

# EnergyGuard™ Perlite Roof Insulation

Data Sheet

Updated: 1/10



*Quality You Can Trust Since 1886...  
From North America's Largest Roofing Manufacturer™*



# ENERGYGUARD™

## PERLITE ROOF INSULATION (1 of 2)

### Description

EnergyGuard™ Perlite roof insulation is a homogenous board composed of expanded Perlite particles, selected binders and cellulose fibers, which give EnergyGuard™ Perlite roof insulation its insulating efficiency. The surface is treated to reduce bitumen absorption assuring proper adhesion of roof membranes.

EnergyGuard™ Perlite roof insulation is available in 2' x 4' (0.6m x 1.2m) and 4' x 4' (1.2m x 1.2m) boards in standard thicknesses of 3/4", 1", 1-1/2", and 2" (19mm, 25mm, 38mm and 51mm). Other sizes are available on request.

### Uses

- EnergyGuard™ Perlite roof insulation is designed to be used directly over structural roof decks.
- It is also widely used as a separation board over existing roofs in recover installations. In recover applications, all wet areas of the old roof must be removed. All loose and protruding gravel must also be removed.
- Properly installed, EnergyGuard™ Perlite roof insulation is suitable for use under built-up, modified bitumen and some single ply roofing systems.
- Refer to the application specifications in the current Membrane Manufacturer's Application and Specifications Manual for proper installation procedures for EnergyGuard™ Perlite roof insulation.

### Advantages

- Stable insulating properties.
- Exceptional fire resistance (Class 25).
- Excellent dimensional stability.
- Resists damage due to normal deck traffic during and after construction.
- Fast and easy to apply.
- Tough performance proven for over 30 years.
- The minimum recycled content is 25% by weight.

### Limitations

- EnergyGuard™ Perlite roof insulation is a non-structural, non-loadbearing material.
- EnergyGuard™ Perlite roof insulation should be stored dry and be protected from the elements. Once properly loaded at the job site, remove factory wraps and cover with a breathable tarp.
- No more insulation should be applied than can be completely covered with the finished roofing on the same day.
- Do NOT use under fully adhered single ply systems or with direct torch application of modified bitumen.
- If torch grade modified bitumen roofing is to be installed over EnergyGuard™ Perlite, a fiberglass base sheet MUST first be installed.

WARNING: DO NOT EXPOSE TO OPEN FLAME OR EXCESSIVE HEAT. MAY SMOLDER IF IGNITED. IF IGNITED, EXTINGUISH COMPLETELY.

### Code Compliance

EnergyGuard™ Perlite complies with the requirements of ASTM Standard C728 (which supercedes Federal Specifications HH-I-529).

Listed by Underwriters Laboratories for use under Class A, B or C Roof Covering. See UL, ULC Roofing Materials and System Directory for details. Materials will have UL, ULC labels only when specified on order.

Factory Mutual rated for fire and wind resistance. For current approvals, see current Factory Mutual Approvals Guide.

Is approved for use in UL, ULC Fire Resistance Roof-Ceiling Design (P&R-Designs). Please see the UL, ULC Roofing Materials and System Directory for the latest approvals.

Complies with the Environmental Protection Agency Regulation 40 CFR Part 248, "Guideline for Federal Procurement of Building Insulation Products Containing Recovered Materials", as a recycled product approved for use on any project using federal funds.

### Thermal Values<sup>(1)</sup>

Thickness* (nominal)	"C" value (Conductance)		R-Value (Resistance)			
	Inches	mm	BTU/(hr•ft <sup>2</sup> •°F)	W/m <sup>2</sup> •°C	(hr•ft <sup>2</sup> •°F)/BTU	m <sup>2</sup> •°C/W
3/4"	19		0.48	2.73	2.08	.37
1"	25		0.36	2.04	2.78	.49
1 1/2"	38		0.24	1.36	4.17	.74
2"	51		0.18	1.02	5.56	.98

### For Use Over Metal Decks

The minimum thickness of EnergyGuard™ Perlite insulation over metal decks is as follows:

	Narrow	Intermediate	Wide
Width of Rib Opening	Up to 1" (25mm) maximum	Up to 1 3/4" (44mm) maximum	Up to 2 1/2" (64mm) maximum
Thickness of Insulation (minimum)	3/4" (19mm)	1" (25mm)	1 1/2" (38mm)

Avoid concentrating loads on insulation. Minimum bearing on flat surface: 2" (51mm).

### Typical Physical Properties

Property	Value	Test Method
Water Absorption, % by Volume - 2 hours	1.5 max.	ASTM C209
Compression Resistance 5% Consolidation— psi (kPa) 10% Consolidation— psi (kPa)	30 (207) nom. 40 (276) nom	ASTM C165
Laminar Tensile Strength — psi (kPa)	7 (48)	ASTM C209
Thermal Conductance (C) BTU / (hr • ft <sup>2</sup> • °F) [nominal 1"] (W/m <sup>2</sup> • °C) [nominal 25mm]	0.36 (2.04)	ASTM C177 ASTM C177
Flexural Strength — psi (kPa)	65 (448)	ASTM C203
Product Density — pcf (kg/m <sup>3</sup> )	9 (144)	ASTM C209
Dimensional Stability	0.5%	ASTM C209

<sup>(1)</sup>Note: Physical and thermal properties shown are based on data obtained under controlled laboratory conditions and are subject to normal manufacturing tolerances.

