

# SPEC- THERMAL™

INSULATED MASONRY

# Korfil Hi-R H®

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

**Capable of meeting IECC R-Value or U-Factor  
Thresholds in all Climate Zones**

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

**Insulation System provides Enhanced 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.**

**Meets Code Requirements - Continuous  
Insulation is Not Required due to U-Factor  
Compliance Method.**

[www.concreteproductsgroup.com](http://www.concreteproductsgroup.com)



 **CONCRETE PRODUCTS GROUP**  
INNOVATIVE CONCRETE MASONRY SYSTEMS

# High Performance Pre-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. A Structural Design Guide is available upon request.

## 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.

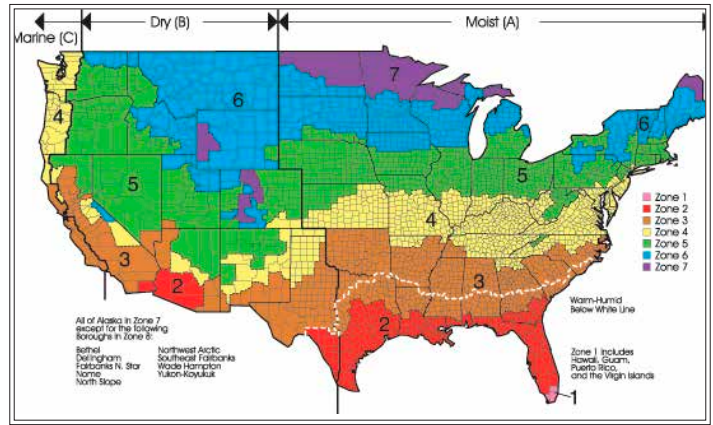
## Masonry Units

**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 2015 IECC in all climate zones**

MAXIMUM U-FACTORS FOR COMMERCIAL MASS WALLS PRESCRIPTIVE REQUIREMENTS (2015 IECC)		
	All Other	Group R
Zone 1	U-0.151	U-0.151
Zone 2	U-0.151	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-0.80	U-0.071
Zone 7	U-0.071	U-0.061
Zone 8	U-0.061	U-0.061

IECC (2015): Section C402 BUILDING ENVELOPE REQUIREMENTS and Table 402.1. BUILDING ENVELOPE REQUIREMENTS OPAQUE ELEMENT, MAXIMUM U-FACTORS.



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 structural design guidance

## THERMAL PROPERTIES:

The Values below are for Pre-insulated Hi-R H Masonry Units. The Thermal Properties tables show the thermal resistance ( $R_t$ ), including inside and outside air surface resistances of 0.68 and 0.17 h\*ft<sup>2</sup>-°F/BTU, respectively, and the U-Factors for the various densities of concrete masonry units indicated. U-Factors are based on conventional 3/8" Mortar Joint Construction. U-Factor 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.

10" Wide Hi-R H Wall System (see note below)						
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	17.05	0.059	18.45	0.054	19.88	0.050
95	14.99	0.067	16.39	0.061	17.82	0.056
100	14.31	0.070	15.71	0.064	17.14	0.058
110	12.99	0.077	14.39	0.070	15.82	0.063
120	11.71	0.085	13.11	0.076	14.54	0.069
125	11.11	0.090	12.51	0.080	13.94	0.072
135	9.96	0.100	11.36	0.088	12.79	0.078

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.

**Availability Note: 10" Hi-R H units are manufactured only in certain regions. Please check with your local CPG member regarding availability of that unit in your region. 12" units are generally available.**



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.

