shipping Limitations

Combustible liquid. Store and ship in appropriate containers.

WARRANTY INFORMATION – PLEASE READ CAREFULLY

Dow Corning believes that the information in this publication is an accurate description of the typical characteristics and/or uses of the product or products, but it is your responsibility to thoroughly test the product in your specific application to determine its performance, efficacy and safety. Suggestions of uses should not be taken as inducements to infringe any particular patent.

Unless Dow Corning provides you with a specific written warranty of fitness for a particular use, Dow Corning's sole warranty is that the product or products, as supplied, will meet Dow Corning's then current sales specifications.

DOW CORNING SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WAR- RANTY, INCLUDING THE WARRANTIES OF MER- CHANTABILITY AND OF

FITNESS FOR USE. Your exclusive remedy and Dow Corning's sole liability for breach of warranty is limited to refund of the purchase price or replacement of any product shown to be other than as warranted, and Dow Corning expressly disclaims any liability for incidental or consequential damages.