



## **WEATHER WARRIOR™ OUTDOOR RUST PREVENTATIVE COATING Application & Removal Bulletin**

Weather Warrior™ is a water-based, non-permanent, outdoor rust preventative coating. It provides a tough, wax-like coating on applied surfaces. Weather Warrior is supplied ready-to-use and should not be reduced or thinned with water. The viscosity ranges between 150 and 200 CPS and the consistency ensures easy application for a uniform coating on both vertical and horizontal surfaces.

Apply Weather Warrior by brush, dip, or airless spray at temperatures between 40°F and 100°F and using a slightly overlapping pattern to achieve a uniform coating of 2 - 3 mils wet-film thickness (the thickness of a typical sheet of printer paper). This will provide a dry-film thickness of 1.5 - 2 mils (0.0015 – 0.002 inches or 38 - 50 microns).

### **Brush on Coating**

Weather Warrior may be applied by brush using high quality brushes that are designed for use with water-based coatings or latex paints. For maximum effectiveness, apply an even, uniform coat of Weather Warrior to surface of metal. Do not allow coating to pool in recessed areas. Brush application is typically used to protect SELECT areas of large equipment or components.

### **Dip Coating**

Dip coating applications may be used for multiple smaller components. Dip orientation should be such that it limits the formation of pools in recessed areas. Make sure parts drain completely to allow excess Weather Warrior to flow off the part leaving the correct amount on the metal surface. Drain time is typically less than one minute.

### **Spray Coating**

Spray coating is the preferred application method for large equipment or components with large surface areas. Electric, airless paint spray equipment is recommended. However, Weather Warrior may be sprayed with any atomizing spray equipment designed to work with water-based coatings. The spray equipment should develop enough fluid pressure to atomize Weather Warrior into a uniform spray pattern.

While non-atomizing spray equipment (such as a garden sprayer) is not **OPTIMAL**, with attention and care adequate coverage can be achieved using a hand trigger pump bottle or a larger pressure spray applicator.

Application equipment should be flushed with water after each use to prevent blockage. Equipment may be cleaned with mild detergent when finished. For details on recommended spray equipment, see the **Weather Warrior Spray Equipment Recommendations** at the end of this document.

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### Mixing Prior to Application

A minor amount of separation may occur during storage. Light mixing or agitation is recommended prior to application. This can be achieved via stirring, container agitation, or recirculation.

In pails and gallon containers, agitation or hand stirring is sufficient. There are a variety of possible agitation methods for drums:

A small, slow speed mixer will work well such as a battery-operated drill and mixing wand.



Drum rollers are another option to assist in agitation. Portable drum rollers can also be used as a drain stand to dispense Weather Warrior into other containers.



Drum or barrel pumps inserted through the bung hole of the drum are often used to dispense liquids from drums -- such as transferring Weather Warrior to other containers for application. These same drum or barrel pumps may also be used to recirculate Weather Warrior by directing the outlet hose into the second bung hole.

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## Removal

For many applications, Weather Warrior does not require removal before the component or equipment is placed in service. However, removal is required if the component will go through subsequent processes such as welding, burnishing, or coating or if the component is part of the internal workings of a lubricated mechanism.

If required, Weather Warrior can be removed with detergent or an industrial alkaline metal process wash solution such as Hubbard-Hall Aquaease® PL 918 or any other alkaline industrial metal cleaner consisting of at least 2% Potassium or Sodium Hydroxide solution designed for metal pretreatment operations.

To remove, saturate Weather Warrior-coated surfaces with remover and leave undisturbed for a minimum of fifteen minutes. Thoroughly rinse with large amount of water. If access to water is limited, the coating can be removed with a combination of moderate rinsing and wiping of the surface. For large surface areas, it is best to remove Weather Warrior one section at a time.