800-789-0872

**A-1 BLOCK**  
1617 South Division Avenue  
Orlando, FL 32805

**A. JANDRIS & SONS**  
202 High St.  
Gardner, MA 01440

**ALLIED CONCRETE PRODUCTS LLC**  
3900 Shannon St.  
Chesapeake, VA 23323-1054

**AMCON BLOCK**  
P.O. Box 546  
2211 Hwy 10 South  
St. Cloud, MN 56302-0546

**BARNES & CONE**  
P.O. Box 280  
5894 Court St. Rd.  
Syracuse, NY 13206-0280

**BASALITE CONCRETE PRODUCTS LLC**  
605 Industrial Way  
Dixon, CA 95620

**BLOCK USA**  
P.O. Box 100813  
2570 Ruffner Rd.  
Birmingham, AL 35210

**FIZZANO BROTHERS CONCRETE PRODUCTS, INC.**  
1776 Chester Pike  
Crum Lynne, PA  
19022-1299

**HEADWATERS CONSTRUCTION MATERIALS**  
7620 Washington Ave.  
Houston, TX  
77007

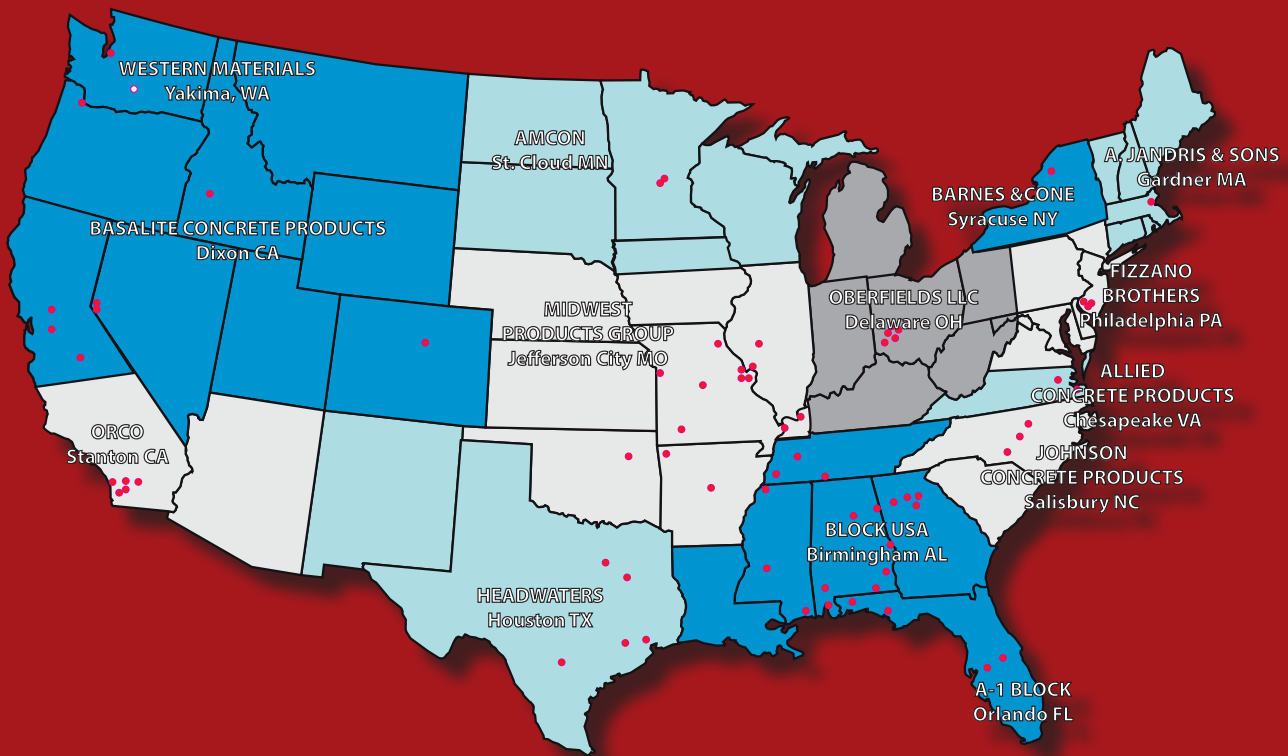
**JOHNSON CONCRETE COMPANY**  
217 Klumac Road  
Salisbury, NC 28144

**MIDWEST PRODUCTS GROUP**  
12901 St. Charles Rock Rd.  
Bridgeton, MO  
63044-2485

**OBERFIELDS, LLC**  
P.O. Box 362  
528 London Rd.  
Delaware, OH 43015

**ORCO BLOCK CO., INC.**  
11100 Beach Blvd.  
Stanton, CA  
90680-0129

**WESTERN MATERIALS COMPANY**  
1202 South First Street  
Yakima, WA 98901



*Manufacturing Locations*



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