

Neopor® GPS in Roofing

Overview:

The Neopor GPS Plus rigid insulation foam, which is graphite enhanced and offers superior thermal performance compared to other insulation materials is approved for use in commercial roofing applications. Neopor is widely used in the United States, Canada and Europe in a variety of applications including insulated stucco, siding, concrete forms, slabs on grade, cavity wall, continuous insulation, and EIFS.

Code Compliance:

Under section 2603.4.1.5 of the International Building Code as well as most state and city codes state: *A thermal barrier is not required for foam plastic insulation that is part of a Class A, B or C roof-covering assembly, provided the assembly with the foam plastic insulation satisfactorily passes UL 1256.*

Neopor® Performance:

Physical Properties	ASTM Method	Units			
R-Value, 75° F	C518	Btu • in. / ft. ² hr • °F	5	10	20
R-Value, 40° F	C518	Btu • in. / ft. ² hr • °F	5.2	10.4	20.8
Thickness	-	Inches	1 1/16	2 1/8	4 1/4

Environment:

Products made of Neopor have zero ozone-depletion potential and are GREENGUARD Gold certified for indoor air quality

Product Protection:

Neopor can be damaged by prolonged direct sunlight exposure or by reflected sunlight. Neopor® must be protected during storage, transportation, and at the project with a white colored opaque material. Please refer to the Neopor® Handling Instructions.

Direct-To-Deck Recognition:

UL Evaluation Report ULEX 5817 and UL Roof Deck Construction TGFU recognize Neopor® being installed directly over steel roof decks along with a Class A, B or C roof covering of 80 mils or less.

Rigid polystyrene foam insulation must hold either UL BRYX or UL TGFU classification to be used in this roofing application. BASF Neopor F5000 products hold both.

TJBX.R5817 Foamed Plastics: BASF Neopor F5000 series products are certified to use under UL Roof Deck Construction numbers [219](#), [237](#), [419](#) and [458](#).

Installation:

As per system supplier installation instructions.

Availability and Warranty:

Warrantied and supplied across North America from BASF Neopor authorized manufacturers listed under UL ER 5817 and ICC ESR 3463 or visit our website: www.Neopor-Insulation.com

Important Note:

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BASF CORP STYRENIC FOAMS DIV
1609 BIDDLE AVE
WYANDOTTE, MI 48192-3729 USA

R5817

ASPHALT FELT SYSTEMS WITH HOT ROOFING ASPHALT

Class A

1. **Deck:** NC

Incline: 3

Insulation: — Neopor 5300, F5300, 5300 Plus or F5300 Plus, any thickness, covered with 1/2 in. min. perlite or wood fiber.

Ply Sheets: — 3 to 5 plies, Type 15, G1 or G2.

Surfacing: — Gravel.

SINGLE-PLY MEMBRANE SYSTEMS

Class A - Ballasted

Unless otherwise indicated, insulation may be loose laid or mechanically fastened, membrane may be loose laid, mechanically fastened or adhered in place.

1. **Deck:** C-15/32

Incline: 2

Insulation: — Neopor 5300, F5300, 5300 Plus or F5300 Plus covered with perlite (perlite must be 3/4 in. min. and joints in insulation must be offset 6 in. with joints in deck).

Membrane: — Any UL Classified membrane.

Surfacing: — River bottom stone (3/4 to 1-1/2 in. diam.), 1000 lb/sq.

2. **Deck:** NC

Incline: 2

Note: Deck must be one of the following: A.) Monolithic poured cementitious deck. B.) Steel covered with gypsum board or perlite board, 1/2 in. min. C.) Structural decks with all joints covered with Type 30 base sheet, extending 6 in. (min) on each side of joint. D.) Metal deck covered with cellular concrete, gypsum concrete, vermiculite concrete or perlite concrete.

Insulation: — Neopor 5300, F5300, 5300 Plus or F5300 Plus, any thickness.

Membrane: — Any UL Classified membrane.

Surfacing: — River bottom stone (3/4 in. to 1-1/2 in. diam.), 1000 lb/sq.

