

SELECTION & SPECIFICATION DATA

Generic Type	A single package, water-based intumescent coating designed for the fire protection of interior structural steel.
Description	A/D FIREFILM® III is a decorative, thin-film intumescent coating designed for the fire protection of steel work up to 3 hours fire rating, depending on the design. The recommended use for this product is fireproofing of interior steel beams, columns, tubes and pipes.
Features	<ul style="list-style-type: none">• UL/ULC, ITS, ICC-ES and FM Listed –designs for many types of steel sections. Up to 3 hour fire resistive ratings for both interior general purpose and interior conditioned space applications.• Decorative Finish - Gives a smooth, decorative finish. Compatible topcoats available in a wide range of colours.• Advanced fibre free formulation - dust free surface.• Durable finish – Provides a hard, impact and abrasion resistant surface• Topcoat finishes smooth to slight orange peel.• Thin-film coating – space saving smaller column footprints.• Low VOC content• LEED Compliant
Colour	White
Finish	Smooth
Primers	A/D FIREFILM® III must be applied over compatible primer. If the steel has already been coated with an existing primer, refer to A/D Technical Service for advice before applying A/D FIREFILM® III. Contact A/D Technical Service for a complete list of approved primers.
Fireproofing Topcoats	For interior conditioned space, topcoats are optional. For interior general purpose, A/D approved topcoats are required. A/D FIREFILM® III must be applied to the specified DFT and be dry before applying a topcoat. The choice of topcoat will depend on the project requirements. Contact A/D Technical Service for a complete list of approved topcoats.
Wet Film Thickness	1.14 mm (45 mils) per coat
Dry Film Thickness	0.8 mm (30 mils) per coat
Theoretical Coverage Rate	1043 ft ² /gal at 1 mil (26m ² /L at 0.02mm) 35 ft ² /gal at 30 mils (0.9m ² /L at 0.8mm) Allow for loss in mixing
VOC Values	As Supplied 20g/L (0.17 lb./gal)
Limitations	Not for use in exterior environments or for interior steelwork that will be exposed to freeze/thaw cycling or long-term surface temperatures over 60°C (140°F) in normal use.

SUBSTRATES & SURFACE PREPARATION

General	All surfaces must be primed with compatible primer and be clean, dry and free of oil, grease, loose mil scale, dirt, dust or other foreign materials which would impair the bond of A/D FIREFILM® III to the substrate.
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PERFORMANCE DATA

Test Method	Results
ASTM D2240 Hardness	Shore D 65-70 (fully cured) Shore D 60 (Topcoated)
ASTM D2794 Impact	1.75kg/m (152 in-lb.)
ASTM D4060 Abrasion	103 mg loss@1000 cycles
ASTM D4541 Bond Strength	861 kPa (125 psi) minimum
ASTM E-761 Compressive Strength	5.2 MPa (757 psi)
ASTM E-84 Surface Burning	Class A
CAN/ULC-S102, Surface Burning	Class A
Density	1425 kg/m ² (89 pcf)

All values derived under controlled laboratory conditions.
 Test reports and additional data available upon written request.

MIXING & THINNING

Mixer | Use 12.7mm (1/2") electric or air driven drill with a slotted paddle mixer (300 rpm under load)

Mixing | A/D FIREFILM® III must be mixed using a 12.7mm (1/2") electric or air driven drill with a slotted paddle or Jiffy mixer blade. Mix material for a minimum of 5 minutes to achieve the necessary texture required before spraying.

Thinning | Do not thin.

APPLICATION EQUIPMENT

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Airless Spray | Use 3.7 L (1.0 gal.) electric airless (minimum) to provide an operating pressure of 3000 psi (204 bar). Must have 30-mesh inline filter installed. Remove rock catcher from siphon tube.

Spray Gun | Silver Gun with gun swivel. Contractor gun (with filter remover) or equivalent)

Spray Tips | 0.017"-0.021" Use Graco heavy-duty RAC non-diffuser tips and housing).

Fan Size | 4"-10" (depending on section being sprayed)

Hose Length | 45m (150')

Material Hose | 9.25mm (3/8") I.D minimum

Whip Hose | 6.35mm (¼") I.D. minimum (optional)

Air Line | Use 15.9 mm (5/8") I.D. hose with a minimum bursting pressure of 689 kPa (100 psi).

APPLICATION PROCEDURES

General | May be applied by spray, trowel, brush or roller. Spray application is recommended for the optimum production, coverage and finish. When applying by trowel, brush or roller, work from a small container and mix material frequently. The original pail should be kept tightly closed.

