TIMBERHP
INSULATE BETTER. LIVE BETTER.™

TimberBatt® Installation Guide

General guidelines for TimberBatt wall, ceiling, attic and floor installations

Additional instruction and guidance can be found in our technical videos on our website: www.timberhp.com/install

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TimberHP® has received confirmation from ICC Evaluation Service, LLC (ICC-ES), that its TimberBatt® complies with the provisions of the 2021, 2018 and 2015 International Building Code® (IBC) and the 2021, 2018, and 2015 International Residential Code® (IRC).

This confirmation, as evidence in ICC-ES evaluation report ESR-5388, provides guidance to code officials faced with approving the use of TimberBatt® under these codes. The evaluation report is available online at www.icc-es.org.

ICC ES ESR - 5388

INTRODUCING:

TIMBERBATT

High Performance Cavity Insulation

BY TIMBERHP

TimberBatt is a flexible, press-fit batt insulation composed of refined softwood fiber treated with borate. Borate is a flame retardant that also inhibits mold growth and mildew. TimberBatt offers R-3.7 to R-4 per inch with a density and composition that reduces air infiltration for vapor-open assemblies with industry-leading sound dampening.

TimberBatt is an ideal thermal and acoustic insulation for wall, floor, and roof assemblies.

Key Attributes

- R-3.7 to R-4 per inch, Vapor Open
- Press-fit, easy handling, cutting, and install
- No itchy fibers
- Resists temperature fluctuations in conditioned spaces due to high density, low thermal conductivity, and high heat capacity—insulation for all seasons
- ASTM E84 Class A Flame and Smoke Spread
- Carbon storing, renewable/sustainable
- Reduces airflow and reduces cavity windwashing
- Industry-leading acoustic performance
- Liquid applied borate inhibits mold / mildew (ASTM C1338)

TECHNICAL DATA	
Description	Press Fit Batt Insulation for wood frame and steel stud cavities
Full Declaration	Wood fibers, polyamide fibers, boric acid
R-Value	R – 4.0 per inch (3" – 5.5") R – 3.7 per inch (7.25")
Vapor Permeability	46 perm @ 1 inch
Fire Protection	ASTM E84 Class A Flame / Smoke

DIMENSIONS	
Batt Thickness	3” ; 3.5” ; 5.5” ; 6” ; 7.25”
Batt Width	15” and 23” (wood stud); 16” and 24” (steel stud)
Batt Length	47” (wood stud), 48” (steel stud)

EASE OF CUTTING, DETAILING , AND INSTALLING

Fire Resistant

TimberBatt insulation achieves ASTM E84 Class A flame and smoke spread ratings

Fire Ratings

1 and 2 Hour fire rated wall assemblies are available from ICC-ES Listing Report (ESL 1595). Click or scan the QR Code to learn more ▶

Cutting Tools

Please visit www.timberhp.com/products/timberbatt for more information and product sourcing

TimberBatt Custom Knife

Linzen Insulation Knife

Bahco Insulation Saw

Product Offering & Coverage

Wood Stud

ACOUSTIC	*batt size*	*pieces / pack*	*coverage*
2x4 stud, 16" o.c.	3" x 15" x 47"	8 PCS/PAC	39.2 sq.ft.
2x4 stud, 24" o.c.	3" x 23" x 47"	8 PCS/PAC	60 sq.ft.
R-14			
2x4 stud, 16" o.c.	3.5" x 15" x 47"	7 PCS/PAC	34.3 sq.ft.
2x4 stud, 24" o.c.	3.5" x 23" x 47"	7 PCS/PAC	52.5 sq.ft.
R-22			
2x6 stud, 16" o.c.	5.5" x 15" x 47"	4 PCS/PAC	19.6 sq.ft.
2x6 stud, 24" o.c.	5.5" x 23" x 47"	4 PCS/PAC	30 sq.ft.
R-27			
2x8 stud, 16" o.c.	7.25" x 15" x 47"	3 PCS/PAC	14.7 sq.ft.
2x8 stud, 24" o.c.	7.25" x 23" x 47"	3 PCS/PAC	22.5 sq.ft.

