GENERALPLASTICS MANUFACTURING COMPANY

Rigid Polyurethane Thermal Bridging Solutions

Certificate of Conformance provided with every order

www.generalplastics.com

LAST-A-FOAM® R-9300 CONTINUOUS INSULATION BLOCKS

R-9320 | R-9325 | R-9330 | R-9335 | R-9340 | R-9340 HP

LAST-A-FOAM® R-9300 Continuous Insulation Blocks are structural high-density rigid polyurethane foam manufactured in several densities to suit a variety of applications. They are designed to support structural loads while providing a thermal break between the interior and exterior of the building, enhancing the building's energy efficiency. The insulating qualities of R-9300 reduce thermal bridging, making it the ideal product when structural performance is required and improved thermal efficiency is desired.

Polyurethane Outperforms Other Materials - Every Time

High-density polyurethane foam will not rot or dissolve in sub-grade applications. It is inert, so it will not promote corrosion of steel components it is in contact with. R-9300 provides nothing for vermin or insects to feed upon, nor does it release any chemical compounds into surrounding soil. Its closed-cell structure prevents absorption of water into the material.

R-9300 blocks combine high compressive strength with minimal deflection. It is certified to support compressive loads at stresses up to 2,100 psi (14,500 kPa) with only 2% deformation. The LAST-A-FOAM® R-9300 blocks retain their physical properties for the life of the building.

Compressive Strength Requirements Tested with Every Order

Each order of material is individually tested to verify compressive strength performance. General Plastics provides a formal certificate of conformance, based on actual test results, with every order. This data-based approach ensures all customers meet the specified requirements for structural performance on every project.

Ready When You Are - Effortless Installation

R-9300 Continuous Insulation Blocks are supplied fully cured, ready-to-use which allows for a quick job-site installation of the blocks. There is no waiting before moving on to the next construction step. It is cut to a customer's specifications. If preferred, anchor-bolt holes can be pre-drilled at the factory with supplied drawings or templates. This makes on-site block placement fast and easy.

Benefits at a Glance:

- Ensures minimal energy loss to cooler/warmer earth at the foundation
- Blocks have high compressive strength to support roof column loads
- Unlike other block providers, General Plastics performs compressive strength testing with every order
- Creep resistant - blocks resist distortion under load over time up to 2,100 psi.
- Locks out moisture - closed-cell material does not absorb water
- Chemically and biologically inert - products will not rot or decompose
- Does not promote steel corrosion
- Does not attract or support insects or vermin
- Will not release chemicals into surrounding soil
- Compatible with most grouts, adhesives and concrete
- Contributes to LEED certification

Features at a Glance:

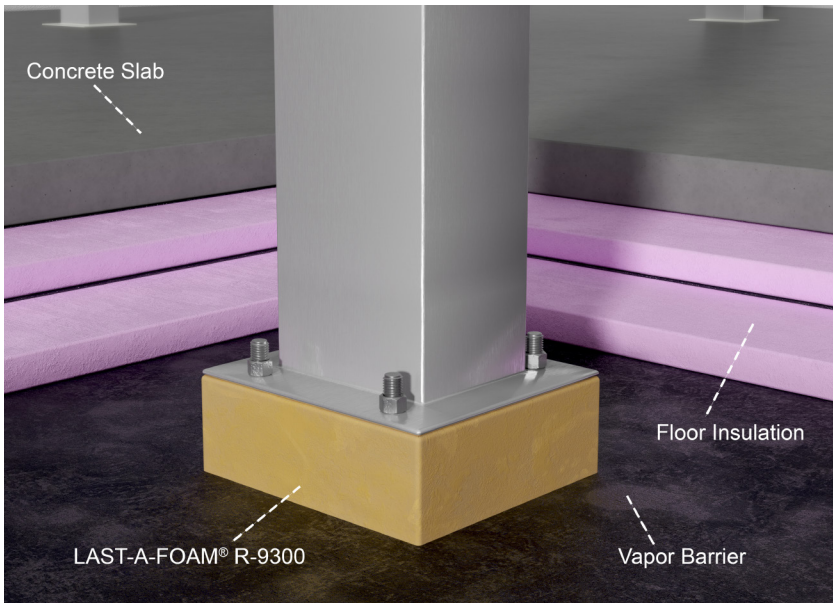
- Custom-manufactured for specific job requirements
- Most orders produced as single-piece blocks with no field assembly required
- Custom-cut blocks provided with optional pre-drilled anchor-bolt holes
- Blocks are uniquely marked for easy placement at the job site
- All blocks are supplied made-to-order, cut to your desired size and thickness, and may also be provided with pre-drilled holes for anchor bolts

