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# Firestall® Roof Deck

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## Roofing Applications

### Description

Firestall® Roof Deck is a nailable UL Class A fire-rated structural roof deck. It is made of one to three plies of Homasote 440 structural board and a face ply of N.C.F.R.® Homasote.



### Uses

Firestall Roof Deck is designed for use as a structural load bearing deck in residential and commercial buildings that require a Class A (25 flame spread) rated deck. It can be applied over steel or wood framing or a structural steel deck and provides a nailbase surface to attach additional insulation, shingles and other finished roofing.

Firestall Roof Deck complies with 1993 BOCA National Building Code Section 2310.2, Fire-retardant-Treated Wood.

UL Design Numbers P518, P535, P536 and P541  
Extended ASTM E-84 Fire Test Method, Factory Mutual Research Report J.I. 1R9Q9.AC. 30 minute extended test.

#### SIZES, WEIGHTS & THERMAL RESISTANCE

Thickness (nominal)	Size	Weight (lbs./sq. ft.)	R-Value
1.0"	2' x 8'	2.62	2.05
1 3/8"	23 x 1/8" x 95 7/8" actual	3.48	2.5
1 7/8"		4.63	3.1

2' Edge Square and 8' Edge T&G

#### FIRE RESISTANCE RATINGS

Method of Test	Class	Flame Spread	Smoke Developed
ASTM-E84	A	20	5

Firestall Roof Deck is UL listed under file R-5268.

#### LOAD TABLE

Panel Thickness	Maximum Rafter Spacing live loads: O.C. (PSF)
1"	24" (50 PSF)
1 3/8"	32" (50 PSF)
1 7/8"	48" (40 PSF)

- Load Table calculations are based on two or more continuous spans.
- 10 PSF dead load assumed.

### Typical Physical Properties

	440	N.C.F.R.
	Surface	Surface
Density, lbs./ft. ....	26-28	34-40
Tensile Strength, PSI .....	450-700	400-700
Hardness, lb. (Janka Ball).....	230	275
Water Absorption by vol. (Max.)		
(2hrs. immers.) .....	5%	5%
(24 hrs. immers.) .....	15%	14%
Expansion from 50%-90%		
Rel. Hum. (Max.).....	0.25%	0.30%
Flame Spread (N.C.F.R. surface) .....	Class I (or A)	

### Architectural Specification

#### (Short Form)

All structural Roof Panels shall be \_\_\_\_\_ thick Firestall Roof Deck as manufactured by the Homasote Company, West Trenton, NJ, made of a composition of Homasote structural board and a face ply of UL Class A N.C.F.R. Homasote. All panels shall be installed in accordance with current Homasote Company Instructions.

# Installation Instructions

## General Requirements

**Packaging, Storage and Protection:** Firestall Roof Deck comes to the job site covered in weather-resistant, plastic encapsulated units and then must be stored at job site above ground on wooden pallets and covered by tarpaulins. The weather-resistant, plastic packaging material is not intended for exterior job site protection.

Install in a dry condition only. Follow immediately with application of roofing felt and finished roofing. **Panel ends must have a minimum 3/4" bearing at all times.**

Panels must have 1/8" expansion and contraction space (running the full thickness of the panel) between all square end joints and 3/4" space at all abutting shear and fire walls and gable ends.

Please contact Technical Support at 800-257-9491 Ext. 1332 for running expansion joint configurations required in roofing systems 150 feet and longer.

The N.C.F.R. face ply with V groove must face down towards the interior of the structure.

**Firestall Roof Deck panels are not recommended for use over swimming pools or similar areas. No moisture from any source should be sealed into a roof system. Roofing felts, insulation or vapor retarders that become wet or water-laden during construction should be removed and replaced before the application of finished roofing materials.**

**Do not use aluminum nails to install Firestall Roof Deck or to apply finished roofing. Do not attach aluminum flashing directly to Firestall Roof Deck. To be installed horizontally only.**

## Interior Finish

The interior face of panel is N.C.F.R. Homasote which may be finished with quality textured latex paint or other material such as wood paneling, ceiling tile, etc.