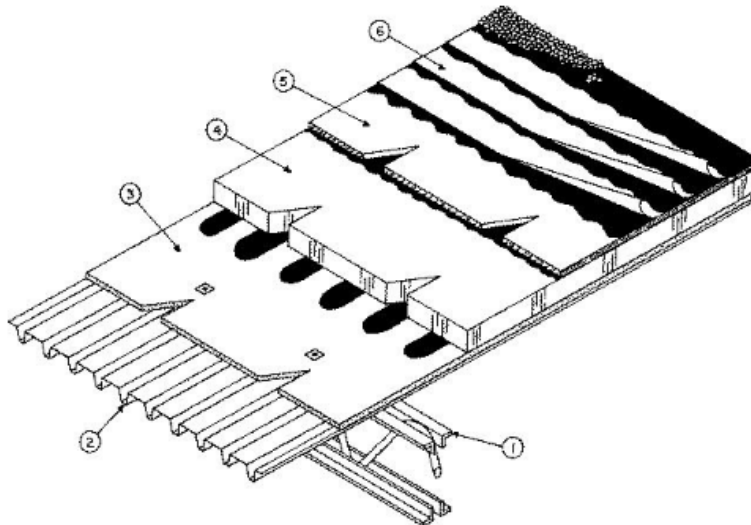
[Last Updated](#) on 2016-09-27

Construction No. 219

September 27, 2016

Wind Uplift — Not Investigated

Fire — Classified



1. **Supports** — Structural steel or other materials acceptable to authorities having jurisdiction.
2. **Steel Deck** — No. 22 MSG min, 1-1/2 min. deep unperforated coated steel, fluted on 6 in. centers. Welded or mechanically fastened to supports in accordance with deck manufacturer's recommendations.
3. **Gypsum Wallboard*** — Any classified gypsum wallboard, min 1/2 in. thickness, mechanically fastened with screws spaced 4 ft. on center, min.

As an option, the mechanical fasteners may be omitted when the roof covering (Item 6) is a ballasted single-ply roof covering.

4. **Foamed Plastic*** — Max. 8 in. thick rigid expanded polystyrene (EPS) insulation Classified by UL under Roof Deck Construction "Foamed Plastic". The foamed plastic insulation is loose laid or secured to the gypsum wallboard by means of a strip application of steep asphalt applied at a rate of 12 to 15 lbs. per 100 sq. ft. Care to be taken to insure proper adhesion of insulation.

BASF CORP ([View Classification](#))

BASF CORP STYRENIC FOAMS DIV ([View Classification](#)) — "Neopor 5300, F5300, 5300 Plus or F5300 Plus"

5. **Wood Fiberboard** — Min. 1/2 in. thick nominal 16 lbs. per cu ft. density wood fiberboard mechanically attached to steel deck or applied to the foamed plastic by means of a strip application of steep asphalt mopped onto the fiberboard at a rate of 12 to 15 lbs. per 100 sq. ft. Care to be taken to insure proper adhesion of insulation.

As an option, the wood fiberboard may be omitted when the roof covering (Item 6) is a ballasted single-ply roof covering.

6. **Roof Covering*** — Built-up from hot mopped, cold application or single ply materials Classified by UL (Roofing Systems). Authorities having jurisdiction should be consulted as to which class of roof coverings will be acceptable in each location.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

