



## **APPLICATIONS INSTRUCTIONS**

Firefree 88® (Ff88) is a water-based latex coating/paint, and its application is similar to applying a regular water-based latex paint (except for the recommended thickness which needs to be precisely complied with for adequate performance, see *Wet Film* and *Dry Film Thickness* on page 2).

### **SURFACE PREPARATION**

Firefree 88 can be used as a primer on most surfaces. All surfaces to be coated must be clean, cured, firm, dry and free of dust, dirt, oil, wax, grease, mildew, loose flaking paint, efflorescence or any other contamination or condition that would adversely affect the performance of the coating. Etch or prime (with a latex primer or fast dry oil base primer/sealer) glossy, glazed or dense surfaces. Always prime oil based finish coatings with fast dry primer/sealer. Fill holes and surface irregularities with a suitable patching compound to match surface profile. Spot prime all patched areas with appropriate primer.

Metal and concrete surfaces must be primed.

For enamel, wall covering or glossy surfaces see following instructions:

Enamel finish coats: Apply one (1) coat of a latex primer or fast dry primer/sealer over Ff88 before applying a latex enamel or oil base enamel finish coat.

Glossy surfaces: All surfaces should be dulled with sandpaper.

Wall covering application: Apply one (1) coat of wall primer over product before applying wall covering.



### **MOISTURE**

Measure the moisture content of surfaces using a moisture meter. Do not apply material unless the moisture content is below the following maximum: Wood 17%. Do not commence work until such defects have been corrected.

### **TEMPERATURE**

**Do not apply Ff88 if air temperature is below 50°F (10°C).** Air circulation is important. If the coating is applied below 50°F, it may take the coating longer to be fully dried and consequently will interfere with the curing between coats. In addition, it could cause the intumescent coating to sag.

### **HUMIDITY**

We don't recommend applying the coating if relative humidity exceeds 75%. In humid conditions it may take 4 to 6 hours to dry. **Make sure that each coat of Ff88 is thoroughly dry to the touch before applying the next coat.** If the paint runs let it tack then use a brush or roller to feather it out. If you need to sand Ff88 use 100 grit sandpaper.

### **SAFETY**

Use personal protective clothing, including safety glasses to prevent any particles of paint from entering the eyes. Protective gloves are recommended for prolonged contact exposure. Respiratory protection is not required; however, make sure plenty of ventilation is allowed when sanding or spraying. Protective half mask can be used when painting to prevent breathing paint dust, particles from entering the lungs.

### **APPLICATION METHOD**

Ff88 can be applied by airless sprayer, roller or brush. **DO NOT THIN FIREFREE 88.** If you need to strain Ff88 only use a gauze the size used in fly screen doors.

Spray-Airless: Capable of a pressure range of 780 to 3300 psi. Tip .017 to .023 heavy duty 4" to 12" (10.16 cm to 30.48 cm) fan width recommended.

Reduction: Do not thin. Firefree 88 can be stirred with a paint wood-paddle (this is the similar procedure like paint).

Apply at can consistency. Use of airless sprayer is recommended (use of a dedicated spray line is required)

Roller: Use a 1-1/4" (20-25mm) nap synthetic cover for heavy application. Other rollers may be used depending on desired finish.

Brush: For brush application, a nylon/fully loaded brush should be used. A laying on technique will reduce the brush marking.

## MULTIPLE COATS

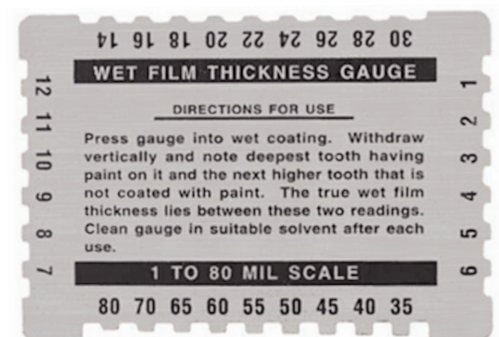
If multiple coats of Ff88 are required or if you are applying a top coat over Ff88. **Make sure that each coat of Ff88 is thoroughly dry to the touch before applying the next coat.**

## COVERAGE

The recommended dry film thickness will determine the coverage rate. There is no set coverage rate that applies to all assemblies. The coating is made up of about 67% solids and thus, on average, the ratio of wet thickness to dry thickness is 1.5 to 1. For example; if the application recommended is 10 mils dry, then 15 mils wet would need to be applied. At such thickness, the theoretical coverage rate is about 106 sq. ft. per gallon (2.6 square meter/liter). **Note that this is just an example and that the recommended thickness (and coverage) will depend on the project scope and will vary accordingly.** Any consideration for quantity and waste or overspray is the sole responsibility of the end user. Waste factor will depend on the method of application (brush, roll or spray), job site conditions and other factors and should be based on the applicator's experience.