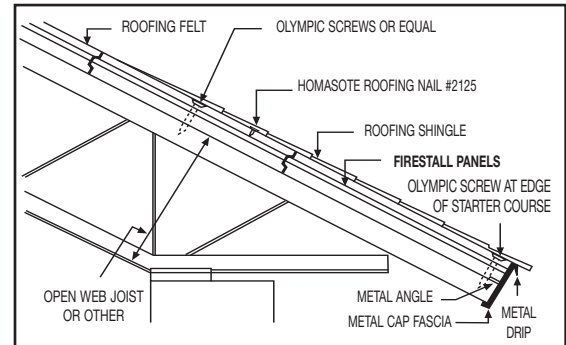
**Vapor retarders** in general are based on many and varied factors. An architectural or engineering evaluation of existing conditions must be conducted by the builder to determine whether a vapor retarder is required. Such an evaluation is not performed by or the responsibility of the Homasote Company.

In areas where a vapor retarder is required it is recommended as panels are applied to framing that a bead of caulking be placed in the groove of each joint and along the panel ends. After the roof is completed the interior surface should be painted with a vapor-retardant paint such as Glidden INSUL-AID or equivalent.

## Application To Steel Frame Structure

### 1. Attachment To: Steel Bar Joists or I-Beams (Max. 1/4" Thick Flange)

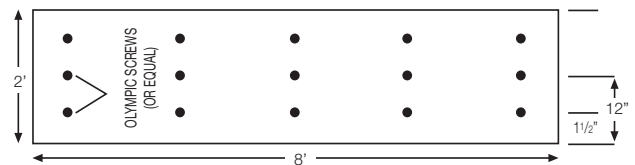
- A. Apply metal angle of wood nailer to steel bar joists at all eave and rake edges.



- B. Starting at low or outside edge of the roof, place the panel on the bar joists with groove edge toward the the low portion of roof and tongue toward high portion. Fasten using Olympic #14-10 Heavy Duty All Purpose Screws. #14 DEKFAST, #14 Buildex (or equivalent)\* with a water head. Fasten 1 1/2" from edges and one in the center (12" from edge) at each bar joist location (3 screws per joist), see diagram below. To install Olympic #14-10 Heavy Duty All Purpose Screws (or equivalent), pre-drill holes through the panel into flange of the steel joist using a 7/32" high-speed drill bit. Place the screw in pre-drilled hole and draw fastener head flush with surface of panel; do not overdrill. On joist spans of 48", fasteners must be installed at 5 1/4" o.c., starting 1 1/2" from either T&G edge, for a total of 5 fasteners per joist.

\*Please call Homasote for alternative fastening systems.

### Example: Framing 24" o.c.



- C. Place subsequent panels to fit over the exposed tongue. Drive T&G edges tightly. Place panels in straight alignment and at right angles to framing with all butt joints falling on framing members. Butt joints must be staggered. Leave 1/8" space between all butt joints.
- D. The structural framing system shall provide adequate structural support at the perimeter of all openings larger than 8" diameter.
- E. All end joints shall be securely fastened to the joists.
- F. As Firestall Panels are installed, cover immediately with roofing felt and finish roofing.

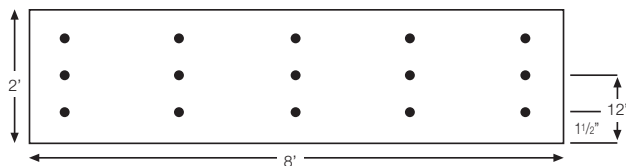
## 2. Attachment to Metal C-Joist

- A. Apply metal angle or wood nailer to metal C joists at all eave and rake edges.
- B. Follow a, b, c, d, e, & f under "Attachment to Steel Bar Joist or I-Beams" using appropriate corrosion resistant self drilling fasteners suitable for use with gauge of C-Joist. Do not pre-drill C-Joist.

