

## Product Data Sheet Nail Base Insulation

### NAIL BASE INSULATION

Adding Nail Base Insulation to your home or business adds an extra layer of protection from hot and cold. It's ideal for adding a layer of rigid insulation for new construction and retrofit projects making a smooth and level nailing surface while adding R-value.

### WHAT IS NAIL BASE INSULATION

Nail Base Insulation is a cost effective solution for one a step application of EPS foam insulation and OSB nailing surface saving time and labor.

Nail Base Insulation is manufactured from closed cell expanded polystyrene (EPS) ridged foam with Oriented Strand Board (OSB) adhered to the top surface of the EPS adding strength, durability and a nailing and attachment surface for shingles, metal roofing or single ply roofing system. Nail Base Insulation is manufactured in non-vented and vented square edge panels. Panel size is 48" wide x 96" long and is manufactured in almost any thickness ranging from a minimum of thickness 1-1/2" up to 12" Thick.

### EPS FOAM INSULATION

Expanded polystyrene (EPS) is a closed cell, light weight, resilient foamed plastic insulation. EPS is able to withstand the abuse of temperature cycling and assuring long term performance. EPS has been an innovative building material since the 1950's and is recognized as a mainstream insulation and building material. EPS is an ideal choice for green building designs offering environmental advantages that can maximize energy efficiency.

EPS foam insulation is manufactured in accordance with ASTM C578. EPS can be produced in a wide range of densities from the lower cost effective 1.0# pcf (0.90 min.) density, and up to the high performance 2.0# pcf (1.8 min.) meeting the demands of many construction applications.



### EPS ENVIRONMENTAL IMPACT

EPS insulation is an inert, organic material produced from petroleum and natural gas by-products. EPS insulation does not contain CFC's, HCFC's, adhesives or formaldehyde. EPS foam insulation provides no nutritive value to plants, animals, or micro-organisms. It will not rot and is highly resistant to mildew and mold resistant (Tested in accordance with ASTM C1338 "Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings).

### LONG TERM INSULATION VALUE

R-value means the resistance to heat flow. The higher the R-value, the greater the resistance to heat flow. The thermal performance of EPS insulation, as with any insulation product, depends upon the correct installation using good building practice. When properly installed, the R-value of EPS insulation remains constant for the life of the application. This is because the closed cell structure of EPS only contains air. As a result, the R-value of EPS insulation provided for each product type may be used as a design value without any adjustment for age.

### TEMPERATURE CYCLING

EPS is able to withstand the riggers of temperature cycling, assuring long term performance. In a series of tests, conducted by the Dynatech Research Development Co., Cambridge, MA, core specimens removed from existing freezer walls, some as old as 16 years, demonstrates EPS withstands freeze-thaw cycling without loss of structural integrity or other physical properties.

### BUILDING and FIRE CODES

Nail Base Insulation is non-structural. Install in accordance with local building and fire code requirements for installation and mechanical attachment. Building code approved mechanical fasteners must be used to attach Nail Base Insulation to the substrate with approved fastening pattern.

### TESTING & APPROVALS

ABT Foam Nail Base composite insulation is not third party tested or listed. The EPS foam insulation is manufactured in accordance with ASTM C578 for Rigid Foam Plastics and OSB is APA Rated.

### THERMAL BARRIER

EPS insulation should be covered with a thermal barrier or otherwise installed in accordance with applicable building code requirements. Should the design require hourly wall assembly ratings consult the local building code.

EPS & OSB Thickness	Panel Size	Non-vented Panel R-Value	Vented Panel R-value
1.5"	48" x 96"	4.36	Not Available
2"	48" x 96"	6.27	Not Available
2.5"	48" x 96"	8.20	5.32
3"	48" x 96"	10.12	7.24
3.5"	48" x 96"	12.05	9.17
4"	48" x 96"	13.97	11.09
4.5"	48" x 96"	15.90	13.02
5"	48" x 96"	17.82	14.94
5.5"	48" x 96"	19.75	16.87
6"	48" x 96"	21.67	18.79
6.5"	48" x 96"	23.60	20.72
7"	48" x 96"	25.52	22.64
7.5"	48" x 96"	27.45	24.57
8"	48" x 96"	29.37	26.49
8.5"	48" x 96"	31.30	28.42
9"	48" x 96"	33.22	30.34

\*Other sizes are available upon request

\*EPS foam insulation R-value is calculated based on ASTM C578, Type I @ 75° F, 3.85 per inch of thickness

\*OSB R-Value is 0.51 (7/16 inch)

#### TYPICAL PHYSICAL PROPERTIES OF EPS INSULATION

Density Range	ASTM C578	Compressive (psi) 10% Deformation	R-value @ 75° per inch	Moisture Resistance perm. In,	Maximum Service Temperature	ASTM E84 Smoke Developed	ASTM E84 Flame Spread
0.90 - 1.14	Type I	10 - 14	3.85	2.0 - 5.0	167° Long Term	Less than 450	Less than 25

**Caution:** Expanded Polystyrene (EPS) contains a flame retardant. However, it should be considered flammable and should not be exposed to any source of combustion. EPS insulation should be covered with a thermal barrier or otherwise installed in accordance with applicable building code requirements.

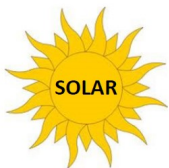
**Solvent Attack:** EPS is subject to attack by petroleum based solvents. Care should be taken to prevent contact between EPS and these solvents or their vapors.

**Storage:** EPS foam products must be stored flat on the original shipping runners, pallet or cartons. The material must be elevated above floor or ground level. If stored outdoors, must be covered with UV and waterproof covering. Do not store close to open flame.

**Ultraviolet Degradation:** Prolonged exposure to sunlight will cause slight discoloration and surface dusting of EPS insulation. The insulating properties will not be significantly affected under normal usage. EPS stored outside should be protected with a light-colored opaque tarpaulin.

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