

Basic Use

The A/D FIREFILM®III coating system is used for decorative, thin-film fireproofing for structural steel at interior locations in buildings. The system includes a topcoat.

Precautions

Protect A/D FIREFILM®III from freezing.

A/D FIREFILM®III is sensitive to water and must be protected from moisture.

It is recommended that personal protective equipment be worn including spray suits, gloves, eye protection and respirators.

Surface Preparation

Surfaces to receive A/D FIREFILM®III must be primed with a compatible primer (see below) and be clean and free of dust, grease or other foreign matter. All existing coatings (except compatible primer), mill scale or surface contaminants must be removed. Commercial Blast Cleaning (SSPC-SP6/NACE No.3) is recommended as a minimum surface preparation. The quality of finish will depend on the quality of the surface to which the coating is applied. The coating will not hide substrate defects.

Primers

Apply A/D FIREFILM®III only to clean primed surfaces. Use only primers approved by Carboline. Site conditions and end-use may dictate specific primer specifications. Follow primer manufacturer's instructions.

Application Conditions

The use of scaffolding or a scissor-lift is recommended to assist the application process. Mask the spray area as required to protect adjacent areas from over-spray. Materials recommended for masking include rip-proof thin plastic tarps, spray adhesive and duct tape.

Protecting the work area from the elements of weather is an integral part of the application process. Protect from exposure to weather both during and after construction!

Caution! A/D FIREFILM®III is sensitive to water and must be protected from moisture.

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Ambient air and steel temperatures should be not less than 50°F (10°C). Relative humidity in the work area of 40 to 60 per cent is recommended for optimum drying and recoat times. Enclosure, heat and/or moisture control may be required to maintain acceptable conditions. High humidity at the site will hinder drying and will extend recoat/topcoat time. Air movement and thinner coats will assist drying.

A/D FIREFILM®III must be dry before recoating and/or top coating. Inadequate drying between coats or before top coating and application outside these recommended conditions might cause softening of previous coats and/or delamination. The next coat of A/D FIREFILM®III can be applied when the previous coat has a minimum Shore "D" hardness of 50, measured at 70°F (21°C).

Some fuel-fired heaters create moisture – electric heat or natural gas is recommended. Industrial dehumidifiers are recommended to control humidity. A source of de-humidifiers/heaters is Munters Moisture Control Service, 1-800-I-CAN-DRY or (508) 388-4900.

Application Rates

Refer to the A/D FIREFILM®III fire test design information to determine the minimum dry film thickness required for the size and orientation of steel element to be protected and for the required fire resistance rating.

A/D FIREFILM®III has been formulated for high-build with minimum number of coats. An application rate of 45 mils wet (30 mils dry) per coat is recommended as a maximum. Reduce application rate and increase time between coats when site conditions are marginal (see "application conditions" above). A number of thinner coats will usually yield a smoother finish. Quality of finish will vary with application technique and thickness. A/D FIREFILM®III must be permitted to dry between coats. The next coat can be applied when the previous coat has a minimum Shore "D" hardness of 50, measured at 70°F (21°C).

Thickness Measurements

Frequent thickness measurements with a wet film gauge are recommended during the application process to ensure uniform thickness. Final thickness

A/D FIREFILM® III

must be measured with a dry film thickness gauge. When fully dry, product will have a Shore "D" hardness of 60 to 80 measured at 70°F (21°C). Do not apply topcoat until it has been determined that the required dry film thickness of A/D FIREFILM®III has been provided. For method of thickness determination and tolerances, refer to Association of the Wall and Ceiling Industries – International, Technical Manual 12-B, *Standard Practice for the Testing and Inspection of field Applied Thin-Film Intumescent Fire-Resistive Materials; an Annotated Guide*. Manufacturers of suitable dry-film gauges include, but are not limited to:

DeFelsko Corp., 800-448-3835

Electro-Physik USA Inc., 800-782-1506

Automation USA, 800-678-4370

Elcometer Inc., 800-521-0635

Application Procedures

Spray: Spray application is recommended for best production, coverage, finish and appearance.

Other: Because of the relatively high solids content it will be difficult to attain a smooth finish if you apply A/D FIREFILM®III by brush or roller. Do not expect to build greater than 10 mils per coat with brush or roller. The final coat may be smoothed with a trowel, cake-decorating knife or like tool. High points may be removed with a paint scraper or utility blade. A/D FIREFILM® Putty is available by special order for repair and trowel applications. For areas that require smoothing use 80-100 grit sandpaper and Olfa razor blades.

GENERAL: DO NOT ADD WATER OR SOLVENT! Mix gently to avoid introduction of air to the product. Store in tightly closed pails out of direct sunlight and protect from freezing. Keep pail covered as much as possible during application process to minimize evaporation. Mix A/D COLORCOAT® by boxing and stirring.