STRUCTURAL THERMAL COLUMN BEARING BLOCK

In cold storage facilities, structural steel columns should be thermally isolated and contained within the building's insulation envelope. The thermal isolation combined with under-slab floor warming prevents the moisture under the slab from freezing

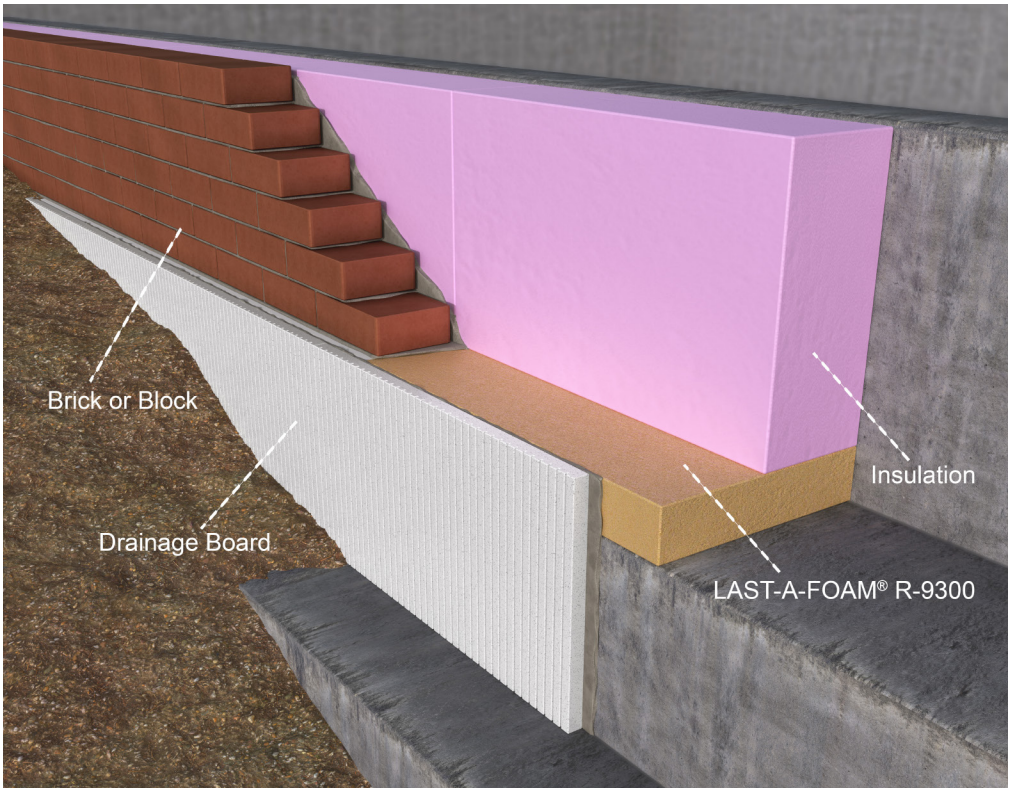
LAST-A-FOAM® R-9300 is specially designed for this application, and is superior to other building materials. It offers a high compressive strength (up to 2,100 psi with R-9340 HP) to support high-rise facilities while maintaining the insulation envelope. The R-9300 block is a closed-cell polyurethane material that does not absorb moisture when left exposed to elements during the construction process. It is also chemically and biologically inert so the blocks will not rot or decompose. The R-9300 has a unique formulation to discourage steel corrosion and is compatible with most grouts and adhesives.