Steel Stud

ACOUSTIC	*batt size*	*pieces / pack*	*coverage*
3 5/8" stud	3" x 16" x 48"	8 PCS/PAC	42.7 sq.ft.
3 5/8" stud	3" x 24" x 48"	8 PCS/PAC	64 sq.ft.
3 5/8" stud	3.5" x 16" x 48"	7 PCS/PAC	37.3 sq.ft.
3 5/8" stud	3.5" x 24" x 48"	7 PCS/PAC	56 sq.ft.
6" stud	6" x 16" x 48"	4 PCS/PAC	21.3 sq.ft.
6" stud	6" x 24" x 48"	4 PCS/PAC	32 sq.ft.

Acoustic Testing Data

Material Details: TimberBatt | Thickness 5 - 1/2" | NRC 1.15 | RAL # A22-007

The NRC (Noise Reduction Coefficient) represents the percent of sound directed at the surface that is absorbed by the wood fiber insulation. Anything over .80 is very effective.

ASSEMBLY	STC	OITC	RAL #
3-5/8" Metal Studs 16" o.c. TimberBatt acoustic, RCSD on Source Side, Single Layer Of 5/8" Type X Gypsum Board on Both Sides	53	34	TL23-007
3-5/8" Metal Studs 16" o.c. TimberBatt acoustic, Single Layer of 5/8" Type X Gypsum Board on Both Sides	46	30	TL23-008
3-5/8" Metal Studs 24" o.c. TimberBatt acoustic, RCSD on Source Side, Single Layer Of 5/8" Type X Gypsum Board on Both Sides	53	32	TL23-009
3-5/8" Metal Studs 24" o.c. TimberBatt acoustic, Single Layer Of 5/8" Type X Gypsum Board on Both Sides	49	30	TL23-010
2x4 Wood Studs Studs 16" o.c. TimberBatt, RCSD on Source Side, Single Layer Of 5/8" Type X Gypsum Board on Both Sides	50	31	TL23-012
2x6 Wood Studs Studs 16" o.c. TimberBatt, RCSD on Source Side, Single Layer Of 5/8" Type X Gypsum Board on Both Sides	55	37	TL23-015

How To Use This Guide

The effectiveness of the thermal, acoustic and fire performance of this product is dependent on proper installation. Recommendations in this guide serve as best practices for TimberBatt installation in many common applications. It is intended to assist veteran installers new to wood fiber batt insulation, as well as those who may be unfamiliar with installation best practices. Exact requirements for each job will vary. Use professional judgment to address specific design and installation needs to achieve the desired performance.

1. Introduction & Storage

TimberBatt is a lightweight, wood fiber-based insulation product composed of refined softwood chips blended with a liquid borate flame retardant and wood preservative, which is locked into the fiber during a flash drying process. A small amount of polyester binder is baked into the treated fiber, resulting in a dense yet flexible batt that is easy to handle and press fit into stud cavities.

Designed for friction fit in standard cavities, TimberBatt comes in lengths of 47 inches for wood framing and 48 inches for steel framing, ensuring enough stiffness and rigidity to remain in place without slumping or sagging throughout its lifetime. Additionally, TimberBatt carries ASTM E-84 Class A fire and smoke development performance, making it a reliable choice. Consult your local building code for guidance on assembly design and vapor control layer requirements when using any cavity insulation type.

Batts arrive at the jobsite wrapped in packs sized for easy handling. Though pallets are hood wrapped for transportation, TimberBatt should be stored under cover on a flat surface, protected from precipitation.

Accompanying videos to this guide can be found at www.timberhp.com/install

2. Health & Safety

The Safety Data Sheet can be found on our website.

When installing any insulation product, it is recommended to use personal protective equipment (PPE) for your health and safety. When handling TimberBatt, long sleeves are optional due to the absence of abrasive fibers, but cut-resistant gloves are recommended when handling sharp tools. While skin contact with TimberBatt is not a concern unless you have a sensitivity to softwood fiber, individuals with such sensitivities should consider wearing long sleeves, pants, and gloves to minimize contact. Safety glasses are recommended to protect against residual airborne dust, especially during overhead installation. A hard hat may be appropriate in certain situations such as working in attic spaces with exposed nails.

