

# DURO-GUARD® EPS NAIL BASE

## Description:

Duro-Guard® EPS Nail Base is a premium composite insulation consisting of a superior closed-cell, lightweight and resilient expanded polystyrene (EPS) bonded to oriented strand board (OSB) or plywood. The EPS board meets or exceeds the requirements of ASTM C 578, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*.

- Provides long-term thermal insulation value.
- A superior combination of high insulating properties and a nailable surface.
- Incorporates APA-TECO Rated Exposure 1 OSB.
- Also available with plywood.
- Does not contain CFCs or HCFCs.
- Superior moisture resistance.
- **Duro-Guard EPS Nail Base is not a structural panel, and is suitable only for installation over fully supported structural decks.**
- Available in two densities per ASTM C 578:
  - Type II, 1.50 pcf.
  - Type VIII, 1.25 pcf.
- Refer to Table 1 for physical properties.

## Recommended Uses:

- Underlayment for Exceptional® Metals standing seam metal roofs.
- Mechanically attached Duro-Last roof systems.
- Duro-Bond® roof systems.
- Metal retrofit roof systems.

## Underwriters Laboratories Inc.:

- Refer to Duro-Last's UL Listings (TGFU.R10128) for assembly details ([www.ul.com](http://www.ul.com)).

## Factory Mutual Global:

- Refer to FM Approval's RoofNav for details on FM Approved systems ([www.roofnav.com](http://www.roofnav.com)).

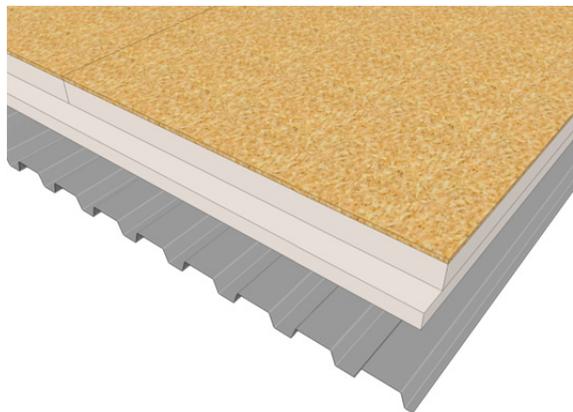


Figure 1. Duro-Guard EPS Nail Base

## Flat Panels:

- Typical sizes:
  - 4 ft. x 4 ft. (1220 mm x 1220 mm).
  - 4 ft. x 8 ft. (1220 mm x 2440 mm).
  - Thickness: 1.5 to 11.75 inch (38 – 304 mm).
- Custom width, length and thickness available. Contact Duro-Last with special requests.
- Refer to Table 1 for typical R-values.

TABLE 1. TYPICAL THERMAL VALUES		
THICKNESS*		R-Value
inches	mm	TYPE II
2.00	51	6.4
3.00	76	10.5
4.00	102	14.1
5.00	127	18.2
6.00	152	21.8
7.75	196	28.5
9.75	247	36.2
11.75	298	43.9

\* Contact Duro-Last for additional thickness options

**Installation:**

- Duro-Guard EPS Nail Base may be used directly under the Duro-Last membrane. Care should be taken to ensure that “bare” EPS is never in direct contact with the membrane. Refer to the appropriate Duro-Last specification for slip sheet and cover board requirements.
- Panels must be kept dry before, during and after installation. Install only as much insulation as can be covered the same day with completed roofing.
- The use of multiple layers of insulation with joints staggered a minimum of 6 inches between layers is recommended to eliminate thermal bridging.
- Butt panel edges together and stagger joints of adjacent panels.
- Boards must be neatly fitted to roof deck and around penetrations with no gaps greater than ¼ inch.
- Refer to the appropriate Duro-Last roof system specification and detail drawings for deck preparation and attachment requirements.
- Precautions must be taken to ensure that new concrete decks have fully hydrated and do not continue to release moisture.

**Panel Attachment:**

- Panels may be attached to the roof deck using mechanical fasteners or insulation adhesive. It is acceptable to use these products in combination.

*Mechanical Attachment*

- When installing multiple layers (which may include insulation, cover boards and thermal barriers) it is acceptable to mechanically secure through all layers.
- Use fasteners intended for use with this product and that are supplied by or approved by Duro-Last, Inc.

*Adhesive Attachment*

- Insulation adhesive must be supplied by Duro-Last, Inc. Refer to the adhesive’s product data sheet for application guidelines. Acceptable products:
  - Duro-Grip® Insta-Stik™.
  - Duro-Grip® Olybond®.
  - Duro-Grip® Millenium Weather-Tite®.
  - Duro-Grip® CR-20.

- Subsequent layers of insulation and approved cover boards may also be attached with insulation adhesive.
- Maximum panel dimensions are 4ft. x 4ft.

TABLE 2. TYPICAL PHYSICAL PROPERTIES (FOAM CORE)			
Property	Test Method	Type II	Type VIII
Density (nominal)	ASTM C 303	1.50 pcf	1.25 pcf
R-Value (per inch) @25°F @40°F @75°F	ASTM C 518 or C 177	4.76 4.55 4.17	4.55 4.25 3.92
Compressive Strength (10% deformation)	ASTM D 1621	15 – 21 psi	13 – 18 psi
Flexural Strength	ASTM C 203	≥ 35 psi	≥ 30 psi
Dimensional Stability	ASTM D 2126	≤ 2.0%	
Water Vapor Permeance	ASTM E 96	≤ 3.5 perm	
Water Absorption	ASTM C 272	≤ 3.0%	
Flame Spread	ASTM E 84	20	
Smoke Developed	ASTM E 84	150 - 300	

**Storage:**

- Insulation must be protected from open flame and kept dry at all times.
- Factory applied packaging is intended only for protection during transit. Slit or remove the packaging to prevent accumulation of condensation.
- Store elevated (at least 3”) and completely covered with a weatherproof covering such as a tarpaulin.
- Do not use panels which are wet or damaged.

**Limitations:**

- Duro-Last, Inc. will not be responsible or liable for any defects or problems related to building or roof design by others, to deficiencies in construction, to dangerous conditions on the job site, or to improper storage, handling or installation by others.