



EMBER GUARD

APPLICATION GUIDE

Fire Retardant Wood Sealer – Class A fire retardant, non-toxic, designed to provide exceptional flame resistance, no smoke, internal moisture repellency, pest deterrence, and dimensional stability for wood surfaces.

Ember Guard is a clear, non-toxic, water-based fire retardant designed for untreated wood surfaces. Independently tested to ASTM E84 standards, it achieves a Class A fire rating with a Flame Spread Index (FSI) of ≤ 25 and a Smoke Developed Index (SDI) of 0—a performance level typically reserved for non-combustible materials.

The formula penetrates deeply into the wood's cellular structure, forming a durable internal barrier that significantly reduces flame spread and may prevent smoke generation. In addition to fire resistance, Ember Guard enhances the wood's dimensional stability—helping to prevent swelling, shrinking, and moisture intrusion, and can deter wood boring pests.

While Ember Guard performs exceptionally as a standalone fire treatment, performance is maximized when paired with Timber Pro's LS PRO, LSS, or DF topcoats. Together, these products form a synergistic, high-performance system that protects wood against UV degradation, mildew, moisture, pigment fade, and fire exposure. Ideal for architectural and commercial coating systems, Ember Guard is suitable for application via machine sprayer, HVLP, airless sprayer, or brush.

PRODUCT FEATURES

Class A Fire Retardant

Independently tested under the ASTM E84 with a FSI ≤ 25

Zero Smoke Development

SDI = 0, on par with non-combustible materials

Clear & Colorless

Product will not obscure grain on architectural wood

Structural Stabilization & Moisture Control

Internal barrier prevents moisture intrusion deep into wood

Non-Toxic & Zero VOC

Zero VOCs, human & animal safe, 2-3 LEED credits, HPD

Permanent Internal Treatment

Regular reapplications shouldn't be needed

Interior & Exterior Applications

Compatible & safe for both interior and exterior substrates

Easy Application

Compatible with spray/brush application & easy water cleanup

Compatible with Timber Pro UV

Engineered to work seamlessly with our stains

Pest Deterrent

Internal barrier deters wood boring pests

Ember Guard was formulated by Matthew Wheeler—an ex-wildland firefighter and Chief Scientist at Timber Pro Coatings—with one goal: to give people a better chance of protecting life and property in the face of increasingly destructive fires. Having witnessed the devastating effects of wildfires firsthand, Wheeler understood that smoke inhalation is the leading cause of fire-related deaths, accounting for 60% to 80% of fatalities according to the World Health Organization and the National Fire Protection Association.

Despite this reality, the primary fire safety standard in the U.S.—ASTM E84—permits building materials with a Smoke Developed Index (SDI) as high as 450 to still receive a Class A rating. This means many fire retardants can legally pass safety benchmarks while producing dangerous levels of smoke. It's the regulatory equivalent of approving a car for safety without requiring airbags or seatbelts.

Ember Guard takes a different approach. Independently tested by QAI Laboratories, it achieved a Smoke Developed Index of zero, placing it on par with non-combustible materials like cement board. This result reflects the product's commitment to meaningful protection—resisting flame without introducing hidden dangers. As Wheeler puts it, Ember Guard was created to “give people a fighting chance.”

In the home ignition zone, Ember Guard can serve a vital defensive role. Fences, decks, and nearby wooden structures often act as fire ladders, but when treated with Ember Guard, they become far less likely to ignite and carry flames to the home. Similarly, applying Ember Guard to vulnerable areas like eaves, soffits, and under rooflines—where embers tend to collect—may reduce the risk of ignition during wildfires. In a structure fire, Ember Guard-treated framing may also slow room-to-room flame spread and significantly cut smoke production, allowing more time for escape.

APPLICATION & USE CASES

1 Primary Applications :

Ember Guard is intended for raw or properly prepped wood surfaces. Not intended over surfaces previously coated with non-penetrating acrylics, latex, or solid paints. For optimal results, use Ember Guard on raw wood surfaces (kiln-dried or air dried, moisture content <14%).

2 Recommended Pairings :

Ember Guard + DF/LSS/LS PRO for fire resistance, low smoke, moisture repellency, pigment longevity, and protection against UV and mildew.

3 Technical Data :

ASTM E84 - 24A “Standard Method of Test for Surface Burning Characteristics of Building Materials”. The test procedure is comparable to UL 723, ANSI/NFPA No. 255, and UBC No. 8-1. Independently tested by QAI Laboratories in 2025.