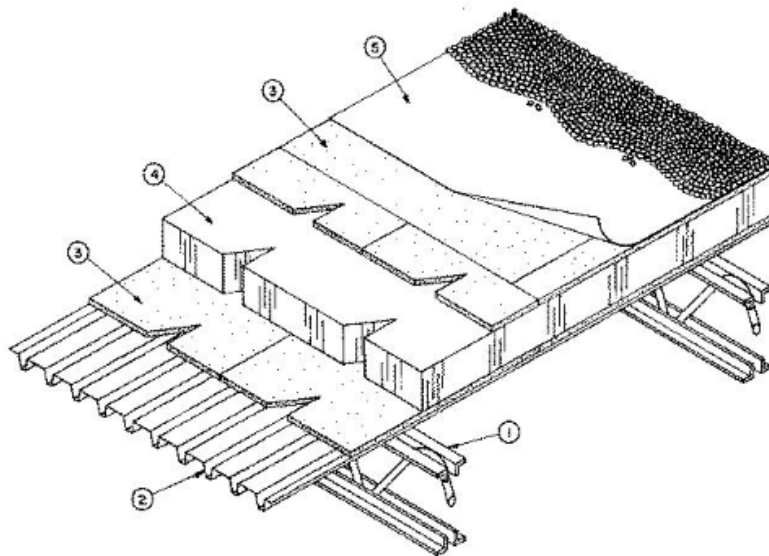
[Last Updated](#) on 2016-09-27

Construction No. 237

September 27, 2016

Uplift — Not Investigated

Fire Classified



1. **Supports** — Structural steel or other materials acceptable to authorities having jurisdiction.
2. **Steel Deck** — No. 22 MSG min., 1-1/2 min. deep unperforated coated steel, fluted on 6 in. centers. Welded or mechanically fastened to supports in accordance with deck manufacturer's recommendations.
3. **Mineral and Fiber Board*** — Minimum 1/2 in. thick perlite board or fiberglass board roof insulation loosely laid or mechanically attached to the steel deck. The materials are Classified by UL under the Roof Deck Construction category "Mineral and Fiber Boards". As an option, the 1/2 in. thick board roof insulation on top of the Foamed Plastic may be omitted when the Roof covering is ballasted.
- 3A. **Barrier Board** — 3/8-in thick minimum Type PermaBase, DuraBacker, PermaBase Plus, DuraBacker Plus, DEXcell or PermaBase Dek, mechanically fastened or fully adhered. The barrier boards are Classified by UL as a "Building Unit" under Roofing Systems (TGFU). As an option, the 3/8-in. thick barrier board on top of the Foamed Plastic Items 4 or 4B may be omitted when the Roof covering is ballasted.

NATIONAL GYPSUM CO

4. **Foamed Plastic*** — Rigid expanded polystyrene (EPS) or rigid extruded polystyrene insulation, at max thicknesses shown below. Classified by UL under Roof Deck Construction "Foamed Plastic". The Foamed Plastic material is either loosely laid or mechanically attached to the steel deck.

BASF CORP STYRENIC FOAMS DIV ([View Classification](#)) — "Neopor 5300, F5300, 5300 Plus or F5300 Plus"

5. **Roof Covering*** — A max 0.08 in. thick membrane roof covering, loose laid (ballasted), mechanically fastened or adhered to Item 3A when it is Classified by UL as "Membrane For Roofing Systems". Authorities having jurisdiction should be consulted concerning which class of roof covering will be acceptable in each location.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

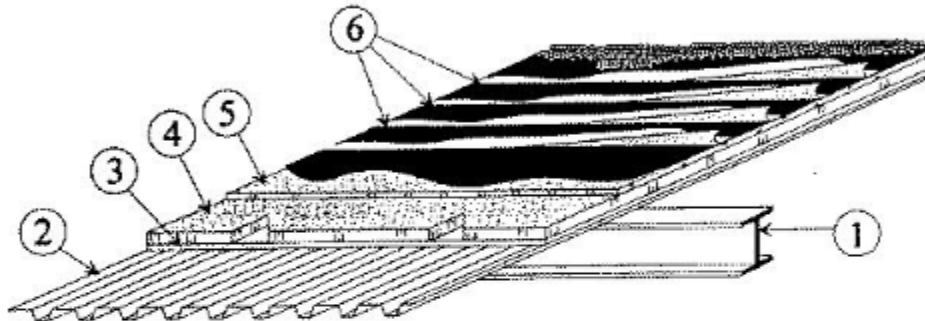
[Last Updated](#) on 2016-09-27

Construction No. 419

August 13, 2001

Uplift-Not Investigated

Fire-Classified



1. **Supports** — Structural steel or other materials acceptable to authorities having jurisdiction.
2. **Steel Deck** — No. 22 MSG min gauge; min fluted depth 1-1/2 in. with no perforations or No. 26 MSG min steel, nom 9/16 in. deep min corrugated on nom 2-1/2 in. centers. Welded or mechanically fastened to supports in accordance with deck manufacturers instructions.
3. **Barrier Board*** — 1/4 in. G-P Gypsum DensDeck®.
4. **Insulation*** — Insulations (loose laid or mechanically fastened) which are Classified by UL (Roof Deck Construction, Building Units) foamed plastic (EPS), placed in the following way: 8 in. of 1.0 pcf; 6.5 in. of 1.25 pcf; 5.33 in. of 1.5 pcf; 4.0 in. of 2.0 pcf, or any thickness polyisocyanurate.
5. **Cover Board*** — 1/4 in. G-P Gypsum DensDeck® or "DensDeck Prime®" overlayment board or min 1/2 in. wood fiber or perlite cover board placed over the insulation (optional unless required for Roofing Systems Classifications mentioned in Item 6 below).
6. **Roof Covering*** — Built-up from hot mopped, cold application or single ply materials Classified by UL. Authorities having jurisdiction should be consulted concerning which class of roof covering will be acceptable in each location.