## Application To Light Gauge Steel (14ga-22ga Thickness)

- A. Apply metal angle or wood nailer to metal joists at all eave and rake edges.
- B. Starting at low or outside edge of the roof, place the panel on the metal joists with groove edge toward low portion of reef and tongue toward high portion. Fasten using the Panelfast Model 510 gun and AGS-100 pins (or equal). Fasten 1 1/2" from edges and one in the center (12" from edge) at each joist location (3 pins per joist), see diagram below. The Panelfast gun and attachment pins are made by ET&F Fastening Systems of Solon, Ohio. On joist spans of 48", fasteners must be installed at 5 1/4" o.c., starting 1 1/2" from either T&G edge, for a total of 5 fasteners per joist.

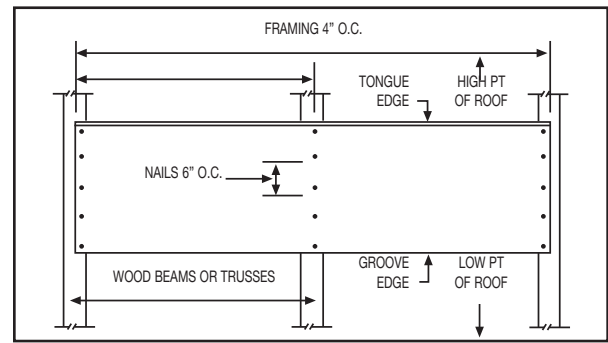
### Example: Framing 24" o.c.



- C. Place subsequent panels to fit over the exposed tongue. Drive T&G edges together tightly. Place panels in straight alignment and at right angles to framing with all butt joints falling on framing members. Butt joints must be staggered. Leave 1/8" space between all butt joints.
- D. The structural framing system shall provide adequate structural support at the perimeter of all openings larger than 8" in diameter.
- E. All end joints shall be securely fastened to the joints.
- F. As Firestall panels are installed, cover immediately with roofing felt and finish roofing.

## Application To Wood Frame Structure

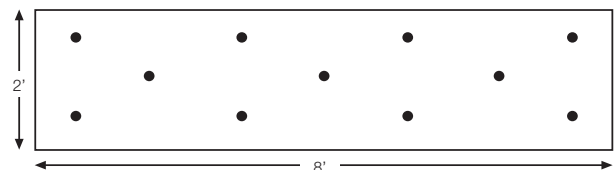
- A. Apply wood nailers of same thickness as Firestall Roof Deck at all eave and rake edges.
- B. Starting at low or outside edge of the roof, place the panel on the rafters, tongue pointing to ridge, and nail 6" o.c. to each rafter location (5 nails per rafter). Use common galvanized nails of sufficient length to penetrate thru the Firestall Roof Deck and a minimum of 1" into wood framing. Butt ends of panels must have a minimum of 3/4" bearing on framing.



- C. Place subsequent panels to fit over the exposed tongue. Drive T&G edges snugly. Place panels in straight alignment and at right angles to framing with all butt joints staggered. Leave 1/8" space between all butt joints.
- D. Where openings larger than 8" in diameter occur in panels, adequate structural support must be provided for all edges.
- E. All ends of panels shall be securely nailed to rafters.
- F. When heavy materials or concentrated loads must be placed upon, or transported over, installed Firestall Roof Deck panels, deck planking or other suitable material shall be placed to distribute weight.
- G. After Firestall Roof Deck panels are installed, cover immediately with roofing felt and finish roofing.

## Application As Nailbase Over A Structural Steel Deck

- A. Apply wood nailers of the same thickness as Firestall Roof Deck to surface of deck at all eaves and rake edges of roof to provide starter strips and nailer for trim and fascia.
- B. Starting at low or outside edge of roof, place panels on the steel deck running perpendicular to the flutes. Make sure panel ends fall on top flange between ribs.
- C. Mechanically fasten Firestall Roof Deck in place using FM approved Galvanized Roof Insulation fasteners (without plates) at a rate of 11 screws per panel. See fastening pattern below. Screws must be of sufficient length to penetrate structural deck at least 3/4". Hold screw back a minimum of 3/4" from panel edges.