Each block is supplied cut-to-size and can be provided with pre-drilled anchor-bolt holes.



BRICK/BLOCK VENEER STRUCTURAL BLOCK

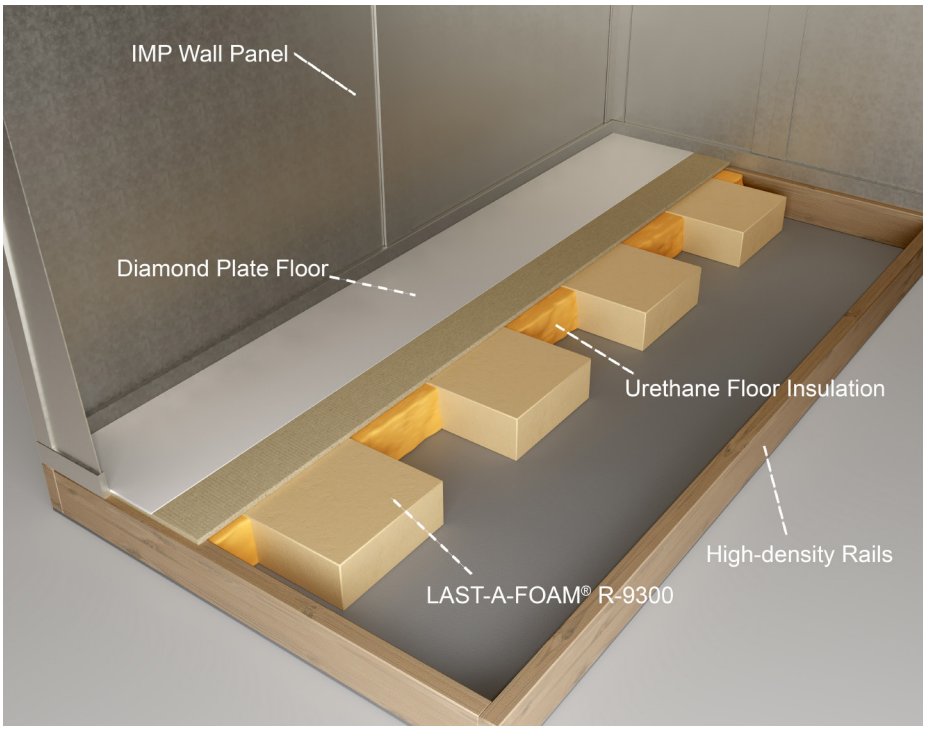
In brick/block veneer construction, the building's wall insulation should be thermally tied to the below-grade perimeter insulation and drainage board. This ensures a continuous insulation envelope without thermal bridging at the base of the wall.



LAST-A-FOAM® R-9300 reduces thermal transfer between the building insulation envelope and the soil. These structural insulating blocks have a high-compressive strength necessary to support the load of the brick or block wall. It will not rot or decompose in below grade applications, and does not retain moisture so it can be left exposed to the elements during construction. The R-9300 is also chemically compatible with most grouts and concretes used.

INSULATED METAL PANEL REINFORCEMENT BLOCK

Installed in walk-in coolers and freezers during panel construction, the insulated metal panel (IMP) floor reinforcement block provides additional compressive strength and insulative properties where it is needed most. IMP blocks provide extra structural support for heavy racking, shelving, or floor mounted equipment without compromising the integrity of the foam floor panel. The block can also be strategically placed under heavy gauge metal or aluminum diamond plate to offer a guaranteed uniform distributed load.

