The leading manufacturer of high performance fire retardant and fire resistant coatings.

Our Coatings provide the highest level of fire safety at a significant lower cost and with much less disruption to the buildings occupants.

They are designed to comply with building codes requiring specific fire ratings and have been tested in accordance to the most stringent fire test standards.

Our products are environmentally friendly, MPI Green Listed.

FIREFREE COATINGS, INC.
580 Irwin Street, Suite 1
San Rafael, CA 94901
888-990-3388 • 415-459-6488
info@firefree.com
www.firefree.com

FF88 is FM approved per Approval Standard 4975

Coated with FF88

Uncoated

FIREFREE 88

The first coating to pass the fire industry's most stringent tests for fire resistants

- Withstands extreme temperatures (2000°F up to 2 hrs)
- FF88 limits smoke propagation
- Fully tested and approved to ASTM E-119 (gypsum, wood, concrete, sheet metal, composite panels, plaster)
- FF88 is non-toxic with low VOC's
- Preserves structural integrity

Current Uses

- Construction-New, Retrofit, Residential, Commercial
- Foam Manufacturers-Warehousing, Insulation
- Transportation-Rail, Aviation, Maritime
- Industrial-Metal Enclosures, Mining, Oil & Gas

New Construction - Floor Joists, Ceiling

Starbucks Cafe, 18th & Castro, San Francisco, CA

Problem: Wood joists and wood sub-floor required a 2 hour rating. The heat ducts, wiring and plumbing where in place as was the T-Bar ceiling. The cost to remove and re-install the ceiling tile system, ducting, wiring and plumbing to accommodate two layers of gypsum would have cost in the range of $150,000

Solution: Approved by the City of San Francisco. Ff88 was applied to all wood ceiling joists and sub-floor areas to provide the required 2 hour rating. A coating of Ff88, in matching color was applied to the ceiling to meet the fire rating required by the City. The work was completed in four working days and at a greatly reduced cost and less disruption.

New Construction - Wood - Roof/Ceiling

Live Oak Auditorium, Morgan Hill, CA

Approved by the City of Morgan Hill and the California State Department of School Architecture (DSA).

Traditional Solution: The traditional method of an additional 2 layers of fire rated gypsum wallboard would add 4 pounds per square foot of mass suspended over 20 feet above the existing auditorium and subjected the existing shear values to non-code compliant stress. Use of the traditional method would require costly upgrades to existing columns and footings as well as removal and reinstallation of existing utility lines.

Solution: Firefree 88 was applied to the existing wood roof sheathing, the supporting purlins and the structural wood glue-laminated beams to provide the 1 hour rating. The cost and time savings realized by the use of Firefree 88 brought the budget into consideration and resulted in the project being completed and it is currently serving the students and community of Morgan Hill.

Historical - Concrete Ceiling

Yamhill St. High Rise: 9 Story Building Downtown Portland, OR

Project: Historic nine story building in downtown Portland, Oregon with concrete floors at 2-3/4 inches thick with a 50 minute rating.

Problem: Concrete floors at 2-3/4 inches thick with a 50 minute rating; fire department required a two hour rating. The cost to structurally add a minimum of 2 inches to the existing floor system would have been prohibitive.

Solution: A concrete section of floor was tested with Ff88 coating and passed the 2 hour fire rating test, thus gaining approval by the Portland building and fire department. The Ff88 coating was applied at a cost of approximately $50,000 labor and materials versus the alternative of tearing the building down and starting over with new structural requirements.

Defective Construction

Pike Street, Seattle, WA

Project: Exterior oriented strand board shear panels- two separate five story structures.

Problem: Non- fire rated (OSB) panels and 2X6 wall studs where used to construct exterior building shear walls at two structures at Pike Street. The panels did not meet the fire rating requirements as required by the City of Seattle. The extensive nailing of the panels to the stud walls, would have required re-framing four stories of exterior walls at both buildings.

