

Nail Base — Retrofit Insulation



PRODUCT DESCRIPTION

ThermalStar Nail Base is nail-able rigid insulation with an exterior grade, span rated sheathing laminated to one side. Standard thicknesses range from 1" to 11-3/4".

Standard features include:

- Easy to install 4'x8' sheets
- Termiticide for long term protection
- Available ship-lap edges
- Warranted R-value
- Easily field fabricated with standard carpentry tools

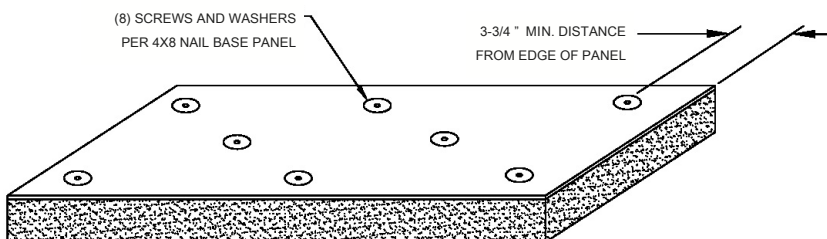
FASTENING

ThermalStar Nail Base are typically fastened using #10 panel screws. A typical fastening pattern is shown on the diagram below.

Fastener Data courtesy of TruFast LLC

	SIP TP	SIP LD	SIP HD
Tensile strength	3380 lbf.	3380 lbf.	6000 lbf.
Shear strength	2900 lbf.	2900lbf.	3400 lbf.
Head Pull- Through in 7/16" OSB	545 lbf.	545 lbf.	545 lbf.
Withdrawal values in Wood, .046 specific gravity, per inch of penetration	981 lbf.	981 lbf.	NA
Withdrawal values in 22 gauge steel	NA	510 lbf.	NA
Withdrawal values in 3/16 structural steel	NA	NA	3100 lbf.
Lateral load resistance in 22 gauge corrugated steel	NA	411 lbf.	NA
Lateral load resistance in 7/16" OSB	NA	112 lbf.	NA

All loads listed are average ultimate



4' X 8' NAIL BASE PANEL

TYPICAL USES

ThermalStar Nail Base has been designed for commercial or residential roofing and siding applications. Nail base is used in both new construction and for retrofit projects.

R-VALUES BY THICKNESS

Thickness	R-Value at 40° F
2"	7.3
4"	15.7
6"	24.0
7-3/4"	31.3
9-3/4"	39.6
11-3/4"	48.0

THERMAL RESISTANCE

R-4.2 per inch

R means resistance to heat flow.

The higher the R-value, the greater the insulating power.

INSTALLATION AND HANDLING

ThermalStar Nail Base can be handled much the same as wood sheathing. Two installers can easily move Nail Base panels by hand. Specific installation details for wall and roof applications can be accessed from www.atlaseps.com

WARRANTY

ThermalStar Nail Base is backed by a limited 20 year warranty for physical and thermal performance.

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Atlas EPS, a Div of Atlas Roofing
8240 Byron Center Ave SW Byron Center, MI 49315
(800) 917-9138 www.atlaseps.com



CUSTOM THICKNESSES

For a variety of reasons, special thickness panels may be required. This is important on projects where fastener penetration is limited in the building structure. Most fasteners are made in 1/2" increments. By customizing the insulation thickness, the amount of fastener penetration can be controlled.

STANDARD SIZES

Typically, ThermalStar Nail Base is supplied as 4'x8' panels with the rigid insulating core thickness being the same as nominal lumber sizes. Nominal core thicknesses of 1-1/2", 3-1/2", 5-1/2", 7-1/4", 9-1/4", and 11-1/4" are standard. The edges of the panels are supplied square cut. Nail Base is available up to 4'x24' as an option.

THERMAL BARRIERS

The rigid insulating core has been tested and approved according to code requirements. It must, however, depending on local codes, be separated from habitable space by an approved 15 minute thermal barrier. See IBC 2603 for more details.