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## WEATHER WARRIOR™ OUTDOOR RUST PREVENTATIVE COATING Spray Equipment Recommendations

Weather Warrior™ has been applied and tested with Graco spray tips and application equipment. Therefore, ARMOR recommends Graco spray equipment for most applications. However, Weather Warrior may also be applied with other similar industrial-rated spray equipment.

### **Spray Tip Recommendations**

Weather Warrior should properly atomize through airless spray equipment at 1200 PSI with a 515 spray tip.

Spray tips are identified by a three-digit number. The first number, when multiplied by 2, identifies how wide of a fan the tip will create when sprayed at a distance of 12 inches from the surface. The second two numbers are the orifice diameter of the tip in thousandths of an inch. The orifice diameter determines how much coating will be delivered by the spray tip.

#### For example:

- A 515 tip will spray a 10-inch-wide fan and have a 15-thousandths of an inch (0.015 inches) orifice.
- A 315 tip will spray a 6-inch-wide fan and have a 15-thousandths of an inch (0.015 inches) orifice.

Because the 315 tip and 515 tip both have the same size orifice the same amount of coating is leaving the orifice of the spray tip. However, the 515 tip delivers a thinner coating with less film build because it is being dispersed across a wider fan; 10 inches versus 6 inches.

For best results, Weather Warrior should be sprayed with tips that have an orifice diameter of 0.013 to 0.017 inches. Suggested spray fan widths range from 6 to 14 inches.

General use Reverse-A-Clean tips, also called RAC tips, are recommended for most applications. A reversible tip allows you to easily clear any clogging of the tip by simply turning the tip 180 degrees to the clean position and then triggering the sprayer. RAC tips can also be quickly replaced without removing tip guards or housings.

Spray tips wear during use and should be replaced when the spray fan pattern starts to noticeably deteriorate.

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### Spray Equipment Recommendations

Electric airless paint spray equipment is recommended for most spray applications.

Educational videos - Basics of Airless Spraying:

<https://www.graco.com/us/en/contractor/solutions/articles/basics-of-airless-spraying.html>

Graco Ultra Cordless (rechargeable battery) Handheld Airless Sprayer is recommended for these applications.



### Small Portable Spray Equipment

Small portable spray equipment is recommended for medium-sized, more frequent applications using 1-gallon or 5-gallon containers. The Graco Electric Airless Sprayer 390 PC (corded or rechargeable battery) Hi-Boy is recommended for these applications.

Graco Electric Airless Sprayer 390 PC CORDED Hi-Boy



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### Small Portable Spray Equipment (cont.)

Graco Electric Airless Sprayer 390 CORDLESS Hi-Boy (rechargeable battery)



### Portable Spray Equipment

Portable spray equipment is recommended for large, frequent applications using 5-gallon containers or 55-gallon drums. The Graco Electric Airless Sprayer ULTRA MAX II 695 (extended siphon hose kits for 55-gallon drums are available) is recommended for these applications.

Graco Electric Airless Sprayer ULTRA MAX II 695



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### Compressed Air-Operated Spray Pumps

Compressed air-operated spray pumps are recommended for large, frequent applications using 5-gallon containers or 55-gallon drums. These piston spray pumps run off compressed shop air. The Graco Mekur Series 24:1 Ratio Airless Spray Pump is recommended for these applications.

#### Graco Mekur Series 24:1 Ratio Airless Spray Pumps



Cart Mount



Wall Mount



Stand Mount

### Gas-Powered Airless Spray Pumps

Gas-powered airless spray pumps are recommended for applications where electrical sources or compressed air are not available. The GMAX 3400 Standard Series paint sprayer is a small, portable gas-powered airless spray pump for medium-sized, intermittent applications using 1-gallon or 5-gallon containers.

Larger, portable gas-powered airless spray pumps are recommended for medium to large, frequent applications using 5-gallon containers such as the GMAX 5900 Pro Contractor Series paint sprayer.

#### GMAX 3400 Standard Series or GMAX 5900 Pro Contractor Series



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