

R-TECH®

BELOW GRADE INSULATION

BY **INSULFOAM**

R-TECH IV · 50 PSI PREMIUM FACTORY FACED MOISTURE RESISTANT 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 InsulGrade 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-saving insulation, and can contribute toward LEED® credits.

Uses

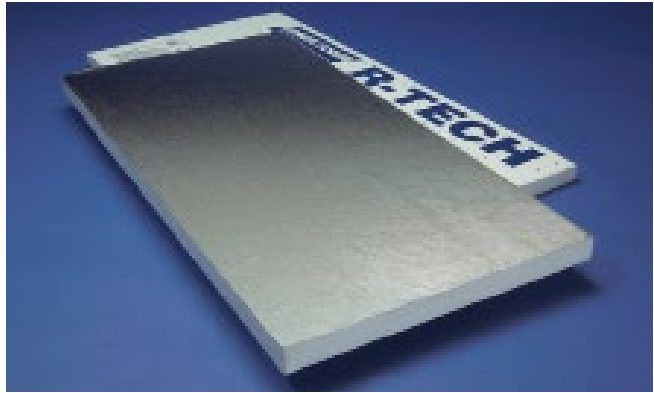
R-Tech IV Below Grade Insulation is successfully used in numerous commercial, industrial and residential applications, insulating the foundation wall or slab and protecting the waterproofing or damp proofing, especially during backfilling. The following are examples of the many applications:

- Architectural Shapes
- Below-grade Insulation
- Docks & Piers
- Void Fill
- Ramps & Bridge Approaches
- Freezers & Cold Storage
- Drainage Board
- Pre-cast/Pre-stressed Concrete Panels
- Road Base
- Foundations
- Retaining Walls

Advantages

- **Environmentally Friendly.** R-Tech IV does not contain any ozone depleting blowing agents or dyes, may contain recycled material and the foam core is 100% recyclable.
- **Moisture Resistance.** R-Tech facers provide a surface that is virtually impervious to moisture and the InsulFoam EPS core does not readily absorb moisture from the environment.
- **Stable R-Value.** The product's thermal properties will remain stable over its entire service life.
- **Long Term Warranty.** With no thermal drift, Insulfoam warrants this product with a 20-Year Thermal Performance Warranty.
- **Varying Compressive Strengths.** More available compressive strengths than comparable below grade products.
- **Code Approvals.** Insulfoam insulations are recognized by the International Code Council Evaluation Service (ICC-ES), for numerous applications. Please contact your local Insulfoam representative for details.
- **Insect and Mold Resistance.** R-Tech IV is manufactured with an inert additive that deters termites and carpenter ants. R-Tech IV does not sustain mold and mildew growth.

TIME TESTED PROTECTION.



- **Jobsite Durability.** With a polymeric facer on either side of it, R-Tech IV is extremely flexible and durable.
- **Cost Effective.** R-Tech IV is typically less expensive than other comparable insulation products.
- **Proven Performance.** EPS has been manufactured using the same chemistry since the mid-1950s, providing proven performance.
- **Enhanced R-values.** In certain applications, increased R-Values can be obtained by placing the metallic reflective side of the R-Tech IV 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.
- **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.

Sizes

R-Tech IV 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. R-Tech IV is 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 Below Grade installation guidelines for recommended installation procedures, available at www.insulfoam.com or by asking your local Representative.

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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

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	< 25	< 25	ASTM E84

R-Value Comparisons

R-Value	R-Tech IV	Type IV XPS	Test Method
Warranted R-Values @ 20 years	4.8/inch	Not Warranted	ASTM C518 @ 40 °F
	4.4/inch	Not Warranted	@ 75 °F
Warranted R-Values @ 15 years	4.8/inch	4.9/inch	ASTM C518 @ 40 °F
	4.4/inch	4.5/inch	@ 75 °F

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"	25 °F	5.30
	40 °F	5.20
	75 °F	5.00
0.75"	25 °F	6.55
	40 °F	6.40
	75 °F	6.10
1.00"	25 °F	7.80
	40 °F	7.60
	75 °F	7.20
1.25"	25 °F	9.05
	40 °F	8.80
	75 °F	8.30
1.50"	25 °F	10.30
	40 °F	10.00
	75 °F	9.40
1.75"	25 °F	11.55
	40 °F	11.20
	75 °F	10.50
2.00"	25 °F	12.80
	40 °F	12.40
	75 °F	11.60
2.25"	25 °F	14.05
	40 °F	13.60
	75 °F	12.70
2.50"	25 °F	15.30
	40 °F	14.80
	75 °F	13.80

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