As part of the manufacturing process, smaller wood fiber fines may be present, so using a nuisance dust respirator (such as a NIOSH N95) is recommended. There are no re-entry requirements for TimberBatt; re-entry can occur immediately after installation. For more detailed safety information, refer to the Safety Data Sheet.

3. Fire Safety

Fire Ratings: 1 and 2 Hour fire rated wall assemblies are available from ICC-ES Listing Report (ESL 1595).

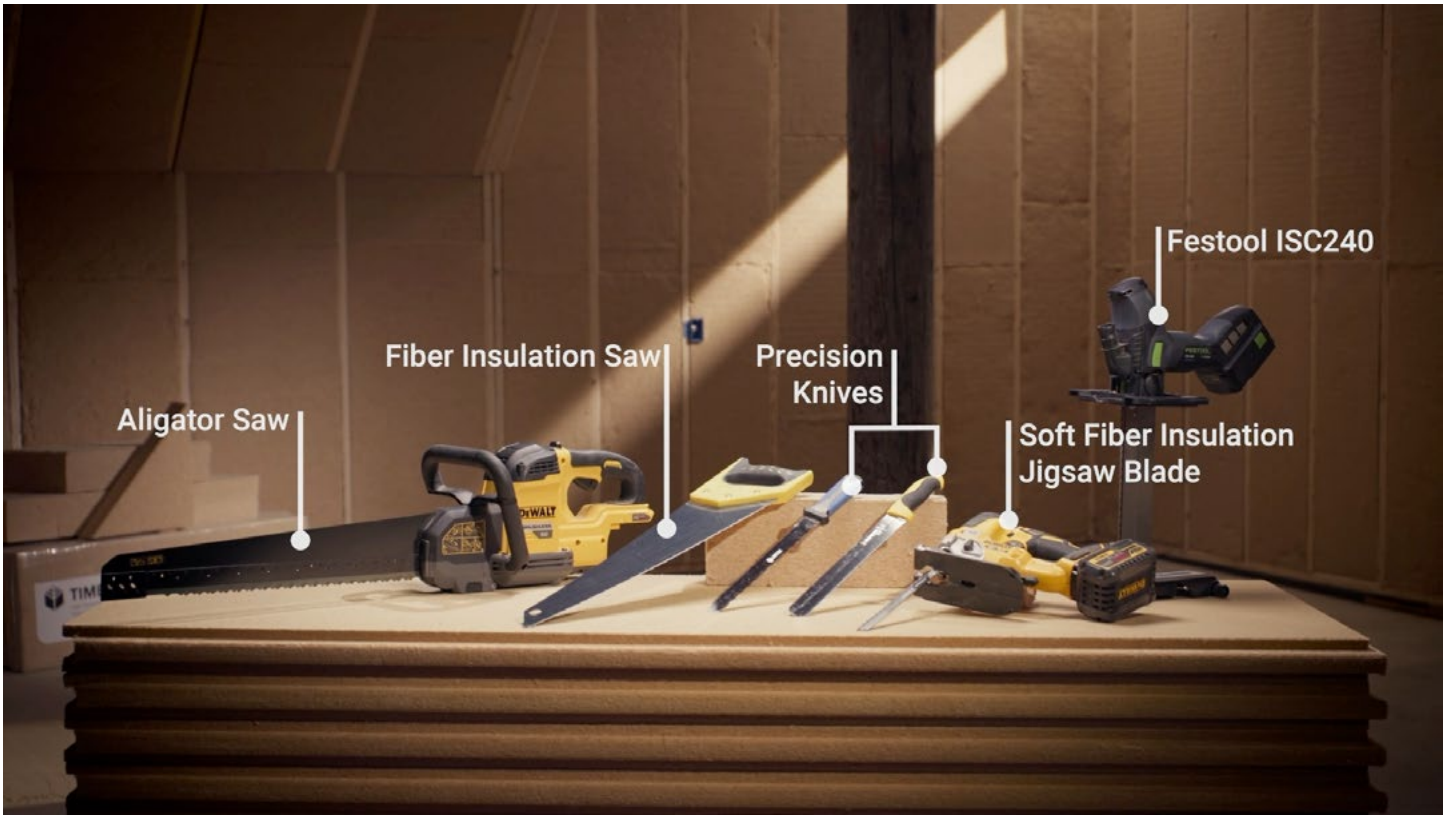
The incorporation of borates into TimberBatt insulation significantly enhances its fire safety, providing ASTM E-84 Class A fire and smoke development performance. This classification indicates minimal flame spread and smoke generation, allowing TimberBatt to be left exposed in certain situations without flammability concerns, simplifying installation in unfinished areas.