EnergyGuard™  
Perlite Roof Insulation





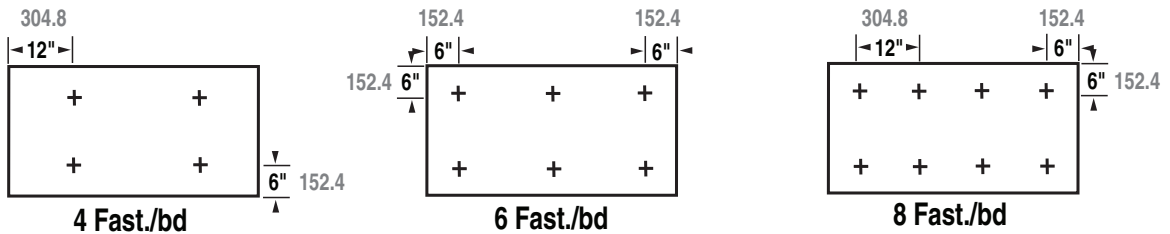
# ENERGYGUARD™

## PERLITE ROOF INSULATION (2 of 2)

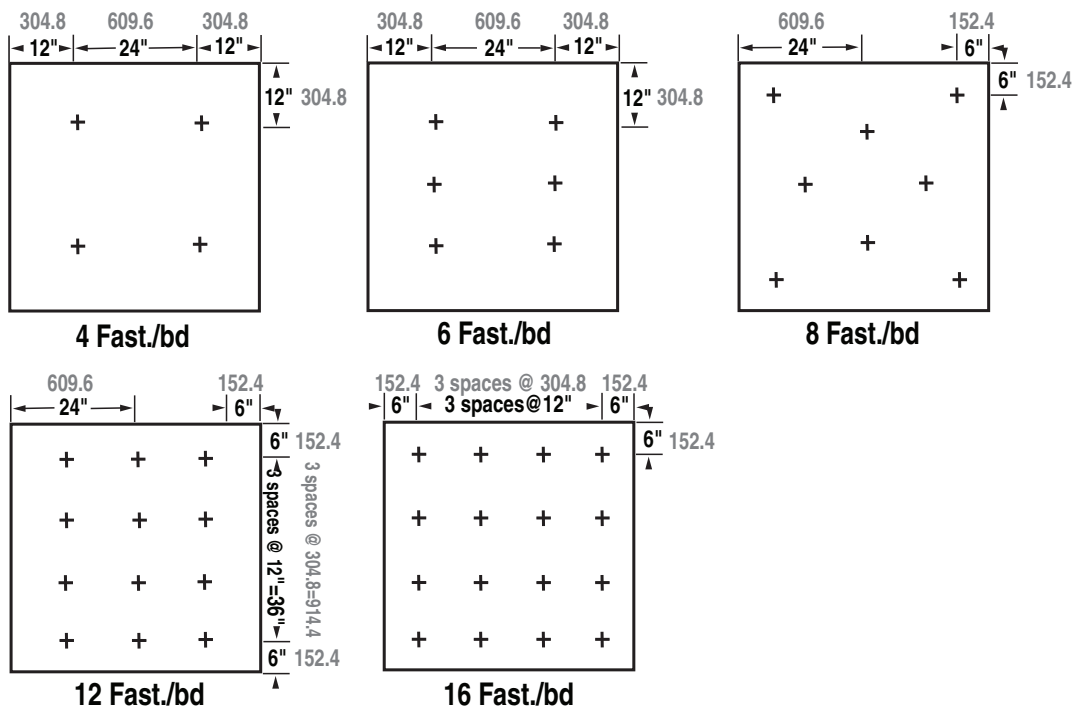
### Design Considerations – Suggested Insulation Fastener Patterns

(NOTE: Measurements in GRAY are in millimeters)

#### 4' x 4' (1220 x 1220) Boards



#### 2' x 4' (610 x 1220) Boards



**NOTE:** These patterns are for FM Approved Decks utilizing appropriate FM Approved screws and plates. Consult FM Loss Prevention Data Sheets 1-49 for specific perimeter and corner fastening details. For proper attachment, fasteners must penetrate the flange or the metal deck a minimum of 3/4" (19.05 mm). Due to ongoing testing programs and changes in FM Global requirements, the number of fasteners and their placement are subject to change without notice. Consult current FM Approvals Guide and Loss Prevention Data Sheets 1-28, 1-29 and 1-29R for approved fastener density for EnergyGuard™ Perlite Roof Insulations. If your fastener pattern is not listed, please contact Contractor Services Hotline at 1-800-766-3411.

**LIMITED WARRANTY:** GAF Materials Corp. warrants that, at the time of delivery, the product contained herein shall conform to GAF Materials Corp. specifications therefor. THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, CONDITIONS AND REPRESENTATIONS, WHETHER BY STATUTE, AT LAW OR IN EQUITY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Recommendations made by GAF Materials Corp. are believed to be reliable, but GAF Materials Corp. makes no warranty of results to be obtained. BUYER'S SOLE AND EXCLUSIVE REMEDY, regardless of the theory on which a claim may be based, including, without limitation, negligence, contract, breach of warranty, strict product liability or misrepresentation, IS THE REPLACEMENT OF THIS PRODUCT. In NO event shall GAF Materials Corp. be liable for INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT, OR OTHER SIMILAR PUNITIVE DAMAGES OF ANY KIND, INCLUDING DAMAGE TO THE INTERIOR OR EXTERIOR OF ANY BUILDING.