

# SPEC- THERMAL™ INSULATED MASONRY

## Featuring Korfil Hi-R H

*New Design with Reduced Thermal Bridging for Enhanced Thermal Resistance*

*Capable of meeting IECC (2009) R-Value Thresholds in all Climate Zones*

*Permits full grout and reinforcement of wall without removing insulation*

*Provides Moisture Protection of a Barrier Wall*

*Work by other trades is performed with little danger of damage to insulation*

*Shape permits efficient installation even with placement over reinforcement for fully grouted walls.*



 CONCRETE  
PRODUCTS  
GROUP

INNOVATIVE CONCRETE  
MASONRY SYSTEMS

# High Performance Insulated Masonry Walls

The **Hi-R H Wall System** is a specially designed concrete masonry unit and individually molded insulation insert that provide industry best thermal performance in compliance with prevailing Codes and Standards. The **Hi-R H** Masonry Unit has been designed to provide reduced thermal bridging even more than prior Hi-R designs. The block and the insulation are combined at the block manufacturing plant prior to delivery to the job site. The assembly provides a wall system capable of achieving higher thermal R-values than conventional masonry, while providing full Code-based load resistance.

## Insulation Inserts

**Hi-R H** Inserts are made by **Concrete Block Insulating Systems, Inc.** from flame-retardant treated expandable polystyrene. Like all foamed plastics, good fire procedures must be followed during storage and installation. Inserts give off no toxic products of combustion, except carbon monoxide and carbon dioxide, concentrations of which are far less than those given off by equal volumes of more dense building construction products. Expandable polystyrene contains no fluorocarbons and no formaldehyde.

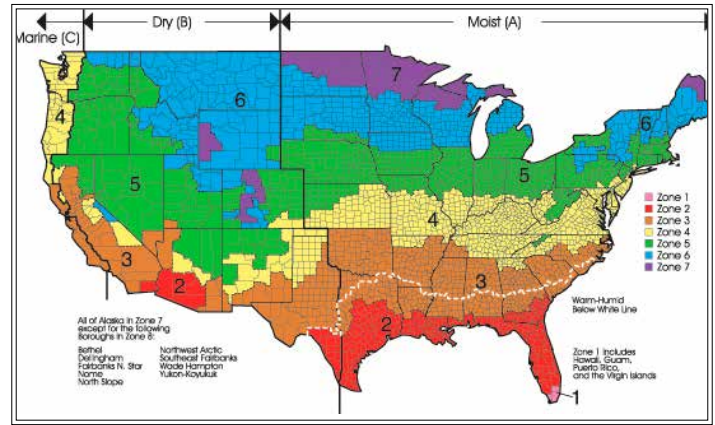
## Masonry Units

**Hi-R H Masonry Units** from the **Concrete Products Group, LLC** are available in precision faced and architectural decorative faced units. Unit sizes are available in 10 and 12 inch widths with nominal 8 inch x 16 inch face dimensions. Check for availability in your region.

## Applicable Standards

ASTM C 578, Type X, replacing Federal Specifications HH-I-524C. Specification for Rigid Cellular Polystyrene Thermal Insulation.

ASTM C 90 Standard Specification for Load-bearing Concrete Masonry Units.



International Energy Conservation Code Climate Zones

**The Hi-R H Wall System allows the construction of single wythe masonry walls that meet the stringent R-Value requirements of the 2009 IECC in all climate zones**

MAXIMUM U-FACTORS FOR MASS WALLS PRESCRIPTIVE REQUIREMENTS (2009 IECC)		
	All Other	Group R
Zone 1	U-0.58	U-0.151 <sup>a</sup>
Zone 2	U-0.151 <sup>a</sup>	U-0.123
Zone 3	U-0.123	U-0.104
Zone 4 (except Marine)	U-0.104	U-0.090
Zone 5 (& Marine 4)	U-0.090	U-0.080
Zone 6	U-0.080	U-0.071
Zone 7	U-0.071	U-0.071
Zone 8	U-0.071	U-0.052

IECC (2009): Section 502.1 General (Prescriptive) Requirements and Table 502.1.2 BUILDING ENVELOPE REQUIREMENTS OPAQUE ELEMENT, MAXIMUM U-FACTORS. <sup>a</sup> Certain exceptions apply.



The Two-Piece CBIS Korfil Hi-R H inserts form a lap joint with adjacent inserts, both above and below and from side to side, for maximum insulation efficiency.

Please visit  
[www.concreteproductsgroup.com](http://www.concreteproductsgroup.com)  
 for design and construction  
 resources including CAD details,  
 design and construction videos  
 and technical notes.

## THERMAL PROPERTIES:

The Values below are for Pre-insulated Hi-R H Masonry Units.<sup>1</sup> The Thermal Properties tables show the thermal resistance ( $R_t$ ), including inside and outside air surface resistances of 0.68 and 0.17 hr-ft<sup>2</sup>-°F/BTU, respectively, and the U-values for the various densities of concrete masonry units indicated. U Values are based on conventional 3/8" Mortar Joint Construction. U-Value units are Btu/hr/sqft/Deg.F. The results below are calculated based on the results of a third party thermal analysis that was completed making use of the Hot Box Test Data from three accredited laboratory services. A complete Engineering Report dated November 20, 1996, including Addendum Added Nov. 1, 2002, is available upon request. It covers the thermal values of the Hi-R Masonry Wall System.