IDEAL FOR:

- ▶ Smooth/Rough Sawn: cedar, fir, pine, juniper, redwood, etc.
- ▶ Mass timber; commercial, residential
- ▶ Interior wood surfaces: framing, beams, trim, ceilings, lattice, feature walls, etc.
- ▶ Exterior wood surfaces: siding, fences, decks, trim, eaves, soffits, beams, logs, small structures etc.
- ▶ Plywood, OSB, and other specialty wood substrates

APPLICATION GUIDE

SURFACE PREPARATION

1 New Wood :

Sand to 80-120 grit to remove mill glaze if necessary. Remove dust and debris with an air compressor or fine broom.

2 Aged Wood :

Clean with Clean & Brite to remove mildew and dirt, or Strip & Brite for heavy weathering or to remove oil-based stains. Once dry, you may sand to 80-120 grit on smooth wood to remove fuzz if necessary. Remove dust and debris with an air compressor or fine broom.

COVERAGE

Wood Surface	Approximate Coverage (per coat)
Smooth wood	200-225 square feet/gallon
Rough sawn	175-200 square feet/gallon

*Coverage may vary depending on wood porosity and condition.

SAFETY INFORMATION

- ▶ Avoid contact with eyes, skin, and glass
- ▶ Do not inhale spray mist
- ▶ Use personal protective equipment
- ▶ See SDS for full safety information

STORAGE

Store above 50°F (10°C) in a sealed, airtight container. Do not freeze or expose to temperatures above 90°F (32°C). Clean tools with soap and warm water after use.

IMPORTANT NOTICE

Proper preparation, product selection, and environmental conditions are essential for optimal performance. Always test before full application. Timber Pro Coatings assumes no responsibility for misuse, application outside the recommended procedure, or climate change-induced extreme weather events. While Ember Guard significantly reduces flame spread and smoke development, no treatment can make combustible materials entirely fireproof. Timber Pro Coatings makes no guarantees regarding the complete prevention of combustion or smoke generation from the underlying substrate. Timber Pro Coatings shall not be held liable for any damage to property, injury, or loss of life arising from fire, smoke, or product misuse. For more information or to order, visit the Timber Pro Coatings website.

WARRANTY

The sole obligation of Timber Pro Coatings and its authorized sellers shall be to replace any quantity of Timber Pro Coatings product that is determined by Timber Pro Coatings to be defective in material or manufacture. Proof of purchase is required. Timber Pro Coatings and its sellers shall not be liable for any incidental, consequential, or indirect loss or damage arising from the use, misuse, or handling of this product. All labor costs associated with the application, removal, or replacement of the product are specifically excluded from this warranty. It is the responsibility of the user to determine the suitability of the product for its intended purpose prior to application. By using this product, the user assumes all risks and liabilities associated with its use. This limited warranty is provided in place of all other warranties, conditions, or remedies, whether express or implied, including but not limited to any implied warranty of merchantability, fitness for a particular purpose, or warranties arising from course of dealing, custom, or usage of trade. Timber Pro Coatings does not authorize any distributor, retailer, or third party to make any warranties or guarantees that differ from or exceed the terms of this limited warranty. Timber Pro Coatings disclaims any responsibility for such unauthorized representations.

APPLICATION METHODS

1 Sprayer Application :

Use machine sprayer, HVLP, pump sprayer with a fan tip, or airless sprayer, working from the bottom up. Spray evenly to lightly saturate the wood. Avoid puddling, drips, or overapplication. Back-brush for even application on architectural wood. Allow 1-24 hours* to dry before applying second coat.

2 Brush Application :

Apply evenly along the grain using a stain brush, working from the bottom up. Avoid puddling, drips, or overapplication. Keep a wet edge and back-brush to eliminate overlap. Allow 1-24 hours* to dry before applying second coat.

*Dry time varies with temperature, humidity, wood type, and porosity. Apply early, before wood heats, and avoid direct sun over 74°F (23°C).

WORKING PROCEDURE

- ▶ Apply only in shaded or cool conditions (50–74°F / 10–23°C optimal)
- ▶ Ensure all glass is fully taped & covered as product will etch glass
- ▶ Do not apply if wood moisture exceeds 23%, or during rain, high humidity, or if rain is expected
- ▶ Test on a small section and allow to dry before full application
- ▶ Apply 2 even coats on exposed wood or up to 3 coats on unexposed substrates
- ▶ Wood may temporarily darken or patina due to natural tannins; this is normal and fades with time or can be brightened with Clean & Brite after 5 days of curing for architectural wood. White crystals may form during curing if wood is fully saturated; they are not harmful and will take on the color of any subsequent stain.

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