Solution: Based on testing on OSB board and wood timbers, the City of Seattle approved the use of Ff88 to coat the exterior OSB panels and exterior wall studs to meet the required fire rating thus preventing costly delays in construction and the need to rebuild all four stories of exterior walls. The cost savings for each building with the use of Ff88 was in the hundreds of thousands of dollars.

Historical - Wood-Roof/Ceiling

Walt Disney Museum, The Presidio
San Francisco, CA

The new Walt Disney museum was being constructed within a historical building within the Presidio in San Francisco. The museum wanted to preserve the existing wood ceilings and leave them exposed to retain the character of the existing building. The ceilings were to be finished with specific colors in keeping with the time period of the building.

Problem: The exposed existing wood joist and wood sub-floor were required to meet a 1 hour fire rating. The only solution proposed by the City of San Francisco was to install 2 layers of gypsum board, which would not meet the intent of historical preservation wanted by the Disney Corporation.

Solution: Approved by the City of San Francisco. Ff88 was applied to all wood ceiling joists and sub-floor areas to provide the required 1 hour rating resulting in a savings of 30% compared to the alternate solution. More importantly, the building maintained the historical heritage by simply painting.

Historic Renovation - 1 Hour Embossed Tin Ceiling/Floor

Mitchell House, Macon, GA

The Mitchell house was the home of Margaret Mitchell, author of Gone with the Wind.

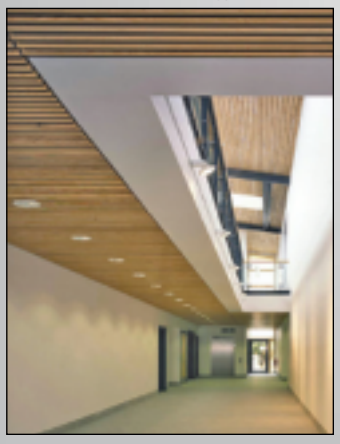
The building was converted to condominiums above the first floor. The ceiling in the first floor had embossed tin ceilings requiring a 1 hour rating. To comply would have required removal of the ceiling, application of 2 layers of gypsum board and re-installation of the ceiling.

Problem: The first floor area was extensive and occupied by a fabric store that was opened daily. The cost of demolition and reconstruction, including potential damage to the existing ceiling tiles, was extensive and would have required shutting down the store for a minimum of 4 weeks.

Solution: Based on Firefree 88 testing on embossed tin ceilings, we were approved and used to coat the embossed tin ceiling to provide the necessary 1 hour rating at a 60% reduction in cost. The labor was performed at night and completed in 7 work days with no disruption to the owner of the fabric store.

Healthcare - New Construction - Wood - Roof/Ceiling

VA Palo Alto Hospital For The Blind, Menlo Park, CA

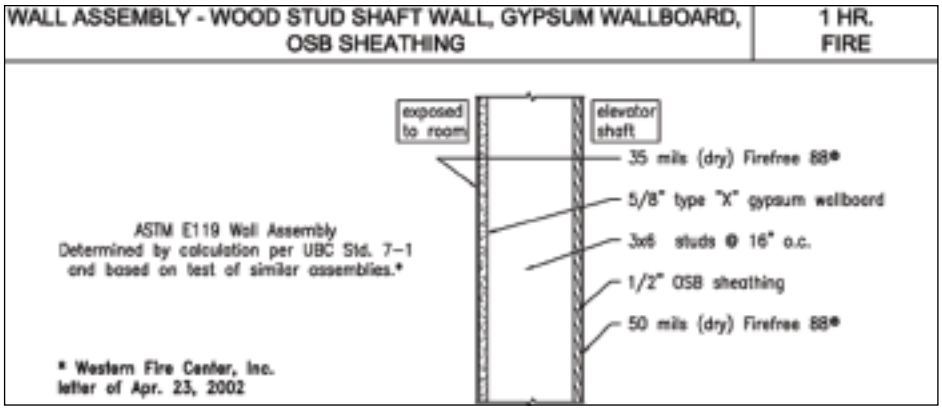


While in the process of construction it was determined that the original contractor had constructed a defective roof assembly. The roof was designed and constructed to encompass 6 modular medical office building modules. The constructed roof assembly did not meet the 1 hour fire requirements and a search for solutions that would not require demolition and reconstruction was instigated by Collins and Associates, a fire safety engineering firm of Ventura, CA.