However, adherence to fire safety regulations and local building codes is critical. Clearances around heat-producing appliances, such as furnaces and flues, must comply with National Fire Protection Association (NFPA) requirements or local codes to prevent heat buildup and potential fire hazards.

Insulation should not be placed in air spaces surrounding chimneys, flues, or fireplaces, as these areas require ventilation to avoid overheating or non-combustable insulation. Additionally, avoid covering light fixtures that penetrate ceilings into attic spaces unless they are rated for insulation contact (IC-rated). If not IC-rated, maintain a minimum 3-inch air space around them to ensure proper heat dissipation and reduce fire risk.

4. Cutting Tools & Additional Materials

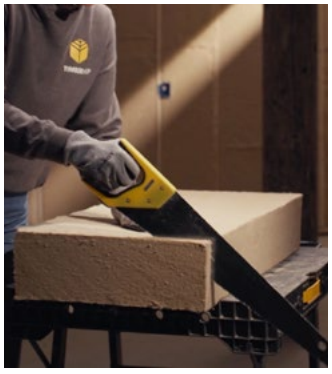
Wear cut-resistant gloves when using knives and manual blades to size and detail insulation. Cutting can be done on the floor, but the use of a work bench may increase efficiency and reduce strain on the installer. For increased production speed and accuracy, motorized cutting tools can be used, but TimberBatt can be cut to size using a variety of tools.



Sharp insulation knives, saws, or serrated blades slice through wood fiber leaving little dust or tear out.

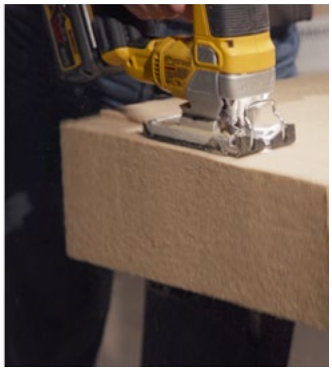
Linzen Insulation Knife

TimberBatt Custom Knife



Bahco Insulation Saw

Wood fiber insulation's decades long history in Europe has resulted in a wide array of equipment designed for optimizing installation, especially on larger projects requiring repetitive cuts.



Cutting tables deliver a high level of precision to compound or miter cuts.

TimberBatt is sized for both wood and steel framing to be friction fit. In overhead applications, insulation support may be needed. Additionally, materials for jobsite safety and efficiency may include work lights, plywood or boards to support in an attic application where there is framing but not flooring.

In preparing the jobsite, a broom to clear cavities of construction debris is helpful.

Air sealing if it has not been done, should be performed before installation of TimberBatt or any other fibrous insulation, use the appropriate foams, caulk, or tapes to achieve this. In attic spaces, ensure proper ventilation is achieved with baffles that allow insulation to cover the top plates at the soffits but still facilitate proper airflow up the slope of the roof underside.

Please visit www.timberhp.com/products/timberbatt for more information on cutting tools and product sourcing

5. Open Cavity Install

5.1 Walls

TimberBatt is sized to accommodate both wood and steel-framed walls at 16” or 24” on center, designed for some compression in all directions to allow for a friction fit without additional supports. Follow these steps for installation:

- **Preparation:** Ensure stud bays are free and clear of any construction debris.
- **Measuring & Cutting:** Verify the width of the stud bay and, if necessary, cut the TimberBatt using a serrated insulation saw.
- **Installation:** Support the batt on both sides and insert the bottom edge between the two studs, working upwards to press it into place. Begin pressing in one edge of the TimberBatt, then press the alternate side into position to ensure a snug fit.
- **Inspection:** Inspect for any gaps in the insulation, particularly those with direct paths to the sheathing, and fill as needed. Ensure the batt fits snugly into the bay and make any necessary corrections to prevent air gaps.

