



Aquadag®
Water based graphite coating/additive

Technical Process Bulletin

Description:

Aquadag® is an aqueous-based colloidal dispersion of ultra-fine graphite. This product forms a smooth continuous dry film with extra long wear life. **Aquadag's®** unique formulation results in maximum adhesion to most substrates. The fineness and purity of the product produces near perfect suspension properties which substantially reduce stirring or agitation during use. The high covering factor of **Aquadag®** permits higher dilution ratios than commercially available alternatives, thus providing efficient product use. **Aquadag®** is smokeless and non-flammable, which aids in improving plant environment. **Aquadag®** can be utilized as a graphite additive into aqueous lubricating compositions for various applications.

Specific advantages when using **Aquadag®** are:

- Complete wetting and surface coverage- good economy
- Excellent coverage onto surfaces
- Superior adhesion and abrasion resistance
- Maximum release and lubricating characteristics
- Finer surface finishes in casting applications

<u>FEATURES</u>	<u>BENEFITS</u>
Stable colloidal suspension of graphite	Minimal mixing costs for blending into your finished lubricant
Fine particle size distribution	Provides cost-effective usage in finished lubricant to provide superior lubrication performance, consumer confidence and repeat sales
Zero VOC content	Environmentally friendly
Lubricating, low friction graphite particles	Lubricating, low friction graphite particles
Robust chemical compatibility	Minimizes formulation costs for achieving stable and effective product

**TYPICAL
APPLICATIONS**

Chain lubricant	Assembly lubricant
Penetrating lubricants	General industrial lubricant
Parting compound	Metal casting release
Thread lubricant	Hot zone bearing lubricant
Machine and way lubricant	Dry gear lubricant

**Physical Properties:
(as supplied)**

Lubricating solid	: processed micrographite
Carrier	: water
Viscosity	: gel
Diluent	: water (demineralized water preferred)
Solid content	: 22%
pH	: 10 minimum
Particle size (by number)	: median 0.3 microns
Density	: 9.3 lbs/gal (1.12 kg/l)
Flash point	: None
Color	: Black

Method of Use:

Dilution

Aquadag[®] is a concentrate and should be diluted with distilled, demineralized or soft water prior to use. The concentrate should be agitated prior to mixing. When mixing, slowly add water to the concentrate. Be sure to mix well throughout the water addition. The dilution ratio will vary depending on method of application and end use. The ratios typically vary between 1:4 in chain/conveyor applications to 1:25 in some metal release and parting compound uses.

Application

Aquadag[®] may be applied using conventional spray, brush, or dip methods. In open recirculating systems, ammonia should be added periodically to maintain a pH of at least 10.

Curing

Aquadag[®] will air dry to touch in 10-15 minutes, depending on room temperature and humidity. For optimum coating properties preheat the substrate to 200°-350°F (93°-177°C) before coating, OR heat the air-dried, coated part at 300°F (149°C) for 5 minutes.

Surface Preparation

Aerodag G adheres remarkably well to steel, aluminum, stainless steel, glass, copper alloys, rubber, and plastics with a minimum of pretreatment. For best results, substrates should be cleaned with a standard solvent or sandblasted. Substrates should be clean and dry before coating.

Application

Shake the container thoroughly before using. To ensure an even coating, spray about 8-10 inches from the substrate. Four to six light passes should build up the required coating thickness. After use, invert the can and press the button once or twice to clear the nozzle.

Curing

For general lubrication, the coating supplied by **Aerodag® G** is ready for use when dry to the touch—about 5 minutes at room temperature.

For electrical applications, air dry for 30 minutes; or air dry for 5 minutes, then bake for 5 minutes at 170°F (77°C).

Storage/Handling:

Keep container closed when not in use to avoid contamination. See Henkel Material Safety Data Sheet for proper first aid instructions. Shelf life is 12 months from date of qualification under original seal.

Application/Assistance:

Henkel Application Specialists are available to assist you in production start-up with **Aquadag®**. Visit our website www.henkelna.com/metals for more information and for the Henkel's global location nearest you.

Note:

See separate Material Safety Data Sheet for health and safety details.

Dag is a registered trademark of Henkel.

The data contained on this sheet represents typical properties and is not to be used as a basis for preparation of specifications. Before writing specifications on this product, contact our Specialty Coatings Business Group's Technical Service Department.

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

32100 Stephenson Highway
Madison Heights, MI 48071
866.332.7024

