

SUNDANCE THERMAL*1 COAT



PRODUCT DATA SHEET (PDS)

Industrial Exterior Penetrating Wood Stain & Sealer

1. Product Description

THERMAL*1 COAT is a single-coat, semi-transparent penetrating oil stain sealer formulated specifically for Thermally Modified Wood and Siding. Crafted with architectural-grade materials, it provides long-term protection against UV damage, moisture intrusion, and mold degradation.

THERMAL*1 COAT combines synthetic modified alkyd resins with clean, low-odor aliphatic carriers and nano-pigments engineered for deep exterior penetration. Free from aggressive aromatic solvents (BTX-free), this non-film-forming treatment nourishes vertical cladding deep within the wood grain—eliminating peeling and flaking while ensuring a significantly cleaner, safer working environment.

Applying THERMAL*1 COAT is straightforward, requiring only basic cleaning prior to maintenance coats—no stripping, sanding, or media blasting required. You get zero shiny or plastic sheen—just authentic wood beauty that adds depth to the grain.

2. Key Features & Benefits

- **One-Coat Application:** Achieves a rich, natural finish in a single coat. Its high-solids formulation penetrates deeply using synthetic modified alkyd resins, highly refined non-drying oils, low toxicity solvents, and nano-enhanced pigments to condition, strengthen, and stabilize the wood's lignin structure—repelling moisture from the inside out.
- **Long-Lasting Protection:** Engineered for harsh environments, this advanced formula protects thermally modified wood against UV degradation, moisture, mold, and rot. Expect a consistent wood-tone finish lasting up to 5+ years (longer in shade) while minimizing checking (splitting), warping, and cupping.
- **Non-Film-Forming Technology:** Unlike traditional stains that leave a surface skin, THERMAL*1 COAT will not polymerize or form a hard surface film. This eliminates cracking, peeling, and flaking, ensuring you never need to strip, sand, or media blast prior to future maintenance coats.
- **Seamless Application & Low Maintenance:** Applies smoothly without lap marks or uneven shading when applied board-to-board. Future maintenance requires only a basic surface cleaning before re-coating—restoring the wood's original visual depth with zero long-term coating buildup.

3. Product Uses & Substrates

THERMAL*1 COAT provides coverage for dense thermally modified wood species and exterior profiles:

- **Substrates:** Thermally Modified Ash, Oak, Red Oak, Cypress, IPE, Brazilian Hardwood, Pine, Hemlock, and Cedar.
- **Applications:** Thermally modified timber siding, clad siding, vertical cladding, tongue-and-groove, shiplap, board-and-batten, trim, and decking.

4. Technical & Physical Properties

Property	Value / Specification	Status / Method
Appearance	Semi-transparent, rich natural wood finish	Visual
Physical State & Odor	Liquid, mild oil/solvent odor	Observed
Binder Type	Synthetic modified alkyd resin & refined mineral oils	Technical specification
Solvent Carrier	Low-odor Mineral Spirits	Technical specification
Viscosity	15 – 25 seconds (#2 Zahn Cup / thin liquid)	ASTM D1084
Specific Gravity	0.85 – 0.90 g/cm ³	Calculated
Flash Point	104°F (40°C)	Closed Cup
Solids by Weight	48% (± 2%)	Technical specification
VOC Content	344 grams/liter (2.87 lb/gal)	Environmental Standard
Solubility in Water	Insoluble	Physical Test
Coverage per Gallon	600 – 1,000+ sq. ft. (varies by timber profile/density)	Applied Rate

5. Surface Preparation

Proper surface preparation is crucial for optimal performance. Ensure the wood surface is clean, dry, and free of dirt, debris, and previous finishes.

- **New Wood:** Light pressure washing may be necessary to remove surface oxidation or dust before application. Ensure moisture content is below 12%.
- **Previously Stained Wood:** More extensive preparation, including pressure washing, stripping, or sanding, may be required depending on the type of finishes previously applied.

6. Application Instructions

Standard Manual Field Application

- Apply a very thin, light coat of THERMAL*1 COAT—no more than will achieve complete saturation.
- Back-brush or back-roll immediately for even coverage, and wipe off any excess product that does not penetrate.
- Once a board is started, complete the entire length board-to-board.
- Applicable via lamb's wool pad, short-pile mini roller, foam applicator, or airless sprayer (back-brushing/rolling is strongly advised if sprayed).
- If not dry to light touch within 15 minutes, lightly wipe off excess.
- Apply to vertical surfaces first, followed by horizontal surfaces. Do not apply a second coat.
- Ideal application temperature is between 45°F and 95°F. Allow 1 hour of drying time before heavy rain exposure.

Automated Machine Line Setup & Factory Wet-Stacking Workflow

Note: Manual back-wiping steps are completely bypassed during automated machine line application.

- **Smudge-Dry Condition:** At 10 -15 minutes post-application via automated spray or vacuum coater, the finish exhibits a "smudge-dry" characteristic where a light touch yields no transfer, though deliberate rubbing pressure may yield slight color/oil residue

7. Clean-Up

8. Clean all application tools, spray equipment, and rollers immediately after use with mineral spirits.
9. **Rags Safety:** Allow solvent-dampened rags to air-dry flat in a well-ventilated area prior to disposal in accordance with local regulations.

8. Storage & Handling

- Store THERMAL*1 COAT in a cool, dry place away from direct sunlight, open flames, and heat sources.
- When stored properly in original sealed containers, shelf life extends for several years.
- Stir thoroughly from the bottom of the container before and during each use.

9. Health, Safety & Environmental Considerations

- **Combustible Liquid:** Contains petroleum distillates and organic solvents. Keep away from heat, sparks, open flames, or static discharge—never smoke during handling.
- **Ventilation:** Apply only in well-ventilated areas or under forced industrial out feed exhaust.
- **Disposal:** Dispose of unused contents, rags, and empty containers in strict accordance with local, state/provincial, and federal environmental regulations. Do not place solvent-soaked rags into enclosed garbage containers until completely dry and void of solvents.

10. Contact Information

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