5.2 Overhead Ceilings

When installing TimberBatt on a sloped or overhead cavity, a good snug fit is important. Verify the spacing of joists or rafters and trim the Batt if necessary. Start by inserting one edge of the batt and then push the other side of the Batt into the cavity. TimberBatt is self-supporting in well framed 16” and 24” assemblies. However, you can also use insulation supports to secure the batts until the strapping or finished ceiling is installed.

Protective eyewear is recommended when working overhead ▶

5.3 Floors

When fitting TimberBatt between joists, it's crucial to achieve a snug fit, particularly around any obstacles. This improves its acoustic properties and prevents thermal bridging by minimizing air leakage, which can significantly impact thermal effectiveness.

- **Preparation:** Before installation, ensure the joist cavities are clean and free of debris.
- **Measuring & Cutting:** Measure the distance between the joists accurately. TimberBatt is designed to fit snugly, so if the joist spacing is slightly less than the batt width, use a serrated insulation saw to trim the edges of the batt for a precise fit.
- **Fitting:** When encountering obstacles, carefully cut the batt around these areas to maintain a snug installation.
- **Additional Supports:** Depending on the application, consider adding insulation supports to hold the TimberBatt in place, especially in areas where gravity could cause sagging over time. These supports can be installed as needed to ensure the insulation remains secure throughout its lifespan.
- **Inspection:** After installation, inspect the area for any remaining gaps, particularly where the insulation meets the joists or around obstacles. Use additional insulation to fill these gaps, ensuring complete and snug coverage.

6. Attics & Cathedral Ceilings

6.1 Open Attics

Once air sealing and attic ventilation have been installed and secured, follow these guidelines for installing TimberBatt insulation effectively:

- **Existing Insulation Check:** If adding TimberBatt to an existing installation, first verify that the air sealing and fit of the current insulation are adequate. Address any gaps or compression points in the existing material to ensure optimal performance before introducing new insulation.
- **Installation Between Joists:** Position TimberBatt between the joists, ensuring the proper thickness is used to fill the cavity completely. The top of the batt should be flush with the joist level, allowing for a seamless insulation layer that enhances thermal performance.
- **Adding Additional Layers:** For achieving the desired total R-value, additional layers of TimberBatt can be installed. Lay the second row of batt perpendicular to the joists, making sure each batt is tightly butted against its neighbor. This technique not only improves thermal resistance but also minimizes the potential for thermal bridging.
- **Insulating Attic Access:** Don't overlook the attic access point; it should be insulated to match the same levels as the rest of the attic space. Ensure that this area is also properly air sealed or gasketed to prevent energy loss and maintain the efficiency of the insulation system.

6.2 Cathedral & Sloped Ceilings

Depending on climate zone and local building code, cathedral or sloped ceilings can be effectively insulated with TimberBatt. In most areas, rafters should be deep enough to accommodate the necessary insulation depth.

- **Roof Ventilation:** Proper roof ventilation is crucial and should be installed as needed. Most climate zones benefit from venting this cavity with a 2" air space, as recommended by typical building codes. This ventilation helps prevent moisture buildup and maintains the performance of the insulation.
- **Installation Depth:** Install TimberBatt to the appropriate depth within the cavity, ensuring a good friction fit. This snug fit should hold the insulation in place until the finished surfaces are installed. If the fit is not secure, additional supports may be required to maintain the integrity of the installation.
- **Vapor Retarders:** Depending on the climate zone and specific application, interior vapor retarders may be necessary. These can help support the insulation until the interior finish layers are applied. Consult the Builders Guide for comprehensive assembly and vapor control best practices to ensure compliance with local building codes and optimal performance.