*Bearing the UL Classification Mark

[Last Updated](#) on 2001-08-13

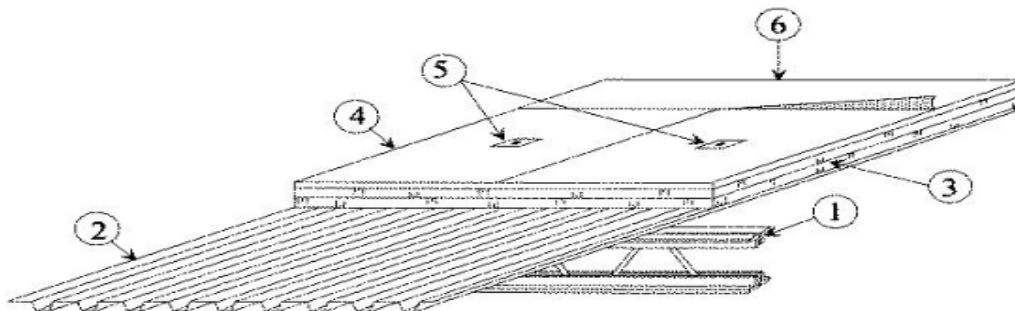


Construction No. 458

June 08, 2015

Uplift-Not Investigated

Fire-Classified



1. Supports — Structural steel or other materials acceptable to authorities having jurisdiction.

2. Steel Deck — No. 22 MSG min, 1-1/2 in. deep unperforated coated steel, fluted on 6 in. centers. Welded or mechanically fastened to supports in accordance with deck manufacturer's recommendations.

3. Rigid polystyrene insulation, — EPS, loose laid or mechanically fastened in one or more layers, Classified by UL, under the Roof Deck Construction category "Foamed Plastic" as an alternate, to any Classified polystyrene foamed plastic insulation board (EPS) can be used. See **Foamed Plastic (BRYX)** category in the Building Materials Directory or (TGFU) category in the Roofing Materials and Systems Directory. Total thickness and density of insulation not to exceed an equivalent of 10 in. at 1 PCF density. Example: an equivalent combination would be 8 in. at a 1.25 PCF density.

3A. Building Unit* — In lieu of Item 3, Rigid Foamed Plastic With Vented Roof Deck — Vented Nail-base roof deck products which are Classified by UL - Roofing Materials and Systems Directory, **Roof Deck Construction, Building Units (TIAR)** intended to provide ventilation between the nailed decking and a foamed plastic insulated steel deck construction. The nail-base deck consists of 7/16-in. thick (min) oriented strand board (OSB) or 15/32-in. thick (min) plywood.

ATLAS ROOFING CORP — "Vented-R", "ACFoam CrossVent" or "ACFoam III CrossVent"

4. Barrier Board* (Optional) — A min 3/4 in. perlite, 1/2 in. wood fiber, 1/2 in. gypsum board or G-P Gypsum 1/4 in. DensDeck® cover board or min. 1/4 in. Owens Corning Specialty & Foam Products "Strataguard", minimum 1/4 in. thick United States Gypsum Co. SECUROCK® Roof Board (Type FRX-G) or minimum 1/4 in. thick SECUROCK® Glass-Mat Roof Board (Type SGMRX) or min. 1/4 in. thick CertainTeed Gypsum Inc "GlasRoc" or minimum 1/4 in. National Gypsum "DEXcell Glass Mat Roof Board" or "DEXcell FA Glass Mat Roof Board" placed over the insulation. Required when a single ply membrane is mechanically fastened or fully adhered without slip sheet or other cover product over EPS as a Classified roofing system under TGFU.

5. Fasteners (Optional) — Fasteners used to attach foamed plastic and cover board to steel deck. Fasteners are self-drilling, self-tapping roof insulation screws with insulation plates.

6. Roof Covering* — A max 0.08 in. thick loose laid (ballasted), mechanically fastened or adhered membrane roof covering Classified by UL as **Membrane for Roofing Systems (TGFU)** as described in the Roofing Materials and Systems Directory.

6A. Metal Roof Deck Panels* — (Not shown) — In addition to or in lieu of Item 6, the roof covering may consist of a mechanically fastened metal roof deck panel assembly. See **Metal Roof Deck Panels (TJPV)** as described in the Roofing Materials and Systems Directory.

6B. Roof Covering* — In lieu of Item 6, a modified bitumen membrane roof covering over Barrier Board (Item 4) Classified as **Membrane for Roofing Systems (TGFU)**. Foamed Plastic insulation (Item 3) limited to 6 in. thickness.

6C. Roof Covering** — In lieu of Item 6 and in combination with Item 3A; asphalt shingles, fiber-cement tile and metal (or wood) shingles or shakes; an underlayment (optional) and/or vapor barrier (optional) Classified as **Prepared Roofing Accessories (TGDY)**. Roof covering to be installed as specified by manufacturer.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

