



# R-Tech® Insulation

## Description

R-Tech is a high-performance rigid insulation consisting of a superior closed-cell, lightweight and resilient expanded polystyrene (EPS) with advanced polymeric laminate facers. R-Tech is available with factory adhered metallic-reflective facers, white facers or a combination of the two. The core of R-Tech is the same high-quality as our InsulFoam® brand insulations and meets or exceeds the requirements of ASTM C578, Type I, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*. In addition, R-Tech has excellent dimensional stability, compressive strength and water-resistant properties. R-Tech is an ENERGY STAR® qualified insulation and qualifies for LEED points.

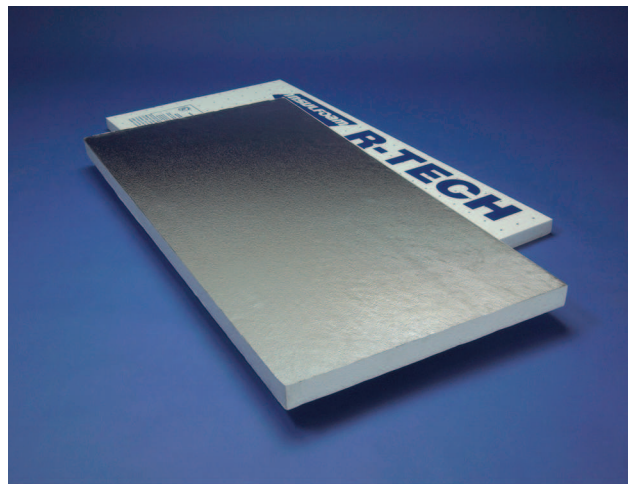
## Uses

R-Tech has been used successfully for numerous commercial, industrial and residential applications. The following are examples of the many R-Tech uses:

- Basement Walls
- Cavity Walls
- Crawl Spaces
- Interior Walls
- Waterproofing Protection Board
- Radiant-Heated Floors
- Siding Underlayment
- Stucco Underlayment
- Concrete Slabs
- Wall Sheathing
- Below Grade Insulation

## Advantages

- *Environmentally Friendly.* R-Tech contains no dyes, may contain recycled material and the foam core is 100% recyclable.
- *User Friendly.* R-Tech can be ordered with the InsulSnap™ feature which scores the product longitudinally at any pre-ordered interval (commonly 16" or 24" o.c.). The InsulSnap feature minimizes labor by enabling the installer to cleanly break the product at the desired width while also minimizing product breakage and waste.
- *Insect and Mold Resistant.* R-Tech is manufactured with an inert additive that deters termites and carpenter ants. R-Tech does not sustain mold and mildew growth.
- *Water-Resistant.* R-Tech facers provide a surface that is virtually impervious to moisture.
- *Jobsite Durability.* With a polymeric facer on either side of the R-Tech, it is an extremely flexible and durable insulation.
- *Stable R-Value.* R-Tech has no thermal drift. Designers are well served knowing the R-Tech thermal properties will remain stable over its entire service life. R-Tech is eligible for an Insulfoam 20-Year Thermal Performance Warranty – a warranty that's not prorated or limited to a percentage of the published R-Value.



- *Cost-Effective.* R-Tech is typically less expensive than other comparable insulation products.
- *Proven Performance.* The same fundamental chemistry has been in use since the mid-1950s, so the actual performance of the product is well known.
- *Enhanced R-Values.* In certain applications, increased R-Values can be obtained by placing the metallic reflective side of the R-Tech towards a dead air space. R-Value gain is dependent on the amount of dead air space between the R-Tech and outer surface. R-Value gains are based on the *ASHRAE Handbook of Fundamentals*. See the attached Effective R-Value chart.

## Sizes

R-Tech is available in 4' x 8' sheets with thicknesses from 3/8" to 5" in 1/8" increments. R-Tech can also be ordered with the InsulSnap feature which allows the end user to cleanly break the 4' x 8' sheets into any desired width. All of the R-Tech insulation products are available with metallic reflective and InsulFoam white facers. In addition, custom sizes and densities are available upon request with little or no impact on lead time.

## Installation Recommendations

Please refer to the appropriate R-Tech application sheets for recommended installation procedures.

## Typical Physical Properties of R-Tech

Property	Type I	Test Method
<b>Nominal Density</b> (pcf)	1.0	ASTM C303
<b>C-Value (Conductance)</b> BTU/(hr•ft <sup>2</sup> •°F) (per inch) @ 25° F @ 40° F @ 75° F	.23 .24 .26	ASTM C518 or ASTM C177
<b>R-Value</b> <b>(Thermal Resistance)</b> (hr•ft <sup>2</sup> •°F)/BTU (per inch) @ 25° F @ 40° F @ 75° F	4.35 4.17 3.85	ASTM C518 or ASTM C177
<b>Compressive Strength</b> (psi, 10% deformation)	13	ASTM D1621
<b>Flexural Strength</b> (psi)	33	ASTM C203
<b>Dimensional Stability</b> (maximum %)	< 2%	ASTM D2126
<b>Water Vapor Transmission</b> (perms)	< 1.0	ASTM E96
<b>Absorption</b> (% vol.)	< 1.0	ASTM C272
<b>Capillarity</b>	none	—
<b>Flame Spread</b>	< 20	ASTM E84
<b>Smoke Developed</b>	150 - 300	ASTM E84

\*Properties are based on data provided by resin manufacturers, independent test agencies and Insulfoam.

## Effective R-Values <sup>a</sup> (metallic-reflective facer and dead air space)

R-Tech Thickness	Design Temp.	Effective R-Value (R-Tech MR + Air Space) <sup>b</sup>
<b>0.50"</b>	25°	5.00
	40°	4.90
	75°	4.80
<b>0.75"</b>	25°	6.10
	40°	5.90
	75°	5.70
<b>1.00"</b>	25°	7.20
	40°	7.00
	75°	6.70
<b>1.25"</b>	25°	8.30
	40°	8.00
	75°	7.60
<b>1.50"</b>	25°	9.40
	40°	9.10
	75°	8.60
<b>1.75"</b>	25°	10.50
	40°	10.10
	75°	9.60
<b>2.00"</b>	25°	11.60
	40°	11.10
	75°	10.50
<b>2.25"</b>	25°	12.70
	40°	12.20
	75°	11.50
<b>2.50"</b>	25°	13.80
	40°	13.20
	75°	12.40

<sup>a</sup> Effective R-Values determined using InsulFoam I. Higher density InsulFoam products will provide higher R-Values. The type of construction application and the depth of the air space will also impact the actual Effective R-Value.

<sup>b</sup> Requires 0.75"- 3.50" dead air space and the R-Tech MR facer towards the dead air space.