Recommendations for control layers, including vapor retarders, can be found in our Builders Guide on our Website

7. Detailing around Obstacles

7.1 Electrical Wire Installation

To install TimberBatt in cavities containing electrical wires, follow these methods to ensure proper fitting and insulation performance:

- **Measure Height**: Measure the height of the wire from the bottom plate and transfer this measurement to the TimberBatt.
- **Cut to Depth:** Slice the batt at the measurement to create a depth that accommodates the wire.
- **Install Lower Portion:** Press fit the bottom of the TimberBatt in place, bending the batt towards yourself to open the cut area.
- **Install Upper Portion:** press in the upper portion of the batt, ensuring that the wire is within the batt and that the batt has contact with the back of the cavity.

An alternate method for installing around wires is to simply pull the batt apart down the middle to the necessary length to capture the wires. Slide the back portion of the batt in behind the wires, and then press fit the front so the wires are comfortably nested within the insulation.

7.2 Electrical Box Installation

When installing TimberBatt around an electrical box, it's important to take precise measurements and follow these steps to ensure a tight fit and enhance thermal performance:

- **Measure Dimensions:** Measure the height, depth, and width of the electrical box from the bottom plate.
- **Transfer Measurements:** Transfer the measurements to the TimberBatt, cutting the batt to be slightly smaller (approximately ¼ inch) than the dimensions of the electrical box. This adjustment helps create a tighter fit around the box, addressing a potential thermal weak point in the wall assembly.
- **Cut with Precision:** Use a serrated knife with a pointed tip to make precise plunge cuts in the TimberBatt, ensuring that the depth matches the requirement for the installation.
- **Installation:** Begin by pressing the batt in behind the electrical box, and then press the alternate side of the TimberBatt against the stud to ensure a snug installation.
- **Inspect for Air Gaps:** After installation, inspect the area for any air gaps in the insulation, particularly those with direct paths to the sheathing. Fill any gaps as needed with scrap pieces of TimberBatt to enhance insulation effectiveness and prevent air leakage.








7.3 Installation around Plumbing in Exterior Walls

It is generally not recommended to install plumbing in exterior walls due to the risk of heat loss and potential freezing in colder climates. However, if it is necessary, follow proper insulation practices:

- **Cut Bottom Piece:** Measure from the bottom plate to the underside of the pipe and cut a piece of TimberBatt to fit snugly just beneath the bottom side of the pipe.
- **Fill the Gap Between Pipe and Exterior Sheathing:** Measure and cut a second, smaller piece of TimberBatt to fit snugly between the pipe and the exterior sheathing. This step is essential to eliminate any gaps that could allow cold air infiltration.
- **Insulate Above the Pipe:** Install another piece of TimberBatt above the pipe to provide complete insulation coverage. Ensure all pieces fit tightly together to maintain thermal efficiency.
- **Expose Pipe to Interior:** Leave the pipe exposed to the conditioned interior side of the assembly. This exposure is crucial for keeping the pipes warm and preventing freezing during colder months.

7.4 Installation around Plumbing in Interior Walls

When installing TimberBatt around plumbing in an interior wall, floor, or ceiling for acoustic purposes, follow these steps:

- **Measure Pipe Location:** Begin by accurately measuring the location of the pipe within the cavity.
- **Score the Batt for Larger Pipes:** For larger pipes, such as PVC, score halfway through the TimberBatt both above and below the pipe's location. This technique helps create a tailored fit around the pipe without compromising the integrity of the batt.
- **Remove Excess Insulation:** Remove enough insulation to accommodate the diameter of the pipe. Ensure that the cut-out area allows the batt to fit snugly around the pipe, minimizing any gaps that could compromise acoustic performance.
- **Fit the Batt in the Cavity:** From the space you want to acoustically separate, carefully fit the batt within the cavity. Ensure that the insulation surrounds the pipes completely to maximize sound absorption and prevent sound transmission.
- **Inspect and Adjust:** After installation, inspect the area to confirm there are no gaps. Fill any gaps to maximize acoustic performance.

8. Final Inspection

Carefully inspect all areas for gaps and fill with scrap material as necessary. If any areas are over-compressed, use a trowel to bring the TimberBatt back to full thickness.

Introducing TimberBatt ® by TimberHP ®

TimberBatt and the full suite of wood fiber insulation products offered by TimberHP provide new solutions to the North American market for addressing the growing demand to insulate better.

Wood Fiber Insulation, Made in America.

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