QUANTUM Chemical
High Performance Coatings

SafeCoat® Latex

Prevents Flame Spread
Fire is a threat to life and property as it rushes through many types of building materials with alarming speed. Fire takes advantage of unprotected surfaces and areas concealed from fire fighters.

Meets Fire and Building Codes
Fire safety codes are the first line of defense against the destructive force of fire. Products and designs which satisfy these codes save lives and money. Code compliance requires a number of design considerations including a combination of fire separations, sprinklers and coatings**.**

Protection from Fire and Smoke
SafeCoat® Latex is a highly effective intumescent coating that reacts to fire or heat by expanding to many times its original dry film thickness. The expanded material forms a char which insulates against the heat of fire and reduces available oxygen to the surface. This limits flame spread and the amount of smoke developed.

Wide Range of Applications
SafeCoat® Latex will protect many combustible building materials including wooden surfaces, joists, beams, acoustic tile, timbers, open surface panel board, previously painted wallboard, hardwoods, softwoods, drywall, SPF plywood and OSB.

Alternate to Drywall
When a more resilient, durable surface than drywall is required, plywood or OSB coated with **SafeCoat® Latex** can provide an inexpensive and effective way to satisfy the Code for a Class A Flame Spread and Smoke Developed Rating.

ULC Tested and Listed
SafeCoat® Latex is recognized by Fire and Building Code Officials throughout North America. Class A Flame Spread Ratings can be achieved on OSB, SPF (spruce, pine, fir, Douglas Fir plywood, and more).

SafeCoat® Latex has been tested and approved by ULC under CAN/ULC-S102 for the Canadian market and ASTM E84 for the US market.

Effective
SafeCoat® Latex offers significant reduction in flame spread and smoke developed ratings, acting as an ignition barrier on many combustible surfaces.
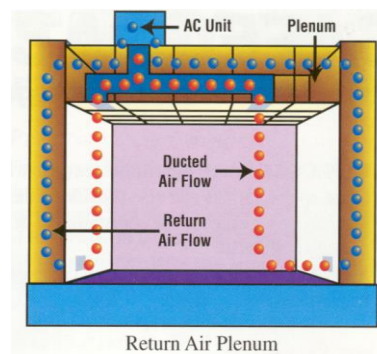
Labor Saving
SafeCoat® Latex is an interior, single-component, latex-based, intumescent fire retardant coating applied by brush, roller or sprayer. It cleans up easily with warm, soapy water and is quick drying.

Wide Range of Colors
SafeCoat® Latex is white and may be tinted lighter colors or top coated with one coat of another compatible latex for darker shades or alternative sheens. It is available in black as a special order.

Environmentally Friendly
SafeCoat® Latex is environmentally safe, being non-toxic with low VOCs. It contains no asbestos, halogens, solvents, or dangerous chemicals.

Left: SafeCoat® coated interior roof space and an untreated roof space under identical fire conditions.
Right: According to the NFPA-13 Standard, installation of sprinkler systems are not required if the exposed combustible materials have 25 or less/Class A Flame Spread.

Above: Municipal building codes typically require return air plenum spaces to have flame spread ratings of 25 or less and smoke developed ratings of 50 or less. SafeCoat® satisfies these standards. Using SafeCoat® in lieu of a return air duct in combustible buildings improves overall efficiency which usually allows for smaller HVAC units, reduced duct installation costs, and lower maintenance costs.

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DESCRIPTION

SafeCoat® Latex Intumescent Coating is a single-component latex, intumescent fire retardant coating suited for interior applications on various combustible substrates including SPF Plywood (Spruce/Pine/Fir), Oriented Strand Board (OSB), wood trusses and rough stud construction, where Flame Spread Ratings of 25 or less ("Class A" or Class 1) and low Smoke Developed Ratings are required. It limits flame spread by expanding to many times the original dry film thickness when exposed to heat. This expanded material forms a char which insulates the substrate against heat, and reduces available oxygen to the surface. It provides a "**Class A**" Flame Spread rating of 25 or less as tested under **ASTM E84** and **CAN/ULC S102** standards. **SafeCoat® Latex** is certified with UL/ULC listings for this rating.

