

TECHNICAL DATA SHEET

Product Description

Penguin Ice is a transparent Class A flame-retardant and sealing coating for solid wood structures and various types of wood surfaces. Penguin Ice is chosen for its versatility and architectural-quality finish that enhances the beauty of the material. Penguin Ice works to protect the surface of wood, helping to preserve it from deterioration, yellowing, dirt and stains.

Application as a Flame Retardant

Penguin Ice Original is certified Class A under CAN/ULC S-102 and ASTM E-84 to retard flame spread and limit smoke development on wood used in residential, commercial and institutional construction in Canada. For flame-retardant applications, Penguin Ice must be applied at 170 square feet per gallon or 250 grams per square meter (gsm).

Key Features and Benefits

- Low VOC
- Water-based coating
- Low-odour product
- Easy to apply
- Fast drying time
- Natural, transparent finish
- Class A flame retardant
- Helps protect wood from stains and dirt
- Slows wood yellowing
- Prevents mildew growth

Properties Table

Technology: Copolymer acrylic	Water absorption: < 5 %
Dry Appearance: Clear and matte	Resistance to mildew (AWPA E24): Excellent
Solids by Weight: 18 %	Resistance to rot (AWPA E10) : Excellent
VOC Content: < 95 g / L	Resistance to freezing (liquid) : No
pH: 7	Resistance to freezing (dry) : Yes
Density: 1.025 g / mL	UV Resistance (ASTM D4587) : Indoor use

Application Specifications

Coverage (flame retardant): 170 square feet / US gallon	Application : Spray, Brush, Roller
Preparation: Mechanical Mixer (Drill)	Cleaning : Warm Soapy Water
Application Temperature : 7°C (45°F) minimum	Touch Dry : 15 minutes (Oven / Sunspot)
Ideal Humidity Level: 30 to 65 %	Touch Dry : 40 minutes @ 21°C (70°F) (Air Dry)

Certification

CAN/ULC S-102	Class A (≤ 25 FSI)	≤ 450 SDI	Intertek	Spec ID 64628
ASTM E-84	Class A (≤ 25 FSI)	≤ 450 SDI	Intertek	Spec ID 64628



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Penguin Ice – Tests & Certifications for Technical Specification

Penguin Ice is a certified flame-retardant coating designed for wood, offering effective protection against flame spread and smoke development. Engineered to meet Class A fire safety standards, it provides flame resistance and smoke control.

It is the responsibility of the client, applicator, or end user to ensure that the product complies with the specific requirements of their project, including applicable municipal, local, or national Building Codes and regulations governing flame-retardant materials. Validation should be based on the product's certifications and test results, and approval must be obtained from a qualified authority, such as an architect or engineer. The following certifications and tests have been conducted to assess flame spread index and smoke development index.

CAN/ULC S-102

Class A - Certified

Flame Spread: 25

Smoke Development: 35

Intertek Coquitlam Fire Laboratory (2021)

CAN/ULC S-102-18 Intertek 104737708COQ-002 R0
09 96 43 Fire-Retardant Coatings



Intertek



ASTM E-84

Class A - Certified

Flame Spread: 25

Smoke Development: 115

Intertek Coquitlam Fire Laboratory (2021)

ASTM E-84-20 Intertek 104737708COQ-003 R0
09 96 43 Fire-Retardant Coatings



Intertek



Applied to wood at 250 grams per square meter (gsm), or 10 mils wet film thickness (WFT), or 2 mils dry film thickness (DFT). Tested on SPF 2x Dimensional Lumber.

Rated for Coated Side Only

Applied to wood at 250 grams per square meter (gsm), or 10 mils wet film thickness (WFT), or 2 mils dry film thickness (DFT). Tested on SPF 2x Dimensional Lumber.

Rated for Coated Side Only

ASTM E-84

Class A - Tested

Flame Spread: 25

Smoke Development: 20

Intertek Coquitlam Fire Laboratory (2021)

ASTM E-84-20 Intertek 104697365COQ-001A R0
09 96 43 Fire-Retardant Coatings



Intertek



ASTM D-3806

Class A - Tested

Flame Spread: 25

Smoke Development: N/A

SEREX Amqui Testing Laboratory (2023)

ASTM D-3806 SEREX R OS032-AF2223
09 96 43 Fire-Retardant Coatings

SEREX



Applied to wood at 250 grams per square meter (gsm), or 10 mils wet film thickness (WFT), or 2 mils dry film thickness (DFT). Tested on SPF 2x Dimensional Lumber.

Rated for Coated Side Only

Applied to wood at 250 grams per square meter (gsm), or 10 mils wet film thickness (WFT), or 2 mils dry film thickness (DFT). Tested on 9/16" Birch Plywood Sheet.

Rated for Coated Side Only