

THERMA - LOK® | 504EZ

PRODUCT DESCRIPTION

THERMA-LOK® 504EZ is a two-component, low-density open-cell spray polyurethane foam insulation system designed for residential construction and common commercial insulation applications. It is compatible with most common construction materials and is processed only with IPS A-Side (ISO).

The benefits of **THERMA-LOK® 504EZ** include superior insulation, sound control, and a non-fibrous material that qualifies as air-impermeable insulation at 3.5 inches in standard wood, metal, and concrete construction.

PRODUCT PERFORMANCE DATA

PROPERTY	TEST METHOD	VALUE
Core Density (center, at 4" per pass)	ASTM D1622	0.5 pcf (nominal)
Water Vapor Permeance	ASTM E96	59 perms; <19.8 perms @ 6" (calculated, Class II vapor retarder)
Air Permeance @ 3.5"	ASTM E2178	Meets <0.02 L/s-m ² @ 75 Pa (<0.00393 cfm/ft ²), air impermeable insulation
Tensile Strength	ASTM D1623	5.9 psi (minimum)
Dimensional Stability	ASTM D2126	< -2.0% @ 158°F / 97% RH / 168 hrs
Flame Spread Index	ASTM E84	≤ 25
Smoke Development Index	ASTM E84	≤ 450
Open-Cell Content	ASTM D6226	>90%
Water Absorption (% Volume)	ASTM D2842	> 40%
Fungi Resistance	ASTM C1338	Pass (no growth)
Surface Burning Characteristics	ASTM E84	Class I
Noise Reduction Coefficient	ASTM C423	0.55
Critical Radiant Flux (attic insulation)	ASTM E970	0.26 kW/cm ² @ 4"; 0.25 kW/cm ² @ 6"
Bio-Based Content	ASTM D6866	3%
Attic & Crawl Space Installations	ICC-ES AC377 Appendix X	Approved for certain installations with and without prescriptive ignition barriers; assemblies and thicknesses per CCRR-0673 [VERIFY: thicknesses not in source]
Code Compliance Standard	ICC 1100	Meets

PROCESSING PARAMETERS

PARAMETER	RECOMMENDED RANGE
Dynamic Fluid Pressure	900 - 1200 psi spray pressure (proportioner set pressure 1150 - 1450 psi)
Mixing Ratio	1:1 by volume
Hose Heat	Cold conditions 125 - 135°F; warmer conditions 105 - 125°F
Preheat Temperature	"A" & "B" Components: cold conditions 125 - 135°F; warmer conditions 105 - 125°F
Recommended Mixing Chamber	02
Storage Temperature	50 - 80°F
Ambient Range	Down to 20°F on wood substrates; down to 30°F on metal or concrete (flash pass method); upper limit [VERIFY]
Ambient Temp During Spray	20°F-120°F
Moisture Content (Substrate)	<19%
Max Lift per Pass	8" maximum (1/2" minimum); allow 5 minutes of cooling per maximum pass

GENERAL PRODUCT INFO

ITEM	DESCRIPTION
Product Color	White
Packaging	55-gallon drum
Re-entry Time (worker)	2 hours
Re-occupancy	24 hours
Third-Party Testing	Intertek Testing Services NA, Inc.
Code Report	CCRR-0673

THERMAL RESISTANCE

THICKNESS (INCH)	R-VALUE
Less than 4.0	3.9 per inch
4.0 and greater	3.7 per inch

Aged R-value per ASTM C518.

PROCESSING GUIDELINES

PRECONDITIONING:

Condition drums to approximately 70 - 80°F prior to use. Heating and recirculation are not required if the material is 70°F or higher. If drum temperatures are below 70°F, use recirculation or drum heaters to bring the material to a minimum of 70°F before spraying.

MIXING:

Do not mix THERMA-LOK® 504EZ with any other products. Process only with IPS A-Side (ISO).

PRESSURE SETTINGS:

Set proportioner pressure to 1150 - 1450 psi. Spray pressure: 900 - 1200 psi.

TEMPERATURE SETTINGS:

A-side, B-side, and hose: 125 - 135°F in cold conditions; 105 - 125°F in warmer conditions. Adjust in ± 3°F increments.

RECOMMENDED APPLICATIONS

RESIDENTIAL INTERIOR APPLICATIONS:

Standard residential construction using wood and wood products, metal, and concrete, including attic and crawl space installations per CCRR-0673.

COMMERCIAL INTERIOR APPLICATIONS:

Common commercial insulation applications in standard construction configurations. Not for exterior roofing. Not for cold-storage structures such as coolers and freezers unless the structure was designed by a design professional for that use.

APPLICATION STEPS

Applied at 1/2" minimum to 8" maximum per pass. Allow 5 minutes of cooling per maximum pass before the next pass.

Substrate temperature range: down to 20°F on wood; down to 30°F on metal or concrete using a flash pass; upper limit

Once installed material has cooled, additional passes may be applied to increase total thickness. Thicker installations are permitted based on large-scale testing; refer to CCRR-0673

1. Clean surfaces per "Substrate Preparation."
2. If required, apply primer and allow it to cure fully.
3. Flush the proportioner before switching materials.
4. Spray a mock-up or test area before starting the full-scale project; test the pattern before spraying.
5. Allow each lift to cool before applying the next.
6. Regularly inspect foam appearance and adhesion.

