R-TECH IV
Premium Fire-rated Wall Insulation

Description

R-Tech IV is an engineered rigid insulation developed to be an alternative equal in applications where Type IV extruded polystyrene (XPS) is specified. R-Tech IV consists of a superior closed-cell, lightweight and resilient expanded polystyrene (EPS) with advanced polymeric laminate facers. The core of R-Tech IV is the same high-quality EPS as our insulations and meets or exceeds the compressive strength, flexural strength, dimensional stability and water absorption requirements of ASTM C578, Type IV, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.* R-Tech IV is available with factory laminated metallic-reflective facers, white facers or a combination of the two. In addition, R-Tech IV offers a long-term stable R-value, is an ENERGY STAR® qualified insulation and can contribute to LEED® credits.
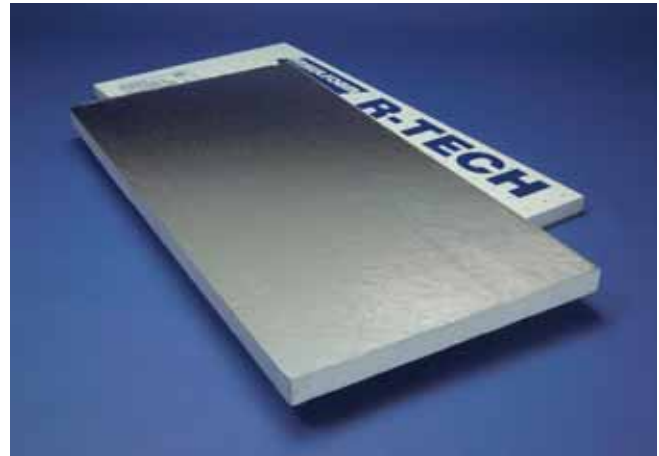
Uses

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

- Below-grade Insulation
- Waterproofing Protection Board
- Cavity Walls
- Interior Walls
- Radiant-Heated Floors
- Concrete Panel Insulation
- Concrete Slabs
- Sheathing
- Cold Storage & Freezers

Advantages

- **Environmentally Friendly.** R-Tech IV does not contain any dyes, formaldehyde or ozone-depleting blowing agents, may contain recycled material and the foam core is 100% recyclable.
- **Stable R-Value.** The product's thermal properties will remain stable over its entire service life. There is no thermal drift, so the product is eligible for an 20-Year Thermal Performance Warranty.
- **User Friendly.** R-Tech IV 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.
- **Water Resistance.** R-Tech IV facers provide a surface that is virtually impervious to moisture.

- **Insect and Mold Resistance.** R-Tech IV can be manufactured with an inert additive that deters termites and carpenter ants. R-Tech X does not sustain mold and mildew growth.
- **Jobsite Durability.** With a polymeric facer on either side of it, R-Tech is extremely flexible and durable.
- **Cost Effective.** R-Tech is typically less expensive than comparable insulation products.
- **Proven Performance.** EPS has been manufactured using the same chemistry since the mid-1950s, providing proven performance.
- **Code Approvals.** InsulFoam is recognized by the International Code Council Evaluation Service (ICC-ES) for numerous applications. Please contact your local Insulfoam representative for details.
- **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 IV is available in 4' x 8' sheets in thicknesses ranging from $3/8$" to 5" in $1/8$" increments. R-Tech IV 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. In addition, custom sizes are available upon request with little or no impact on lead times.

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

Key Product Comparisons

Property	R-Tech IV	Type IV XPS	Test Method
Density (min. pcf)	1.80	1.55	ASTM C303
Compressive Strength (psi, 10% deformation)	25	25	ASTM D1621
Flexural Strength (psi)	50	50	ASTM C203
Water Absorption (max. % vol.)	0.3	0.3	ASTM C272
Water Vapor Permeance (max. perm.)	< 1.1	1.1	ASTM E96
Dimensional Stability (maximum %)	2.0	2.0	ASTM D2126
Flame Spread	< 75	< 75	ASTM E84
Smoke Developed	< 450	< 450	ASTM E84

Product Feature Summary

Product Features	R-Tech IV	Type IV XPS
Stable R-value	Yes	No
Free of HCFCs and Dyes	Yes	No
Available with Metallic Reflective Films	Yes	No
Available in a wide range of sizes and thicknesses	Yes	No

Effective R-values* (metallic-reflective facer & dead air space)

R-Tech IV Thickness	Design Temp.	Effective R-value* (R-Tech MR + Air Space)
0.5"	40 ˚F 75 ˚F	5.40 5.20
0.75"	40 ˚F 75 ˚F	6.60 6.30
1.00"	40 ˚F 75 ˚F	7.80 7.40
1.25"	40 ˚F 75 ˚F	9.00 8.50
1.50"	40 ˚F 75 ˚F	10.20 9.60
1.75"	40 ˚F 75 ˚F	11.40 10.70
2.00"	40 ˚F 75 ˚F	12.60 11.80
2.25"	40 ˚F 75 ˚F	13.80 12.90
2.50"	40 ˚F 75 ˚F	15.00 14.00

* Requires 0.75"- 3.50" dead air space and the R-Tech metallic-reflective facer towards the dead air space.

R-value Comparisons

R-Value	R-Tech IV	Type IV XPS	Test Method
Warranted R-values @ 20 years	4.8/inch 4.4/inch	Not Warranted Not Warranted	ASTM C518 @ 40 °F @ 75 °F
Warranted R-values @ 15 years	4.8/inch 4.4/inch	4.9/inch 4.5/inch	ASTM C518 @ 40 °F @ 75 °F
Published R-value (Thermal Resistance)	4.8/inch 4.4/inch	5.4/inch 5.0/inch	ASTM C518 @ 40 °F @ 75 °F