Airless Spray | A single coat, built up with a number of quick passes, allows greater control over quantities, thickness and finish. In most conditions, it is advantageous to apply two thin coats rather than one thick coat.

Application Rates	At an ambient temperature of 21°C (70°F), the following application rates are applicable: Spray / Trowel: 1.14mm (45 mils) per coat (wet) Brush / Roll: 0.25mm (10 mils) per coat (wet) 24 hour recoat time between coats *A/D FIREFILM® III can be recoated when previous coat has a Shore D hardness of 50 measured at 21°C (70°F),
Wet Film Thickness	Frequent thickness measurements with a wet film gauge are recommended during the application process to ensure uniform thickness
Dry Film Thickness	Final Thickness must be measured using an electronic dry film thickness gauge. For method of thickness determination and tolerances refer to: <i>AWCI Technical Manual 12-B Standard practice for Testing and Inspection of Field Applied Thin-Film Intumescent Fire Resistive Materials</i>

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	21°C (70°F)	10°C (50°F)	10°C (50°F)	0%
Maximum	38°C (100°F)	52°C (125°F)	43°C (110°F)	85%

*Steel surface temperature should be a minimum 3°C (5°F) above the dew point. A/D FIREFILM® III is sensitive to water and must be protected from exposure to weathering and moisture. Protect from freezing.

CURING SCHEDULE

Surface Temp. & 50% Relative Humidity	Dry to Recoat
25°C (77°F)	24 hours

*For optimum curing, it is recommended to apply one coat at 1.14mm (45 mils) wet per day. 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 21°C (70°F). Material is ready to be Topcoated when an average Shore D hardness of 60 is achieved. Consult A/D Technical Service for specific details. Higher film thickness will require longer drying time for topcoating.

CLEANUP & SAFETY

Cleanup	Pump, gun, tips, hoses and mixer should be cleaned at once per day with water.
Safety	Follow all safety precautions on the A/D FIREFILM® III Safety Data Sheets (SDS). It is recommended that personal protective equipment be worn, including spray suits, gloves, eye protection and respirators when applying A/D FIREFILM® III
Overspray	All adjacent and finished surfaces shall be protected from damaged and overspray.
Ventilation	In enclosed areas, ventilation shall not be less than 4 complete air exchanges per hour until the material is dry.

MAINTENANCE

General	If coating becomes damaged, rebuild required thickness by spray or trowel. When dry, smooth and finish with approved topcoat to match. Damaged areas must be abraded back to a firm edge by sanding or scraping. Small areas can be filled using A/D FIREFILM® III or A/D FIREFILM® III Putty. The topcoat should be abraded back 25.4mm (1") from the damaged area. The surface must be clean and dry before re-applying A/D FIREFILM® III. The coating shall then be built back to the original thickness, allowed to dry, then overcoated with the specified topcoat or system.
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TESTING / CERTIFICATION / LISTING

Underwriters Laboratories, Inc.	A/D FIREFILM® III has been tested in accordance with ASTM-E119 (UL263) at Underwriters' Laboratories, Inc. and CAN/ULC-S101 at Underwriters' Laboratories of Canada. A/D FIREFILM® III is listed by UL and ULC for the following designs: Wide Flange Columns: X639, X641, X642, X643, X645 Z608, Z610, Z612, Z626, Z627 HSS Columns: X642, X645, X671, X672, X673 Z611, Z617, Z628, Z629, Z630 Beams/Floors : D941, D948 F906, F910, F912 <small>*The product should be applied in accordance with the appropriate design</small>
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Interek	A/D FIREFILM® III has been tested in accordance with ASTM-E119 at Interek Laboratories. A/D FIREFILM® III is listed by Interek for the following designs: Wide Flange Columns: AD/IMF180-01 HSS Columns: AD/IMF 120.-02, -03, AD/IMF 90-01 Beams/Floors : AD/IMF 120-01 <small>*The product should be applied in accordance with the appropriate design</small>
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FM Global	Column Protection: Method:5,6,7,8,9,10 Beam Protection: Method: 31
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City of New York	MEA No. 108-94-S-4 (Beams) MEA No. 242-92-S-7 (Columns)
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City of Los Angeles	Report: RR25440
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ICC-ES | ESR-1973

PACKAGING, HANDLING & STORAGE

Shipping Weight (Approximate)	3.78kg/L (12 lb/gal)
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Storage	Store indoors in a dry environment between 1°C - 38°C (33°F - 100°F). Protect from freezing.
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Shelf Life	6 Months (when kept at recommended storage conditions and original unopened containers.)
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Packaging	18.9L (5 US gallons)
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WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Carboline® and Nullifire® are registered trademarks of Carboline Company.