When applying A/D FIREFILM®III by brush or roller, work from a small container, mixing frequently. The original pail should be kept tightly closed and the surface of the material covered with the plastic sheet provided.

Drying & Recoat Time

Drying time will vary with temperature and humidity conditions. Air movement and thinner coats will assist drying. The next coat of A/D FIREFILM III can be applied when the previous coat has a minimum Shore "D" hardness of 50, measured at 70°F (21°C).

Shore D: Hardness measurements with an instrument called a Durometer, Type D, provide an indication of degree of cure because the product becomes harder as it dries. Type D durometers may be purchased from laboratory equipment suppliers. Use in accordance with ASTM D 2240, Standard Test method for Rubber Property – Durometer Hardness.

Caution! A/D FIREFILM®III is sensitive to water and must be protected from moisture.

Finish Coat

Topcoat is required for all installations.

Approved topcoats are A/D COLORCOAT® silicone alkyd paint, "Carbocrylic 3350" and "Sanitile 155" acrylic paint, applied to a minimum dry film thickness of 2 to 4 mils.

Caution! Typical of alkyd coatings, yellowing of white and light colors of A/D COLORCOAT® may occur. Where color retention is critical, contact Carboline Technical Services for recommendations.

A minimum of 24 hours is recommended between application of the final coat of A/D FIREFILM®III and application of the topcoat but A/D FIREFILM®III must be dry before application of topcoat - Shore "D" hardness should be a minimum of 60, measured at 70°F (21°C).

Do not apply the topcoat until it has been determined that the required dry film thickness of A/D FIREFILM®III has been provided!

Health & Safety

To safely use A/D FIREFILM®III and A/D COLORCOAT® read and abide by the Material Safety Data Sheets (MSDS).

A/D FIREFILM® III

TABLE 1 – A/D FIREFILM® III - PROPERTIES

	A/D FIREFILM® III *	A/D COLORCOAT® Finish Coat**
Theoretical coverage:	5213 ft ² per pail @ 1mil DFT 484 m ² per pail @ 1mil (0.025 mm) DFT	1010 ft ² per gal @ 1 mil WFT 24.8m ² per liter @ 1 mil WFT
Application Rate:	1.14mm (45 mils) wet per coat (0.74 mm (30 mils) dry) as a maximum	2-3 mils DFT per coat
Net Contents:	56 lb (25.5 kg) per pail	1 and 5 U.S. gal
Per cent Solids by Volume:	65 +/- 2 %	63+/- 2% (white)
Per cent Solids by Weight:	72 %	70+/- 2% (white)
Shelf-Life	6 months from manufacture	30 months
* A/D FIREFILM Putty is available for trowel applications. ** Carbocrylic 3350 or Sanitile 155 acrylic paints may also be used as topcoat. When used, Carbocrylic 3350 or Sanitile 155 must be spray applied. Refer to product data sheets.		

TABLE 2 – A/D FIREFILM® III - EQUIPMENT- QUICK REFERENCE GUIDE

	A/D FIREFILM® III	A/D COLORCOAT® Finish Coat**
Hoses	150-250 ft of 3/8" and possibly 50-100 ft of 1/2"	100-250 ft of 3/8"
Whip Line	Optional 2-6 ft of 1/4"	Optional 2-6 ft of 1/4"
Tips	4/17 - 4/21 heavy-duty self-cleaning reversible type	4/11 - 4/15 heavy-duty self-cleaning reversible type
Spray Machines	Airless sprayer capable of 3000 psi pressure and minimum delivery of 1.25 gal/min without surging	Airless sprayer capable of 3000 psi pressure and minimum delivery of 0.38 gal/min without surging
Filters	80 –100 mesh in manifold Screen on siphon hose	80 –100 mesh in manifold Screen on siphon hose 80 –100 mesh in gun
Mixing	A heavy-duty drill with paddle	Boxing/stirring is recommended
Application Rate	Do not exceed 45 mils (1.14mm) wet (30 mils (0.74 mm) dry) per coat	2-3 mil DFT per coat
Finish	Smooth to slight orange peel	Same as substrate and gloss or semi-gloss
Brush*	Brush for latex paint	Synthetic brush/ China bristle
Roller*	Low pile or foam roller	Low pile or foam roller
Trowel*	Yes	N/A
Clean-up	Water	Xylene or equal
*Spray application is recommended for best production, coverage, finish and appearance. A/D FIREFILM Putty grade is available by special order for repair and trowel applications. ** Carbocrylic 3350 or Sanitile 155 acrylic paints may also be used as topcoat. When used, Carbocrylic 3350 or Sanitile 155 must be spray applied. Refer to product data sheets.		



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