LIQUID PROPERTIES @77°F

PROPERTY	A-SIDE (ISO)	B-SIDE (RESIN)
Specific Gravity	Refer to IPS A-Side (ISO) documentation	1.135
Viscosity	Refer to IPS A-Side (ISO) documentation	200 - 350 cps

SUBSTRATE PREPARATION

WOOD

Ensure the substrate is dry and clean.

Moisture content must be below 19% before spraying.

Remove dust, oil, or debris.

Fill gaps with suitable backer rods or fillers.

Foam may be applied to wood substrates down to 20°F. Colder conditions require cold-weather application guidelines; contact IPS Technical Services.

STEEL & OTHER METALS

Verify adhesion and suitability through field testing.

Blasting or priming may be required depending on substrate condition.

Heat-sink substrates may be sprayed down to 30°F using a flash pass to enhance adhesion.

CONCRETE

Must be clean, cured (28 days or more), and free of dust or oil.

Fill voids or cracks before application.

Heat-sink substrates may be sprayed down to 30°F using a flash pass to enhance adhesion.

PREVIOUSLY APPLIED FOAM

Remove any old or incompatible foam or coatings.

Always test adhesion before full application.

WIRING & PLUMBING

Fully compatible with CPVC piping (Paschal Engineering Study for SPFA).

Safe with standard electrical wiring (NEMA Bulletin 95).

STORAGE & SHELF LIFE

Store between 50 and 80°F.

Approximately 6-month shelf life (original, unopened containers, from date of manufacture).

Do not break the product seal during storage.

Store in a covered, secure location and never in direct sunlight. Storage above the recommended range shortens shelf life and may raise headspace pressure within packages.

HEALTH & SAFETY HANDLING

When spraying or handling THERMA-LOK® 504EZ Resin and IPS A-Side (ISO), the following protective measures and equipment are recommended: [VERIFY: resin SDS not available to confirm PPE and spill language]

Protective Equipment

- Wear a fabric coverall
- Use nitrile gloves
- Use protective eyewear
- Wear a supplied full-face fresh air respirator while spraying
- Always use appropriate respiratory, skin, and eye personal protective equipment (see SDS)

Exposure Precautions

- Avoid all contact with skin and eyes
- Do not ingest
- Do not inhale vapors
- In the event of exposure, refer to the Safety Data Sheet (SDS) for first-aid procedures

Spill Response

In the event of a spill, contain and collect the material using a non-combustible absorbent such as sand, earth, or clay-based oil absorbent (e.g., kitty litter). Capture all cleaning solvents and other materials for proper disposal; do not leave them at the job site.

Disclaimer

The technical information provided herein is intended as general guidance only. Always consult the product label and Safety Data Sheet (SDS) before using this product.

HANDLING & SAFETY

- Use local exhaust ventilation during spraying.
- Always wear appropriate respiratory, skin, and eye protection when handling and processing polyurethane chemical systems.
- Avoid contact with eyes and skin; avoid inhaling mist or vapor.
- Dispose of materials per local regulations.
- For full details, consult the Safety Data Sheet (SDS).
- In emergencies, call CHEMTREC: 1-800-424-9300

THERMAL BARRIERS

Foam plastic installed in walls or ceilings may present a fire hazard unless protected by an approved, fire-resistant thermal barrier with a finish rating of not less than 15 minutes, as required by building codes. Rim joist and header areas may not require additional protection under the IRC and IBC. In attics and crawl spaces, foam plastic must be protected against ignition by code-prescribed or properly tested materials. Thickness is not limited when installed behind a code-prescribed thermal barrier (per ICC-ES AC308). For details on approved heat and fire protection barriers, refer to Code Compliance Research Report CCRR-0673.

ADHESION

Substrates must be clean, dry, and free of grease, oil, dirt, and surface moisture. The moisture content of porous materials must be below 19% prior to foam application. Contact IPS Technical Services for guidance on material compatibility, surface preparation techniques, and adhesion to common construction substrates. Spray a mock-up or test area before starting the full-scale project to see how all materials install and to evaluate their properties.

It is the responsibility of the builder or designer to determine the suitability of this material for each specific project. The installer must verify product compatibility at the time of application, as variations in weather, materials, and site conditions can affect product performance.

PRECAUTIONS

Like many building materials, spray polyurethane foam is combustible. High-intensity heat sources such as welding or cutting torches must not be used in contact with or near the foam. Do not use in areas with a maximum service temperature above 180°F (82°C). After installation, the foam must be covered with an approved thermal barrier in accordance with local building code requirements.

Improper application, including excessive pass thickness, off-ratio material, and spraying into or under rising foam, can produce dangerously high reaction temperatures that may result in fire and in odors that may not dissipate. Improperly installed foam, including A-only, B-only, off-ratio, or excessively thick material, must be removed and replaced with properly processed foam. Remove large masses to a safe outdoor area, cut them into smaller pieces, and allow them to cool before disposal.

MAINTENANCE

Regular equipment cleaning ensures consistent performance. Follow the equipment manufacturer's guidelines for long-term maintenance and storage. Report any product or equipment issues to IPS Technical Support.

TECHNICAL SUPPORT

For application questions, troubleshooting, or training:

IPS Technical Support: 812.776.6727

Website: SPRAYIPS.COM

