TECHNOLOGIES INC.
21 Industrial Ave • Upper Saddle River • New Jersey 07458
Tel: 201-818-1616 • Fax: 201-818-8775
E-mail: nofire@nofire.net • Web Site: http://www.nofiretechnologies.com

NoFire A-18 Marine - General Application Procedure & Technical Data

1. General Description of the Material

NoFire® is a one part non-flammable water based intumescent coating similar in appearance to ordinary latex base paint. Upon exposure to flame or heat, it immediately foams and swells (intumesces) providing an effective insulation and heat shield to protect the subsurface.

NoFire can be applied to many types of surfaces providing an attractive flat finish. For exterior applications NoFire requires a topcoat, which may be selected from many types of latex base paints, urethanes or acrylics for attractive weather resistant finishes.

2. Surface Preparation

The surface should be clean and dry, free of dirt, oil, loose scales or paint and other foreign matter. On porous surfaces or flaky rusty surfaces, loose flakes and/or rusty scales must first be removed by scraping and a proper surface suitable for application of the coating restored.

New or Unpainted Surfaces: Priming is not required for wood, wallboard, aluminum, copper masonry and many composite surfaces. Steel and aluminum surfaces that are glossy may require priming. Rusting metal should be primed with a rust inhibiting primer.

Painted Surfaces: Priming is usually not required for latex, acrylic latex or alkyd painted surfaces. Enamel painted surfaces must be sanded and/or primed or removed prior to painting.

For specific information, please call your local distributor or manufacturer.

3. Mixing Procedure

Due to possible settling of contents during shipping and storage, the product should be thoroughly mixed from bottom to top of the container. No thinning of any kind is recommended.

A 5 gallon pail of NoFire can be adequately prepared using a 3/8 inch drill with an appropriate mixing tip, and mixing for at least 5 minutes. This procedure should be repeated each day the coating material will be used.

4. Application using Spray Equipment

NoFire Formula A-18 Marine can be applied using airless or conventional spray equipment. The product can be applied to the desired thickness usually in one application of up to 25 mils wet.

Do not apply when the air temperature or temperature of the surface being coated is below 40°F (5°C), or the relative humidity is above 85% or during times of any precipitation or when precipitation is expected within twenty-four hours (for exterior applications).

The required equipment is a standard conventional spray system or an airless paint sprayer with specifications similar to the following recommended unit:

Pump:	Airlessco model 5300SL Airless Paint Sprayer
Pressure:	2400 to 3000 PSI
Hose:	50 foot x 1/4 inch airless paint hose (**caution**-longer lengths of hose may cause pressure fluctuations and uneven coating)
Gun:	007XL Spray Gun
Tip:	535 Zip Tip, reversible tip.
Filters:	Pick up filter should correspond with tip size **(Do not use any kind of Line or Spray Gun Filter)**

The surface to be coated must be clean, dry and free of all loose materials. The surface should be suitable for painting, similar to any other paint job requirement.

Hold the spray gun 12 to 14 inches from the surface. Overlap each pass by approximately 30%.

Up to 24 mils wet thickness can be achieved in one wet application coat by following these instructions:

Do not try to apply the total desired wet thickness in one pass. Rather start with a tack coat covering approximately 80 square feet. Then return to beginning to apply successive layers until desired thickness is achieved (no more than 24 mils in one wet application). Allow to dry for 2 hours or until dry to touch before applying layers in excess of 24 mils.

The wet film thickness should be checked frequently with a wet film thickness gauge.

A practice surface should be used to gain some familiarity with the coating material and equipment. After a few minutes of practice, the operator should be able to spray a smooth coat with the desired thickness.

The coverage should be as uniform as possible, including surfaces that are normally not in plain view such as underneath and behind overhangs. This will probably be the region with the most intense heat in the event of a fire, and require the best protection.

Any chips, cracks or thinly coated areas affect the fire performance only in the immediate area, and can be “touched up” upon inspection.

The coating should be allowed to dry for 2 - 3 hours before a second spray coat is applied, if necessary.

The coating should be allowed to dry and cure for 48 hours if possible, but no less than 24 hours, prior to topcoating.

5. Application Procedure with Brush and Roller

After proper mixing and surface preparation, apply the product directly from the container. Coat evenly and thoroughly over surface to be coated with a natural bristle brush or roller. Any chips, cracks or thinly coated areas can be “touched up” upon inspection. Do not apply multiple coats until the surface is completely dry as specified above. Do not apply when the air temperature or temperature of surface being coated is below 40° F (5° C). Do not apply when the relative humidity is above 85% or during times of any precipitation or when precipitation is expected within two hours (for exterior applications).