USES

- Imparts a Class A Flame Spread Rating to dimensional lumber, plywood and Oriented Strand Board (OSB)
- Replaces sprinklers in combustible concealed spaces, under NFPA-13
- Can be applied as a mandatory upgrade to assist owners and property managers to meet the latest fire and building code requirements or as a voluntary upgrade to lower fire risks
- Used in lieu of drywall for Class A Flame Spread on plywood and OSB, providing greater strength and resilience than drywall

FEATURES

- **Non-toxic:** contains no asbestos, harmful ingredients, halogens or solvents and has low VOCs
- **Cost-effective:** applied at 150 ft²/USG, to achieve a "Class A" flame spread rating
- **Fire-resistant:** will not burn in liquid or solid state.
- Under fire conditions, it forms a char, preventing the spread of flames, and slowing the penetration of heat through the substrate
- Has excellent **adhesion** and **durability**
- **Tintable:** use a latex based "universal tint"
- **User-Friendly**: can be spray, brush, or roller applied

PROPERTIES

Coating Type	Latex
Finish	White, flat finish
Color	Standard: White
	Special Order: Black
Tinting	May be tinted (light colors only) Use standard latex or universal colorants. Do not exceed 26 mL of tint per liter of **SafeCoat® Latex**.
Specific Gravity	10.9 lbs/US Gallon or 1.30 g/mL
Solids by Weight	58%
Solids by Volume	47%
VOC	25 g/l or 0.2 lbs/USG
Dry Time	**Touch**: 30 min. to 1 hour (varies with temperature and humidity) **Recoat**: 1 to 2 hours **Full cure:** 48 hours
Film Thickness	**Wood** **Wet**: 10.7 mils (150 sq.ft./gallon) **Dry**: 5.0 mils
	Foam NOT a Thermal Barrier **Wet**: 21 mils (80 sq.ft./gallon) **Dry**: 10 mils (For foam, Ignition Barrier only. OSB or plywood over foam is used when a thermal barrier is required by code.)
Flash Point	No Flash
Storage Limits	Keep from freezing (above 50° F, 10°C required)
Shelf Life	24 months
Packaging	Available in one, five, 55 and 275 US gallon quantities

APPLICATION INSTRUCTIONS

Surface Preparation:
All surface preparation should be carried out in accordance with good painting practices. Remove all loose, peeling or powdery paint, dirt, grease, oil, wax and other foreign material with a suitable cleaner and allow to thoroughly dry. Repair cracks, holes and surface imperfections and dull smooth or glossy surfaces with sandpaper. To prevent tannin staining, new wood surfaces should be coated with a stain blocking primer. This is particularly recommended when coating Oriented Strand Board (OSB).

Application:
SafeCoat® Latex Fire Retardant Coating can be applied by brush, roller or airless spray. Airless equipment is most desirable. Use Graco Model 450 or larger or other long-stroke piston type units. Alternatives include gravity fed "Hero" or other diaphragm units. Use a 16 to 21 thousand aperture, with a 12" fan for optimum results. Apply uniformly to entire surface. If thinning is required use clean water only and do not exceed 200 mL per gallon. Surface and ambient temperature must be maintained at greater than 50° F (10°C) during application and must remain so for at least 48 hours following the application. **SafeCoat® Latex** is intended for interior use only. If the coated substrate will be subject to frequent washing or used in an area of constant high humidity >70%, ONE finish coat of a latex paint is required. Testing has shown **SafeCoat® Latex, with one topcoat of another Latex paint** maintains its Class A Flame Spread Rating. Additional coats have not been tested and therefore cannot be recommended. Before applying any finishing coat consult the manufacturer or their representative.

A wet film thickness gauge can be used at the start of the application to ensure sufficient **SafeCoat® Latex** has been applied. At an application rate of 150 ft^2/USG the wet film thickness should be 10.7 mil and will yield a dry film thickness of 5.0 mil.

To provide an ignition barrier on spray-foam insulation, apply at 80 ft2/USG. If a thermal barrier is required for foam to satisfy fire codes, 3/8" OSB top coated with **SafeCoat® Latex** will provide both a thermal and ignition barrier. The application of **SafeCoat® Latex** should be uniform and leave no exposed uncoated surfaces or edges. If the lumber is precoated it should be checked following installation to ensure that construction procedures have not created any exposed uncoated areas. Touch-up any exposed areas with **SafeCoat® Latex.**

Clean Up:
All application tools can be easily cleaned with water. If product has dried on, use hot soapy water to soften and remove it.

Precautions:
SafeCoat® Latex is not "WHMIS" regulated nor is it subject to the "Transportation of Dangerous Goods Act and Regulations". See SDS for additional information.

CERTIFICATION

Each container bears a label with the following marks:

Listing is BMQX.R19565. (QR Code for Listing access.)

PRODUCT WARRANTY

Recommendations for the use of our products are based on tests carried out at government approved labs. Manufacturer and seller are not responsible for results where the product is used under conditions beyond our control. The purchaser of this product must rely on his own judgement in determining suitability for his purpose, and in applying directions as to handling and use. Quantum makes no warranty, expressed or implied, except that if this product proves on inspection to be defective, Quantum will replace such quantity of the product proven to be defective or refund the purchase price of defective product. Labour costs and other consequential damages are hereby excluded. No representative or purported agent of Quantum has the authority to change this warranty. The information contained herein is subject to change without notice. If in doubt, contact your Quantum Representative for current Technical Data Sheets (TDS).