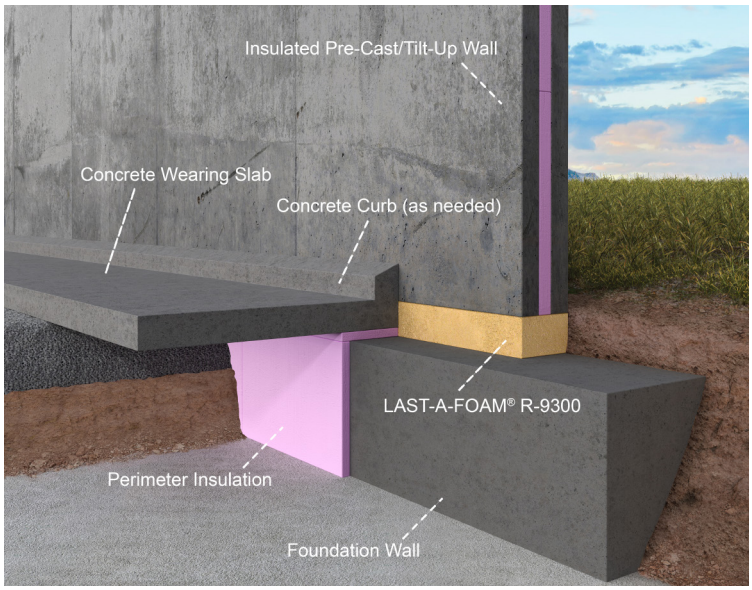


LAST-A-FOAM® R-9300 blocks at a density of 20 and 25 pcf (R-9320 and R-9325, respectively), are the perfect material to increase the structural integrity of insulated metal panel floors. It has the compressive strength necessary to support the required point or uniform loads. These closed-cell polyurethane foam blocks are 100% compatible with the foam system used in the IMP manufacturing process. Due to its unique formulation, the R-9300 will not rot or decompose and will not promote steel corrosion. Each block can be supplied to any shape or size, and most orders ship within 10 business days. As a result, they can easily be installed during the panel production process.

PRE-CAST/TILT-UP STRUCTURAL BLOCK

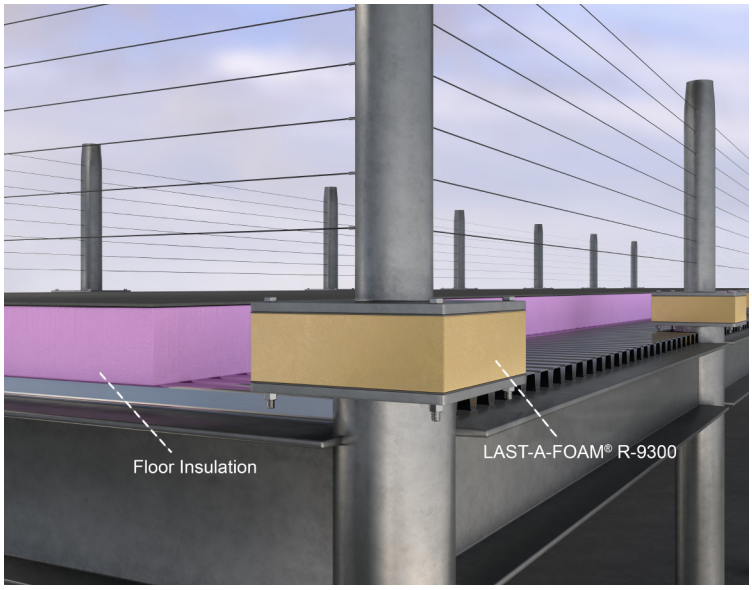
Similar to the brick/block construction, in pre-cast/tilt-up construction, a thermal insulating material is needed to maintain the insulation envelope where the wall meets the below-grade perimeter insulation. The structural blocks are able to support the weight of the wall while also maintaining the building's insulation.

LAST-A-FOAM® R-9300 prevents thermal energy transfer between the building and ground when installed under precast and tilt-up concrete walls. These insulating construction blocks offer excellent load-bearing ability and durability and will retain their physical properties for the life of the building. R-9300 is also creep resistant, so the blocks will not distort over time.