For best results use any good quality bristle brush or 3/8” to 1/2” nap roller cover.

6. Application Specifications

Approximate thickness for coverage - One coat application:

Brush or Roller: 6.5 - 9.5 mils wet (4 - 6 mils dry)
Spray: 9.5 - 24 mils wet (6 - 15 mils dry) depending upon spray procedure and surface to be coated.

The number of coats depends upon the total thickness needed to reach the specifications of the application.

Class A Surface Flame Spread ratings can be achieved with a wet film thickness of 0.002 – 0.0097 inches depending on the type of material, density, surface granularity, use of primer, etc. However, Class A rating is not a reliable determination of fire protection for most applications. Call manufacturer for recommendation for your application.

Examples of Spreading Rate / Coverage:

Thickness Wet	Thickness Dry	Coverage per Gallon
6.1 mils	3.8 mils	265 sq ft
10 mils	6.2 mils	160 sq ft
13 mils	8.1 mils	125 sq ft
16 mils	9.9 mils	100 sq ft
20 mils	12.4 mils	80 sq ft
24 mils	15 mils	65 sq ft

Porous or textured surfaces will reduce the spreading rate.

Be sure that the entire surface is thoroughly coated to a thickness equal to or greater than the minimum required on all areas of the surface, especially areas that are usually not immediately visible, such as joints or underneath overhangs.

Drying time - depends upon the ambient temperature, relative humidity and applied thickness. Approximately two hours of drying time is required when temperature is 70° F (21°C) and relative humidity is below 40% and coat is 8-9mils wet. Lower temperatures, higher humidity or thicker coatings will require longer dry time. Curing time is 24 - 48 hours. Drying may be acceleratred with gentle heated airflow under 200°F. Additional coats may be applied when dry to the touch.

7. Testing Thickness after Curing

For both the NoFire coating as well as the final topcoat (if used), the coating thickness can be measured using non-destructive, or magnetic thickness gauges. Follow the thickness gauge manufacture's procedures for correct use.

8. Clean-up Instructions

Clean all equipment immediately after use with water. If equipment needs final flush with "alcohol" to prevent metal corrosion, consult equipment manufacturer before doing so. If product has accidentally dried on equipment, use soapy water or thinner to clear residue.

9. Warnings

Use with adequate ventilation. Do not breathe vapors or spray mist. Wear an appropriate, properly fitted respirator (NIOSH/MSHA) during and after application unless air monitoring demonstrates vapor/mist levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

FIRST AID: In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapor or spray mist, remove to fresh air. Do not take internally. If swallowed, get medical attention. Keep out of reach of children.

Keep container closed when not in use. In case of spillage absorb with inert material and dispose of in accordance with applicable regulations. Clean up with soap and water.

10. Technical Data

Finish: Flat	**Color:** White; also available in standard color range
Viscosity: 85 - 115 KU.	**Approx. Weights:** 11.7 ± 0.3 lbs. per gal
Solids by Weight: 63%	**Solids by Volume:** Approx. 63%
PH: 7.9 ± 0.5	**Flash Point:** None
Freeze-Thaw: Passes 5 cycles	**Federal Spec Equivalent:** TT-P-1932
Packaging: 5 gallon containers - gross weight 62 lbs., net weight 59 lbs	**Shelf Life:** Greater than 12 months from date of shipment

11. Environmental Information:

HMIS	
Health	1
Flammability	0
Reactivity	0
Personal Protection	B
Major Ingredients	**CAS#**
Titanium Dioxide	13463677
Melamine	108781
Vinyl Acetate Latex	25067021
DiPentaerythritol	126-58-9
Ammonium Polyphosphate	68333-79-9
Water	7732185

12. V.O.C. (V.O.S.): Contains max. 40 gms/liter **V.O.C.**

The NoFire product is classified by Underwriter's Laboratories of the United States as follows:
** Classified - COATING FIRE RETARDANT Surface Burning Characteristics R18958

Fire Hazard Classification (as per ASTM E84 on Eter Board):

Flame Spread: 0 Smoke Developed Value: 0
Toxicity: 0 Military Specification MIL M-14H
U.S. Patent Numbers: 4,879,320; 4,965,296; 5,723,515