- D. Place subsequent panels to fit over the exposed tongue. Drive tongue and groove edges together tightly, leave 1/8" space and stagger all joints at

square edge of panels. For runs over 50' leave 1/2" expansion joint. Leave 3/8" space form all wood blocking or nailers.

- E. As Firestall Panels are installed cover immediately with roofing felt and finished roofing.

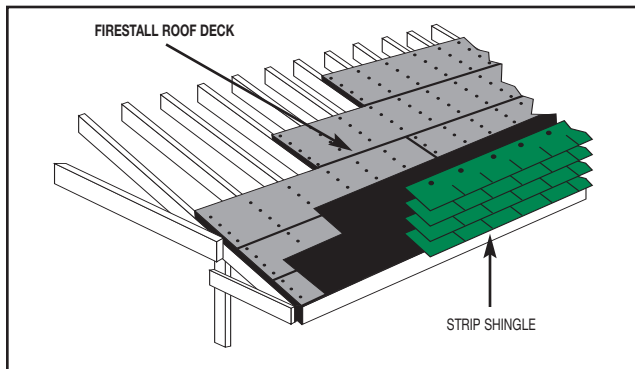
*\*Note: If additional insulation is required over Firestall Roof Deck, Thermasote® Nailbase Roof Insulation is recommended for use under shingles or metal roofing*

## Roofing Application

### 1. Asphalt/Fiberglass Shingles\*

Apply roofing felt and asphalt/fiberglass strip shingles directly to the Firestall Roof Deck panels. Use annular threaded galvanized roofing nails with 3/8" diameter head, 1 1/4" long. Use Maze Stormguard Nails: CLWR102A 1 1/4" Hot-Dipped Ring Shank; Paslode Nail No. 404551 (1 1/4" Ring Shank) shot with 3175 RCU nail gun; Grip Rite 1 1/4 x .120 collated nail #GRCR3RTRC ring shank.

*\*Note: Homasote Company required the use of a premium or laminated roofing shingle over Firestall Roof Deck. The shingle must have a minimum weight of 240 lbs per square.*



### 2. Wood Shingles or Shakes

For wood shingles, attach roofing felt to the Firestall Roof Deck and apply shingles directly over the roofing paper with annular threaded, corrosion-resistant nails of sufficient length to penetrate 1" into the Firestall Roof Deck. Apply shingles following the procedure outlined by the Cedar Wood Shingle Mfg. Association.

### 3. Roofing Tiles or Slate\*

For rigid-type, non-wood cement, clay tile, or slate shingles over roofing felt, use corrosion-resistant annular threaded roofing nails with 3/8" diameter head and of sufficient length to assure 1" penetration into the Firestall Roof Deck. In all cases, follow the recommendations of the roofing materials manufacturer.

### 4. Bur

Apply according to BURSI standards for attachment to wood fiber insulation.

### 5. Single-Ply Membranes

Apply to Firestall Roof Deck in accordance with single-ply manufacturer's recommendation. Consult Homasote Company for most recent single-ply manufacturer's approval list.

### 6. Metal Roofing

Contact Homasote Company for metal roofing application.

*\*Contact Tech office at 1-800-257-9491 ext. 1332 concerning load requirements.*

**Any deviation from these instructions voids all warranties, including implied warranties of merchantability and fitness for a particular purpose. Characteristics, properties or performance of materials manufactured by Homasote Company herein described are derived from data obtained under controlled test conditions. Homasote Company makes no warranties, express or implied, as to their characteristics, properties, or performance under any variation from such conditions in actual construction. These provisions may not be altered in any way by a salesperson, employee, agent, or any other representative of Homasote Company, except by a letter from an officer of Homasote. Homasote does not assume any responsibility of liability for the performance of any products other than those manufactured by Homasote. Homasote Company assumes no responsibility for the effects of structural movement.**

## Availability

Homasote building products are available throughout the United States and Canada from local building material dealers. Dealers should have samples and literature describing all Homasote products. If not, write directly to Homasote Company.

To make sure you have the most current installation instructions visit <http://www.Homasote.com/installation> to see if newer instructions are online. If online is newer, print out and use the Internet version. These instructions were printed March 30, 2011.

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