12" Wide Hi-R H Wall System						
Density of Block lbs/ft <sup>3</sup>	Wall Type 1*		Wall Type 2**		Wall Type 3***	
	$R_t$	U	$R_t$	U	$R_t$	U
80	18.417	0.054	19.82	0.050	21.247	0.047
95	16.337	0.061	17.74	0.056	19.167	0.052
100	15.647	0.064	17.05	0.059	18.477	0.054
110	14.297	0.070	15.70	0.064	17.127	0.058
120	12.987	0.077	14.39	0.070	15.817	0.063
125	12.347	0.081	13.75	0.073	15.177	0.066
135	11.137	0.090	12.54	0.080	13.967	0.072

\* Wall Type 1: Hi-R H Wall System only; Hi R H Units with fully grouted cells (125 lb./ft<sup>3</sup> density grout).

\*\* Wall Type 2: Hi-R H Wall System, Hi R H Units with fully grouted cells (125 lb./ft<sup>3</sup> density grout); 1/2 inch gypsum board on furring strips.

\*\*\* Wall Type 3: Hi-R H Wall System, Hi R H Units with fully grouted cells (125 lb./ft<sup>3</sup> density grout); 1/2 inch foil-backed gypsum board on furring strips.

10" Wide Hi-R H may also be available in some markets.

Please check with your Concrete Products Group representative for local availability.



Hi-R H units are suitable for construction of bond beams without the need for any modifications to the units and the insulation inserts remain fully in place



Insulated corners are built using conventional masonry fittings and Hi-R H units





# Nationwide Availability

The Concrete Products Group LLC (CPG) consists of regional market leaders in the concrete products industry. The CPG is organized to provide consistent, top-quality products to regional and national customers.

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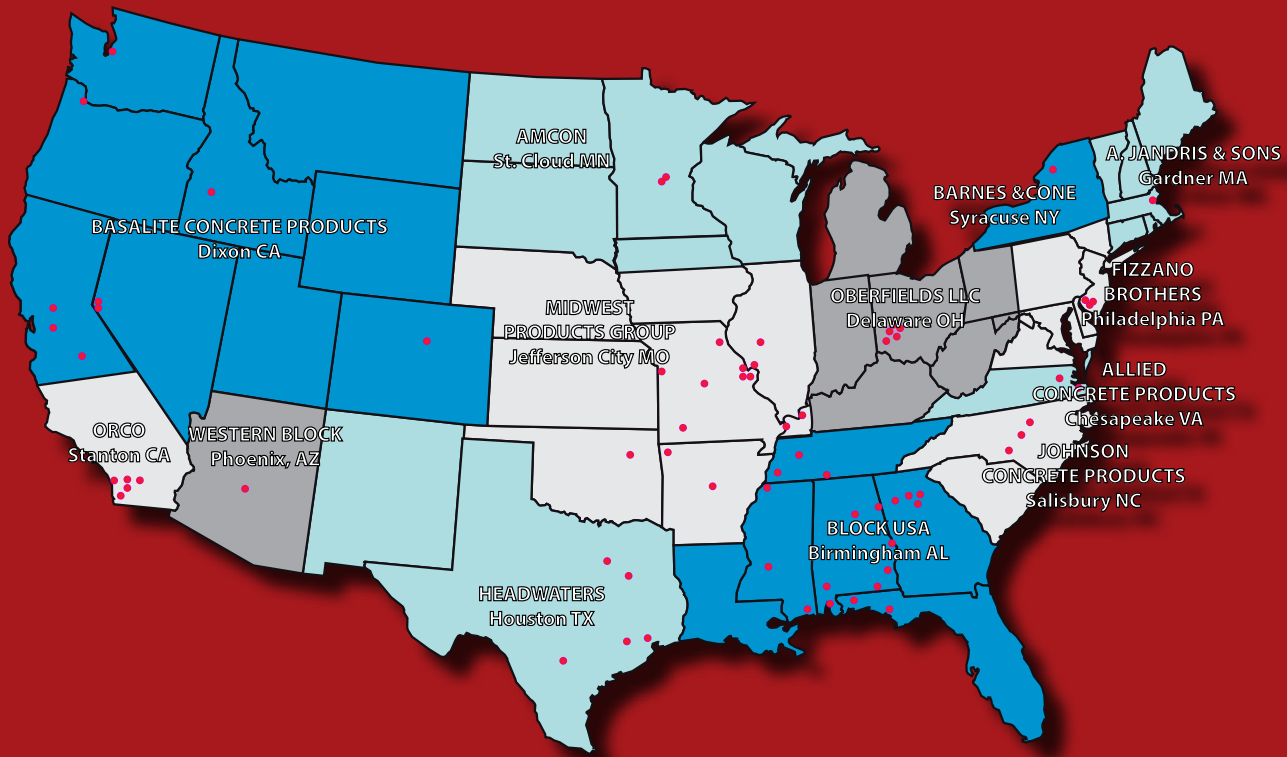
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Manufacturing Locations



Hi-R is a registered trademark of CONCRETE BLOCK INSULATING SYSTEMS, INC.