

Distributed for Acheson Colloids By:
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Catalog Numbers: DAG213G (1 gallon)
DAG2135G (5 gallons)

Thermosetting Graphitic Dry Film Lubricant

DESCRIPTION

This is one of a series of resin bonded graphite coatings designed to provide dry film lubrication on many substrates.

Dag 213 coatings are clean, dry, long-wearing, and provide superior maintenance-free lubrication for a wide range of light to medium load applications. A thin film of **Dag 213** keeps wear uniform and reduces friction on mating metal parts without requiring increased manufacturing tolerances. Components are protected from metal-to-metal contact even in applications approaching boundary lubrication, reducing the risk of damage due to partial or complete seizure.

Formulated from processed micro-graphite and epoxy resin, **Dag 213** forms tightly adherent coatings on many types of substrates. In addition to high lubricity, **Dag 213** coatings exhibit extremely good wear resistance to oils and solvents (except enamel strippers).

ADVANTAGES

- Excellent adhesion
- High lubricity
- Extremely good wear resistance
- Resists oils and solvents (except enamel strippers)
- Stable at high temperatures
- Clean, dry, thin film
- Good release properties
- Easy to apply
- Minimum pretreatment required
- Supplied as a concentrate

Dag 213 coatings can be applied to any substrate that is not adversely affected by the diluent or cure cycle.

TYPICAL APPLICATIONS

- Automotive cylinders and pistons
- Business machine components
- Solenoid plungers
- Light load mechanisms
- Jet engine blade roots
- Camera parts
- Timing devices

TYPICAL PROPERTIES (as supplied)

Lubricant	: Processed micro-graphite
Binder	: Epoxy resin
Diluent	: Acheson SB-2
Flash point	: 45°F (7°C)
Consistency	: Fluid
Density	: 8.2 lb/gal (0.984 kg/l)
Solids content by weight	: 28%
VOC	: 708 g/l (5.9 lb/gal)

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guaranty of their accuracy is made. In every case, we urge and recommend that purchasers, before using any product in full scale production, make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED. No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the American Chemistry Council[®] program.

**TYPICAL
PROPERTIES**
(as cured)

Color	: Black
Coefficient of friction	: 0.114 (static)
Service temperature	: 300°F (150°C)
Intermittent temperature	: 350°F (177°C)
Coverage	: 336 sq ft/gal @ 1 mil

**APPLICATION
DETAILS**

Surface Pretreatment

Substrates should be clean and dry. A chemical rinse or sandblast is usually sufficient to key the surface properly.

However, if maximum adhesion is required, the combination of cleaning and surface pretreatment by mechanical or chemical means is essential. Suggested methods of pretreatment for maximum adhesion are as follows:

Steel	: degrease, sand or vapor blast and/or phosphate coat
Stainless steel	: degrease, sand or vapor blast
Copper alloys	: degrease, sand or vapor blast, dilute nitric acid drip water rinse
Aluminum	: degrease, sand or vapor blast
Rubber:	: degrease, using appropriate solvent
Plastics	: degrease, using appropriate solvent and/or light sanding

Dilution

Dag 213 is supplied as a concentrate. Add a small amount of the diluent slowly while stirring. The dilution ratio will depend on the viscosity required by the application method chosen, but in no case should the ratio exceed 1:2 (product:diluent).

Application

Dag 213 should be thoroughly mixed prior to use and agitated periodically during use. The material can be applied by standard spray or dip methods. An external atomizing type spray gun is recommended, with air pressure in the range of 25 to 40 psi (2 to 3 metric atmospheres).

For maximum corrosion resistance, use the appropriate surface pretreatment (see above), the spray-apply multiple coats with a ten-minute air dry between coats. Allow the final coat to air dry before oven curing.

Curing

The applied film should be air dried for about 10 minutes before baking to avoid trapping any solvents. The recommended cure cycle is 350°F (177°C) for 60 minutes or 425°F (220°C) for 20 minutes.

**STORAGE/SHIPPING
HANDLING**

Shelf life for this product is 2 years from date of qualification under original seal. Reseal containers carefully to prevent evaporation of volatile solvents. Keep from freezing. Keep container tightly closed when not in use. Store in a cool, well ventilated area. Keep away from heat, sparks, and open flame. Protect material from direct sunlight. Ground and bond containers when transferring materials. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.

**APPLICATION
ASSISTANCE**

Acheson's **Application Specialists** are available to assist you in production start-up with **Dag 213**. For more information, contact Acheson Colloids Company, (800) 255-1908, or visit our website at www.achesonindustries.com for the Acheson global location nearest you.

HEALTH & SAFETY

Flammable. Harmful if swallowed, inhaled, or absorbed through skin. May cause eye irritation. Wash thoroughly after handling. Keep away from heat, sparks, and open flame. Keep container tightly closed when not in use. Use with adequate ventilation. Spray booth should be adequately ventilated. Avoid breathing vapor. See Acheson's Material Safety Data Sheet for proper first aid instructions.

NOTE

Dag is a registered trademark of Acheson Industries, Inc.