PERIMETER FALL PROTECTION BLOCK

Perimeter fall protection systems are a key component for commercial and industrial roof safety design. Many system designs require structural components to penetrate the roof insulation system, creating thermal bridging. Fall protection blocks installed as part of the roof insulation stack, eliminate the thermal bridging and maintain continuous roof insulation. When placed beneath the railing supports of the roof, these blocks provide the continuous insulation necessary for a proper design.

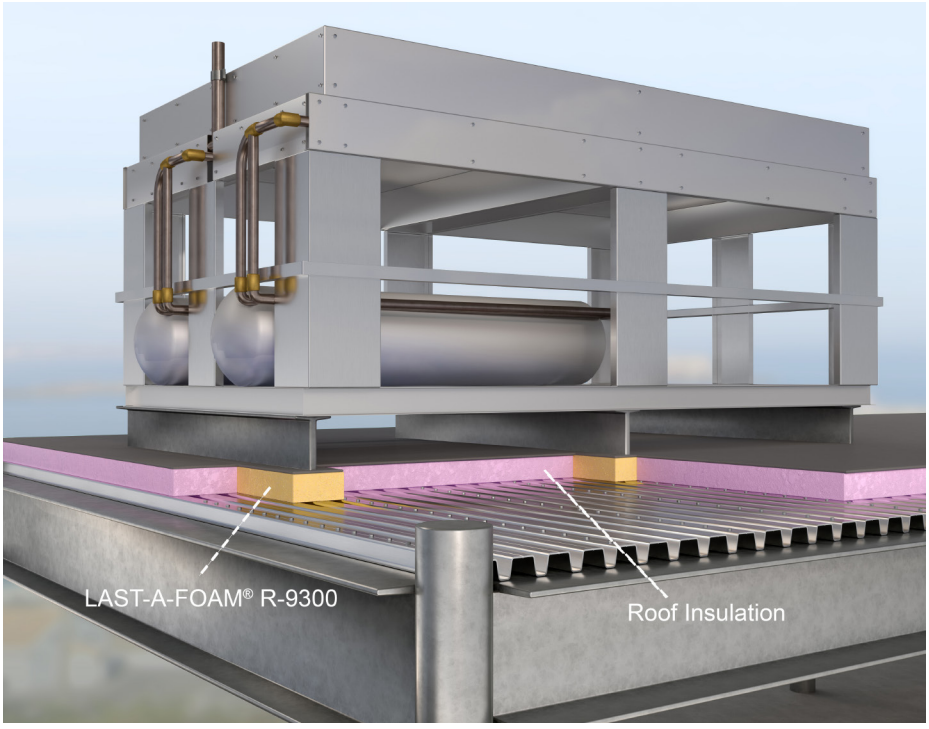


LAST-A-FOAM® R-9300 blocks has the high compressive and shear strengths to withstand design loads provide the ideal material for these systems. These closed-cell polyurethane foam blocks will not rot, decompose or absorb moisture. R-9300 blocks do not promote steel corrosion, helping to sustain roof deck longevity. The blocks are also chemically inert and will not react with metal or single-ply roofing system.

Each block is supplied cut-to-size and can be provided with pre-drilled anchor-bolt holes.

EQUIPMENT SUPPORT BLOCK

Large equipment, such as HVAC systems, chillers, and air handlers, are often supported from the structural framing of the building. These supports penetrate the roof insulation creating thermal bridging. Equipment support blocks installed at the same thickness of the roof insulation, eliminates thermal bridging and maintains the roof insulation envelope.



LAST-A-FOAM® R-9300 structural thermal blocks have a high compressive strength that can withstand heavy weight loads for the life of the equipment it is supporting. The R-9300 blocks are chemically inert and will not react with metal or single-ply roofing systems. The blocks do not absorb moisture and can be left exposed to the elements during the construction process.

