



Shield Industries, Inc.

ForceField® FireGuard E-84® Intumescent Paint For Gypsum/ Wood/ OSB

Application Conditions

Generic Type	Water-based intumescent coating designed for the fire protection of interior gypsum and wood.
Description	Thin film intumescent coating that creates a fire retardant and fire resistant barrier on a wide range of interior building surfaces including gypsum, wood, and steel (see Techdata sheet for steel). Listed and certified by Guardian Fire Test Laboratories Inc.
Features	-ASTM E-119 ASTM E-84 Tested -Decorative Finish- Gives a smooth decorative finish. -Can be top-coated to color choice. - Smooth/ Flat surface -Can be brushed on, rolled on, or sprayed on -Durable finish- Provides a hard, impact and abrasion resistant surface -Topcoat finishes smooth -Thin film coating- space saving smaller column footprints -Low VOC content -LEED compliant
Color	White
Finish	Smooth
Primers	Can be used as a finished coat or a primer.
Fireproofing Topcoats	for interior space a topcoat is optional. The choice of topcoat will depend on project requirements and mil thickness of intumescent coating
Wet Film Thickness	Up to 40 mils per coat
Dry Film Thickness	Up to 21.60 mils per coat
Solids Content	By volume 54%
Coverage rate	866ft ² at 1mil 86ft ² at 10mil 28.9ft ² at 30mil Allow for loss in mixing and application.
VOC Content	3.6 g/l
Limitations	Not for use on exterior environments or for interior steelwork that will be exposed to freeze/thaw cycling or long-term surface temperatures over 140°F (60°C) in normal use

Substrates & Surface Preparation

General Prior to application surfaces need to be cleaned by removing all oil, grease or any loose particles that may interfere with the bond of ForceField® FireGuard®.
On wood substrates where the wood is extremely old and dried out, it will be necessary to scrape off any old flaking of paint (if painted) and the surface primed before the application of FireGuard E-84®.

Performance Data

Standards Tested To	Results
ASTM 2768	Flame spread- 0 Smoke Index- 5
ASTM E-84 (30 minute)	
ASTM E-119	1 & 2 Hour on gypsum and wood wall and floor/ceiling assemblies
UL 263	
NFPA 251	
ULC-S-101	

Mixing & Thinning

Mixer Use ½" electric or air driven drill with a slotted paddle mixer (300rpm under load).

Mixing Fireguard® must be mixed using a ½" 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 Procedures

Brushed or Rolled generally creates a 11 to 12 mil wet application. Multiple coats will be required to meet specifications to the job requirements. Allow each coat to completely dry to touch before applying next coat.

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

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Application Procedures

Application Rates	At an ambient temperature of 70°F (21°C), the following application rates are applicable: 40 mils (1.14 mm) per coat (wet) 24 hour recoat time between coats 1 coat per day *Fireguard can be recoated when previous coat has a shore D hardness of 50 measured at 70°F (21°C)
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 can be measured using an electronic dry film thickness gauge. Positector 200 or equivalent may be used. Wet mil thickness dries to 54%. 20mil wet= 10.6mil dry

Application Equipment Guidelines

Listed below are general equipment guidelines for the application of this product when spray applied.

Airless Spray	Airlessco LP540 or equivalent
Spray Gun	Standard airless spray gun
Spray Tips	0.019" - 0.021"
Fan Size	4" - 10" (depending on section being sprayed)
Hose Length	150' (45m)
Material Hose	3/8" (9.25mm) I.D. minimum
Whip Hose	3/8" (6.35 mm) I.D minimum (optional)

Application Conditions

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

Fireguard must be protected from exposure to weather. Protect from freezing.

Curing Schedule

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

*It is recommended to apply one per day. Drying time will vary with temp. Thinner coats as well as air movement will help drying time. Another coat of Fireguard® can be applied when previous coat has a Shore D hardness of 50 measured at 70°F (21°C). It can be top coated when a hardness of 60 is achieved.

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Cleanup & Safety

Cleanup	Pump, Gun, Tips, Hoses, and Mixers should be cleaned one per day with clean water.
Safety	It is recommended protective equipment should be worn when applying Fireguard®, including spray suits, eye protection, gloves, and respirators. Refer to Fireguard® Material Safety Data Sheet.
Ventilation	Ventilation should 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, brush or roll. When dry smooth and finish with topcoat to match. Damaged areas must be abraded back to a firm edge by sanding or scraping. The topcoat should be abraded back 1" (25.4 mm) from the damaged area. The surface must be clean and dry before applying Fireguard E-84®.
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Testing/ Certifications

Uncertainty Measurement in Guardian's fire testing is less than 1% as per ASTM E 2536-06.

Guardian is accredited and meets the requirements of ISO/IEC 17025 as verified by ANSI/ASQ National Accreditation Board/ A CLASS. Refer to certificate and scope of accreditation report AT1247. Guardian also is accredited as an inspection agency per ISO 17020 through ANSI/ASQ National Accreditation Board/ ACLASS, Report 1547.

N.B.: ANSI/ASQ/ACLASS is a signatory member of the International Laboratory Accreditation Cooperation's (ILAC) Mutual Recognition Arrangement (MRA).

ANSI/ASQ/ACLASS accreditation of Guardian ensures global recognition for Guardian's services.

Storage, Packaging & Handling

Shelf Life	1 year from production date *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in unopened original container.
Shipping Weight	approximately 11 lbs per gallon (1.44 kg/l)
Storage	Store indoors in a dry environment between 33°F-100°F (1°C - 38°C). Protect from freezing.
Packaging	

