

# Technical Data Sheet

## Graphite, Water Base

### EMS #12650

Graphite (Water Base) is an aqueous-based colloidal dispersion of ultra-fine graphite. This product creates a smooth dry film with extra-long wear life, which results in strong adhesion to most substrates. Furthermore, it effortlessly produces suspension properties which significantly reduce stirring or agitation. The high covering factor of this product allows for higher dilution ratios than commercially available alternatives. This provides for an efficient product use. The product is smokeless and non-flammable, which defends its economic use. In addition, it can be utilized as a graphite additive into aqueous lubricating compositions for various applications.

Some benefits of using Graphite (Water Base) are:

Complete wetting and surface coverage

Excellent coverage onto surfaces

Maximum adhesion and abrasion resistance

Maximum release and lubricating characteristics

Finer surface finishes in casting applications

Instructions

### Dilution

Graphite (Water Base) is a concentrate, and we suggest it be diluted with distilled, demineralized, or soft water before use. We also recommend that it be agitated before mixing. When mixing, carefully and slowly add water to the concentrate and mix thoroughly. The dilution ratio varies depending on the method of application and use of choice. Ratios range between 1:4 in chain/conveyor applications to 1:25 in some metal release and parting compound uses.

### Application

This product may be applied using a conventional spray, brush, or dip methods. In open recirculating systems, we suggest adding ammonia periodically to maintain a pH of at least 10.

Shake the container well before use. To guarantee an even coating, hold the spray about 8-10 inches from the substrate. Four to six light passes should yield the required coating thickness. When finished, invert the can and press the button once or twice to clear the nozzle.

### Curing

Graphite (Water Base) will completely air dry within 10-15 minutes, depending on room temperature and humidity. For ultimate coating properties, we suggest preheating the substrate to 200°-350°F (93°-177°C) before coating. You may also choose to heat the air-dried, coated part at 300°F (149°C) for 5 minutes. This product adheres significantly to steel, aluminum, stainless steel, glass, copper alloys, rubber, and plastics with a minimum of pretreatment. For best results, we recommend that substrates be cleaned with a standard solvent or that they be sandblasted. Before coating, substrates should be clean and dry.

If used for general lubrication, the coating supplied will completely dry within 5 minutes at room temperature.

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