



Metal Guard[®] 678

Metal Guard 678 is a colloidal suspension of acrylic polymers in water, designed for effective protection of a variety of substrates. Its performance is like solvent-based systems without the accompanying fire hazards of solvent-based systems. Metal Guard 678 is especially formulated to coat over lightly oiled metal surfaces, leaving a high-gloss, dry hard film when used as directed and has good humidity resistance.

Features & Benefits

Polymeric resin coating	Physically and chemically durable
Aqueous and nonflammable	Reduction of hazardous chemicals and process
Caustic resistance	Effective masking in black oxide processes
Quick drying times	Ease of application

Physical Data

pH	8.4 – 8.6
Solids	20%
Flash point	Over 180°F non-flammable (tag closed cup)
Weight per gallon	8.37 lbs. @ 70°F
Temperature stability	40°F – 100°F (damaged by freezing)
Film thickness	3 – 4
Coverage	1,000b – 2,000 ft ² /Gal
Dry time @ 70°F	15 min
Dry time @ 125°F	8 min
Viscosity	20 cps
Appearance	Milky emulsion
Film hardness, aged	2H
Flexibility	Pass 1/8" bend
Exterior durability	3 – 6 months
Gasoline resistance	Poor



Typical Applications

- Hand Tools
- Sporting Arms and Outdoor Equipment
- Black Oxide Masking

Operating Conditions

Metal Guard 678 is recommended for use on all metal surfaces where additional durability and protection are required. Even over lightly oiled surfaces which have not been degreased, the application of Metal Guard 678 will provide exterior protection against rust for 3 to 6 months. It can also be applied over galvanized parts to help prevent white rust.

Use of Metal Guard 678 for unstated applications should be determined by the end user prior to actual production use.

Application

Metal Guard 678 can be applied to parts by dipping, flow coating, spraying (conventional or electro-static), brushing or wiping. When applying over lightly oiled, uncleaned surfaces, a sample part should be tried to determine adhesion and film forming properties. Since there are various types of oils containing additives, it is necessary to predetermine the compatibility. Generally, the presence of oil on the surface to be coated (unless excessive) will not interfere with the adhesion or film forming properties of Metal Guard 678.

Since the product is designed to dry quickly, all necessary precautions should be taken to prevent build-up in flow coating or spraying equipment.

Spray

The viscosity of Metal Guard 678 can be increased with careful addition of either a 1:1 mixture of Butyl Cellosolves and water, or a 1:7 mixture of Ammonia and Water.

Certain copper alloys are subject to stress corrosion by ammonia and amines. Product contains amines. Product may stain some aluminum and copper alloys. Testing is recommended before using.

Dilution

Metal Guard 678 can be reduced with tap water to give thinner films. If more than a pint of water per gallon is required, the reducing solvent should be a blend of 4:1 water to Butyl Cellosolve. Note that any dilution will reduce the durability.

Stop Off/Maskant for Black Oxide

Metal Guard 678 is an effective maskant/stop off for steel parts that will be black oxide. It will effectively prevent the blackening of masked areas when parts are blackened with hot alkaline black oxide solutions or acidic room temperature blackening solutions.



Metal Guard 678 may be applied to the parts by immersion or brush painting. The applied coating of Metal Guard 678 should be allowed to cure at room temperature for 24 hours prior to blackening. Parts may be oven cured at 150°F for 2 hours to accelerate polymerization of the film.

Removability

Metal Guard 678 is designed for additional durability and adhesion and can be removed with most AquaStrip products.

Drying

Drying time depends upon temperature, humidity and air flow. At 75°F. and 45% relative humidity, Metal Guard 678 dries to the touch in approximately 10 minutes when applied at full strength. Forced ambient air and/or dilution will decrease the drying time.

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