## WET FILM THICKNESS (WFT)

Always use a wet mil film gauge to measure each wet coat application. Each coat application can be built up to different levels of wet mil thicknesses using multiple passes of coating with an airless spray gun, brush or roller. **To measure the desired film thickness required, during application process, use a wet film thickness gauge to monitor the wet film thickness being applied.** To use the gauge, insert the teeth into the wet basecoat. The last tooth to be coated indicates the thickness achieved. It is important to ensure that the wet film applied is of sufficient thickness to give the required dry film thickness and coverage. For example, 15 mils wet film thickness will achieve 10 mils dry film thickness. **Note that this is just an example and that the recommended thickness will depend on the project scope and will vary accordingly.** Contact Firefree for various coverage rates at different thicknesses.



## DRY FILM THICKNESS (DFT)

The dry film thickness to be applied will be recommended by Firefree and will vary upon:

- the assembly make up
- the material/substrate being coated
- the fire rating being required.

**The dry film thickness recommended by Firefree needs to be precisely complied with for adequate performance, thus during application, the wet film thickness should be checked using a wet film thickness gauge. The final dry film thickness should also be verified per inspection below.**

## DRYING TIME

Drying time is when the surface is thoroughly dry to the touch. Drying times are dependent upon a number of factors:

*Temperature - Air movement - Humidity - Thickness of product- Method of application.* During the drying process, FF88 will shrink due to evaporation of water. **If multiple coats of Ff88 are required, each coat of Ff88 must be thoroughly dry to the touch, before the next coat is applied.**

## TOP COAT OVER Ff88

Ff88 comes in a white, satin finish. If a different color or finish is desired, Ff88 can be top coated with most premium paints to achieve the desired color and finish. For large orders (>200 gallons) Ff88 can be tinted by Firefree. Please contact Firefree for such custom tinted orders. Check for any reactions between Ff88 and the top coat if any reaction should occur apply a primer over the Ff88 prior to the top coat. **Make sure that each coat of Ff88 is thoroughly dry to the touch before applying the next coat.** For information on compatible top coats please contact Firefree.

## PAINTED SURFACES & PRIMERS

When painting over existing painted surfaces, check for any reactions between Ff88 coating and the existing paint, If any reaction should occur, apply a primer over the existing paint prior to applying Ff88. For information on approved compatible primers, contact Firefree.

## THIRD PARTY INSPECTION

All surfaces to which Ff88 have been applied should be inspected by an accredited special inspection agency, or ICC certified professional, or a Firefree Coatings QA/QC qualified inspector to verify that Ff88 has been properly applied in the required uniform thickness. If an independent testing agency is retained, it should ensure that preparation of substrate is in accordance with manufacturer's recommendations. It should randomly obtain test samples during application to verify that wet/dry film thickness of the intumescent coating/paint complies with Firefree's requirements.



## MAINTENANCE

Surfaces which have been coated with Ff88 should be protected from abuse and abrasion. Damaged surfaces should be repaired and Ff88 should be reapplied to the original specified dry film thickness to maintain specific rating.

## CLEAN UP

Wash brushes, rollers, spray guns & pumps and other painting tools in COLD clean water promptly after painting. Clean and remove any dried product. Use all products completely or dispose of properly. Local disposal requirements vary; consult your sanitation department or state-designated agency for more information on disposal options.

## STORAGE & TEMPERATURE

Ff88 cannot be exposed to freezing temperatures. It is important to maintain storage temperatures above the freezing point. Ff88 should be stored at recommended temperatures between 50° F to 85°F (10°c to 29°c).

Expected shelf life: (2) years from the date of manufacture (DOM). Product must be kept at recommended storage conditions and in original unopened containers.

## ABOUT THE COMPANY

FIREFREE Coatings, Inc is a privately owned company based in California. All products have been tested at accredited third party IAS [www.iasonline.org](http://www.iasonline.org) fire testing laboratories. Ff88 is approved by FM Approvals [www.fmapprovals.com](http://www.fmapprovals.com) and classified by the Underwriters Laboratories, and accepted by NY Material and Equipment Acceptance (MEA) Division. Firefree Coatings, Inc. is a member of NFPA, ICC and ASTM.

### MAIN OFFICE:

Address: 580 Irwin St., Suite 1, San Rafael, CA 94901

Toll Free: 888-990-3388 • 415-459-6488 • fax 415-459-6055

[info@firefree.com](mailto:info@firefree.com)

[www.firefree.com](http://www.firefree.com)



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