Each block is supplied cut-to-size and can be provided with pre-drilled anchor-bolt holes.

CANOPY/MANSARD ISOLATION BLOCK

Canopy/Mansard Isolation Blocks provide the perfect solution to maintaining continuous insulation when a structural steel member penetrates the wall insulation envelope. These blocks are placed in the same plane as the wall insulation with the structural steel members bolted to each side of the block.

LAST-A-FOAM® R-9300 blocks have the high compressive and shear strengths needed to withstand the design loads.

The blocks are chemically and biologically inert, so they will not rot or decompose, nor will it promote steel corrosion. It will not absorb moisture due to its closed-cell structure.

Each block is supplied cut-to-size and can be provided with pre-drilled anchor-bolt holes.

TECHNICAL DATA

Property	Test Method	R-9320	R-9325	R-9330	R-9335	R-9340	R-9340 HP
Density (lb/ft^3)	ASTM D-1622	20	25	30	35	40	40
Compressive Strength (psi)							
Parallel to Rise, Strength @2% Deflection*							
75°F	ASTM D-1621	350	500	1,000	1,500	1,800	2,100
Parallel to Rise, Strength @10% Deflection*							
75°F	ASTM D-1621	1,050	1,764	2,371	3,341	4,220	4,220
Compressive Modulus (psi)							
Parallel to Rise							
75°F	ASTM D-1621	37,300	61,400	90,500	99,500	114,000	114,000
Perpendicular to Rise							
75°F	ASTM D-1621	28,200	47,200	63,200	91,000	116,000	116,000
Shear Modulus (psi)							
Parallel to Rise	ASTM C-273 in Compression Modified sample size = 0.25" x 1" x 3"	7,250	9,000	10,700	12,200	13,100	13,100
Thermal Conductivity (BTU•in/ft^2•°F•h)	ASTM C-518 at 75°F mean temp.	0.388	0.450	0.512	0.575	0.630	0.630
R-Value (ft^2•°F•h/BTU)		2.58	2.22	1.95	1.74	1.57	1.57
Fire Safety	Self-extinguishing via FAR 25.853 (A) App. F (a)(1)(i) & (ii) tested vertically on a 1/2" thick specimen using 12- and 60- second ignition with a Bunsen burner.						

* Compressive Strength values are certified to exceed shown minimum values, all other values are nominal.
The data is derived from tests and historical usage. The data is averaged data and should be treated as such. These values do not constitute a sales specification, except as noted for the compressive strength values.

A full Technical Data Sheet can be found on the General Plastics website www.generalplastics.com or contact gp@csiinc.org

Tacoma, Washington-based General Plastics Manufacturing Company has been a leading innovator in the plastics industry for over 80 years. The company develops and manufactures rigid and flexible polyurethane foam products, which include its signature LAST-A-FOAM® brand series and build-to-print composite parts. Directly or through its network of distributors, General Plastics serves the aerospace and defense, nuclear transportation packaging, composite core, prototype and modeling, construction, dimensional sign-age, telecommunications, marine, and subsea industries.

General Plastics is certified to ISO 9001:2015/AS9100D and meets the rigorous demands of numerous leading quality systems, which include NQA-1, Mil-I-45208A, and Boeing Company D6-82479. Please visit www.generalplastics.com.

All General Plastics products are manufactured in the United States, and are free of CFCs and VOCs.

PLACING AND CUSTOMIZING ORDERS

General Plastics' LAST-A-FOAM® R-9300 Continuous Insulation Blocks are available through CSI of Virginia, Inc. As our exclusive distributor, CSI is responsive and knowledgeable in the application of these products for their intended use, with staff possessing solid backgrounds in civil engineering. Please contact CSI for technical service and sales assistance.

CSI also offers the following services:

- Material take-off assistance for qualified buyers
- Creation of material shop drawings from AutoCAD templates for customer approval and manufacturing

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