TEST RESULTS

FLAME and SMOKE DEVELOPED RATING

Testing was conducted in accordance with **ASTM E84** and **CAN/ULC-S102** "Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies".

Material	Application Description	Flame Spread Rating	Smoke Developed Classification
Douglas Fir Lumber	**SafeCoat® Latex** at a rate of 3.7 m2/L or 150 sq. feet per gallon	5	5
SPF Plywood	**SafeCoat® Latex** at a rate of 3.7 m2/L or 150 sq. ft. per gallon.	5	0
Oriented Strand Board	OSB (11 mm nominal thickness), coated with **SafeCoat® Latex** at a rate of 3.7m2/L or 150 sq. ft. per gallon.	10	20
High Density Polyurethane Foam Ignition Barrier	Coated with **SafeCoat® Latex** at 80 sq. feet per gallon meets the ignition barrier. This does not qualify the product as a thermal barrier over polyurethane spray foam which is part of the Canadian code requirement for all applications. The addition of 3/8" OSB or SPF plywood coated with the **SafeCoat® Latex** as per above, over the spray foam would satisfy the thermal and ignition requirement.	25	150
3/8" OSB Sheathing for Residential Construction. Coated boards must bear the ULC-approved stamp.	Mineral & Fibre Board Listing CAN/ULC-S102 satisfies code requirements for residential construction for flame spread in Edmonton and Calgary jurisdictions for side-walls closer than 1.5 meters or outside the 10-minute response time. **SafeCoat® Latex** is listed and the application must also be listed. This requires the application to be done in a controlled environment by a certified applicator. Boards must bear the ULC Listed Stamp for Mineral and Fibre Boards. These boards meet the Class A Flame Spread requirement as well as the 15-Minute Fire Resistance requirement (see test below). Contact Quantum for additional information on availability of this coated product.	10	20
Douglas Fir Plywood	**SafeCoat® Latex Black** at a rate of 3.7 m2/L or 150 sq. feet per gallon	0	60

*Suitable latex paints may be applied in 1 coat on the **SafeCoat® Latex** to achieve a different colour, sheen, or more cleanable finish or when the product will be subject to frequent cleaning. Contact Quantum or Quantum distributors for additional information if required.

TEST RESULTS

FIRE RESISTANCE RATING

Testing conducted in accordance with **CAN/ULC-S101/ASTM E-119-08A,** Fire Endurance Test of Building Construction and Material.

Material	Application Description	Time to Flame Through
3/8" OSB Sheathing	CAN/ULC S101-07 Standard Method of Fire Endurance Tests of Building and Construction Materials. 3/8" OSB Sheathing coated with SafeCoat® Latex at 160 sq. feet per gallon.	**17 minutes**
Floor/Ceiling Assembly with ¾" OSB	Tested in accordance with the ASTM E-119-05A Floor/Ceiling; NFPA 251-06, Small Scale Test, and CAN 4-S101-04. 2"x10" nominal SPF floor joists 16" on centre. 3/4" oriented strand board flooring. Underside assembly coated with SafeCoat® Latex at 150 sq. ft. per gallon	**46 minutes 37 seconds**
Floor/Ceiling Assembly with ¾" OSB and 5/8" Type-X Gypsum	Tested in accordance with the ASTM E-119-05A Floor/Ceiling; NFPA 251-06, Small Scale Test, and CAN 4-S101-04. 2"x10" nominal SPF floor joists, 16" on centre. 3/4" oriented strand board flooring, 5/8" type X gypsum with the exposed side of the gypsum coated with SafeCoat® Latex at 150 sq. feet per gallon. There was no flame-through as the test was terminated due to heavy smoke at 1-3/4 hours.	**1-3/4 hour**
Floor/Ceiling Assembly with ¾" OSB and 24 Gauge Sheet Metal	Tested in accordance with CAN/ULC S101 Closed Floor/Ceiling Assembly with ¾" OSB and 24-Gauge Sheet Metal Ceiling coated with SafeCoat® Latex at 150 sq. ft. per gallon. Test was terminated at 60 minutes with no failure.	**1 hour**
½" Regular Gypsum Wall Assembly	Tested in accordance with CAN/ULC S101-07 Standard Test Method for Fire Tests of Building Construction and Materials. Assembly consisted of ½" drywall; 2x4 wood stud frame; unbacked horizontal seam taped and mudded; 3.5" thick R-12 fibreglass insulation; and SafeCoat® Latex applied at 100 sq. ft. per gallon. The assembly met burn-through and temperature rise requirements for 63 minutes.	**63 minutes**