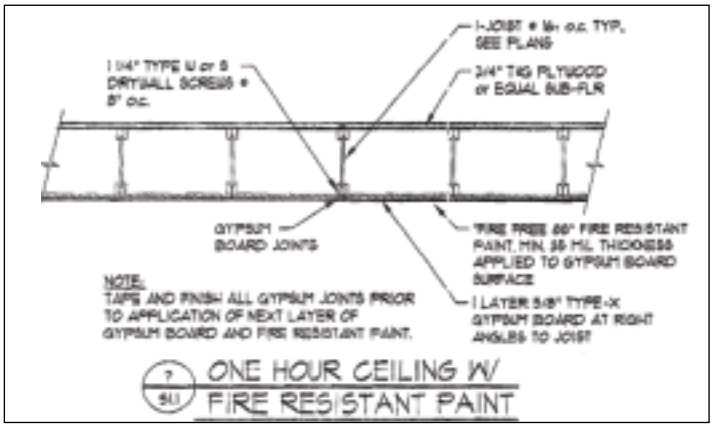
Traditional Solution: Remove, store and reinstall all of the previously installed HVAC units, ductwork and overhead utilities. Demolish the existing roof structure, redesign and reconstruct. This would create a delay and unreasonable costs in providing the facilities for the hospital's services benefiting the Veterans Administration.

Solution: Firefree 88 was proposed and accepted to be applied to the underside of the existing roof sheathing and roof structure. This process was completed in less than 4 weeks and did not extend nor delay the original construction time frame.

Examples of Architectural Details Using Firefree 88



TECHNICAL SERVICES: *Many building assemblies requiring hourly ratings shall be tested in accordance to ASTM E-119. If your project requires a fire resistant rating, please call our Technical Department (415) 459- 6488 or 888-990-3388 and supply the technician with all the details of the assembly, including type of material, sizes. For wood floor/ceiling systems , include the wood joists, span, spacing, sub-floor and flooring. Building Codes: Installation must comply with the requirements of applicable local, state and national building codes.*



FIREFREE CLASS A

Intumescent Fire Retardant Paint

- Cost Efficient
- Easy to Use
- ASTM E-84 Tested
- Use on Various Combustible Materials

PRODUCT OVERVIEW

Firefree® Class A ("FF A") is a single component, thin film, non-conductive, self-priming, intumescent fire retardant product that provides class A ratings on various combustible materials. Firefree® Class A flat finish provides ultimate durability, exceptional hide, and excellent adhesion in a low odor fire retardant formula.

PERFORMANCE

Flame Spread Index Rating:

Standard	DFT/WFT Application	Coverage per gallon	FSI/SDI Results*
ASTM E-84	6 mils dry (9 mils wet)	178 ft²	FSI-20 SDI-90
ASTM E-84	10 mils dry (15 mils wet)	106.5 ft²	FSI-5 SDI-30**

ASTM E84, 30 Minue Duration Test:

Standard	DFT/WFT Application	Coverage per gallon	FSI/SDI Results
ASTM E-84	8 mils dry (12 mils wet)	133.5 ft²	FSI-0 SDI-45**
ASTM E-84	20 mils dry (30 mils wet)	53 ft²	FSI-0 SDI-0

* Indexes: FSI (Flame Spread Index) SDI (Smoke Developed Index)

** Meets the smoke index ≤50 for plenum spaces