

INSTALLATION INSTRUCTIONS FOR ThermaCal and ThermaCal X Nail Base Roof Insulation

1. PRODUCT

ThermaCal is a non-vented nailable roof insulation consisting of a nailable top surface (O.S.B. or plywood) with a foam board bonded to the sheathing. Panels are a nominal 4' x 8' (actual coverage 47-1/4" x 95-1/2"). Edges of sheathing are rabbetted or cut back to allow for expansion. Foam edges may be tongue and groove if specified. For more information on the product and its uses and limitations, please see company literature. CHECK LOCAL BUILDING CODES.

2. STORAGE

ThermaCal is shipped covered with a plastic bag which is intended to temporarily protect the material while in transit only. On the jobsite the piles should be covered with a breathable waterproof tarpaulin. The plastic bag should be removed if moisture accumulates inside it.

3. INSTALLATION

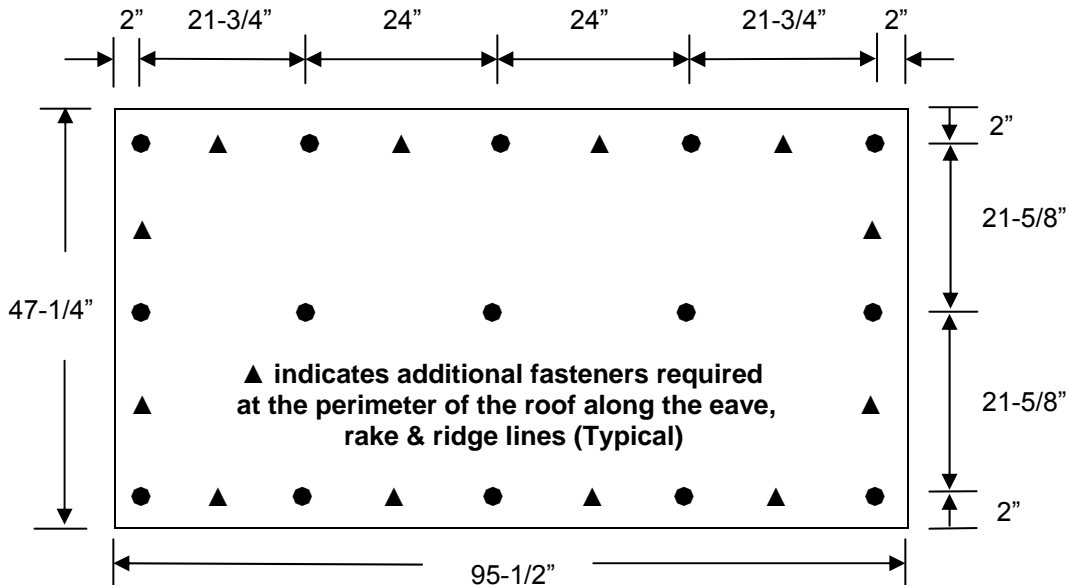
- a. If specified, install a vapor retarder on the supporting roof deck. We recommend one over high humidity areas such as swimming pools. In this case particular care should be taken to seal all openings in the deck around light fixtures, skylights, end walls and at the ridge, etc. On any building where conduit is installed above the structural deck, a separate layer of 1-1/2" foam insulation board is recommended.
- b. Fire safety precautions should be observed when ThermaCal roof insulation is installed. Protect foam from flame cutting and welding operations, etc. Around chimneys provide suitable fire protection.
- c. Install wood nailers at the eave and rake edge of the roof. Check the supporting roof deck is smooth and even without bumps or depressions.
- d. Lay panels with the wood side up and the long side parallel to the ridge. If foam edges are tongue and grooved, then the tongue should face up the slope. If you need a smaller panel it is usually best to cut off the side or end with the tongue on it. Panels have rabbetted edges to maintain the proper clearance between the sheathing. Field cut panels should be kerf cut to maintain a 1/8" minimum gap between the sheathing on adjacent panels. Stagger end joints in succeeding panel rows.
- e. Nail or screw right through the panel into the supporting deck, use insulation fasteners as shown over page. Do not over-torque the screws and compress the insulation too much.
- f. Check the insulation top surface for uneven edges BEFORE covering. Grind off any uneven edges with an electric sander/grinder.
- g. Roofing should be applied over dry insulation as soon as possible. If shingles are used we recommend barbed or ring shank shingle nails and premium or laminated shingles.

4. FASTENERS

- Number** - use screws per 4' x 8' panel. There are lines on the sheathing at 24" and 48" from the panel ends which will assist in locating the fasteners. Ignore the lines at 16" and 32". Use additional screws at the eave and ridge as shown below.
- Wood Deck** - Use roof insulation screws **without washers** at least 1-1/4" longer than the insulation thickness. If the wood deck is only 1-1/2" actual thickness use screws with a minimum of 1" penetration and install four extra screws on the horizontal center line of each panel. On structural decks comprised of plywood or O.S.B only., use screws that protrude through the deck by at least 1/4". If exposed screw tips are not acceptable, contact Cornell Corporation for suggestions.
- Steel Deck** - Use self-drilling self-tapping roof insulation screws **without washers**. They should penetrate the steel deck a minimum of 3/4".
- Concrete Deck** - Use Tapcon screws or equal. Advance testing of the pull out resistance is recommended.

5. FASTENER PATTERN:

- Use 15 screws per panel (5 across- parallel to the ridge & 3 up the slope) as the standard fastening pattern. Add additional fasteners as shown below.



- When installing heavy material such as natural slate or tile on a pitch greater than 4/12, install 4 additional fasteners on each panel along the center of the panel (aligned along the 8' length) parallel with the ridge line.