BASIC SPECIFICATION

The top facer shall be 7/16" thick Exposure 1 rated oriented strand board (OSB) or equivalent.

The rigid insulating core shall be EPS meeting ASTM C578 Type I or as an option ASTM C578 Type XI.

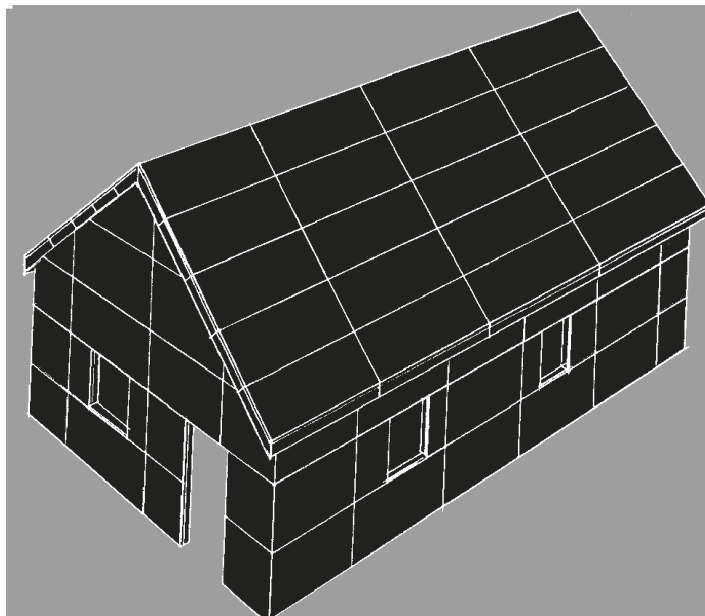
The EPS core and the shall be bonded with an exterior-rated and code listed laminating adhesive.

Attachment will be with a minimum of 8 #10 panel screws with 2" minimum washer plates per 4x8 panel. Screws shall penetrate a minimum of 1" into the sub-structure. Extra fastening may be required in area with high loads. Consult a professional engineer for more details.

A thermal barrier roof deck, as required by local building codes, shall be in place prior to application of ThermalStar Nail Base panels.

Standard thicknesses of ThermalStar Nail Base panels include: 2", 4", 6", 7-3/4", 9-3/4", or 11-3/4".

The roof decking and the ThermalStar Nail Base panels are to be dry prior to and during installation. Installed panels are also to remain dry prior to and during application of finish roofing materials.



ThermalStar Nail Base installed over an entire building.

APPLICATION

Nail Base normally requires continuous edge blocking around the perimeter of a roof assembly. Standard dimensional lumber is used for edge blocking. The rigid insulating core is field recessed to fit the lumber.

In cold climate regions, a vapor retarder must be installed between the rigid insulating core and the existing building exterior. Consult a building engineer with any questions.

Attachment of Nail Base is with long, large-head screws through the panel to the roof or wall structure. As little as eight fasteners are sufficient to hold the panels in normal applications. For high wind, high snow loads, or very steep pitches, contact a structural engineer for advice on fastening. Nail Base should be staggered in a brick like overlapping pattern for best results.

Nail Base is not a finished exterior surface and must be covered by an exterior cladding. The appropriate roofing underlayment such as building felt, and a wall drainage plain such as house wrap are required. Nail Base can be used on walls as roofs, particularly to re-insulate older existing buildings.

CODE COMPLIANCE

ThermalStar Nail Base insulation complies with the model building codes when properly installed:

- Surface Burning – UL BRYX.R16529
- Cal Std Reg #CA472
- International Energy Conservation Code
- ASTM C578 – see product marking for Type
- Physical Properties – UL QORW.R16529
- International Residential Code (IRC) – ICC-ES ESR-1962
- International Building Code (IBC) – ICC-ES ESR-1962
- CAN/ULC S102.2, S701 – ULC BOZCC.R16529