

R-TECH®

BELOW GRADE INSULATION

BY **INSULFOAM**

R-TECH VII · 60 PSI PREMIUM FACTORY FACED MOISTURE RESISTANT INSULATION

Description

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

Uses

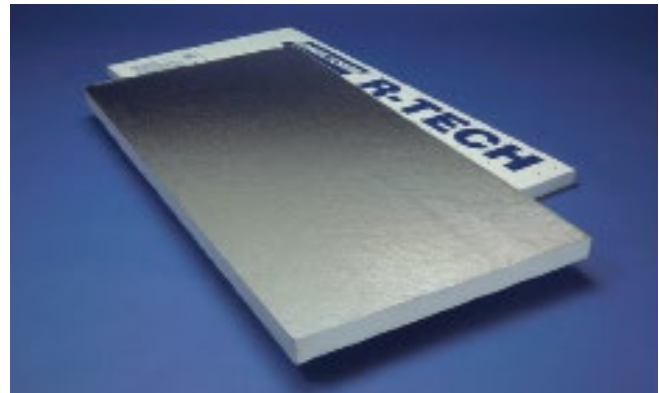
R-Tech VII Below Grade Insulation is successfully used in numerous commercial, industrial and residential applications, insulating the foundation wall or slab and protecting the waterproofing or damp proofing, especially during backfilling. The following are examples of the many applications:

- 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 VII 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 VII is manufactured with an inert additive that deters termites and carpenter ants. R-Tech VII does not sustain mold and mildew growth.

TIME TESTED PROTECTION.



- **Jobsite Durability.** With a polymeric facer on either side of it, R-Tech VII is extremely flexible and durable.
- **Cost Effective.** R-Tech VII 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 VII 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 VII 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 VII 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 VII 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.

Product Feature Summary

Product Features	R-Tech VII	Type VII 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

Key Product Comparisons

Property	R-Tech VII	Type VII XPS	Test Method
Density (min. pcf)	2.8	2.2	ASTM C303
Compressive Strength (psi, 10% deformation)	60	60	ASTM D1621
Flexural Strength (psi)	75	75	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
Smoke Developed	< 450	< 450	ASTM E84

R-Value Comparisons

R-Value	R-Tech VII	Type VII XPS	Test Method
Warranted R-Values @ 20 years	5.0/inch	Not Warranted	ASTM C518 @ 40 °F
	4.6/inch	Not Warranted	@ 75 °F
Warranted R-Values @ 15 years	5.0/inch	4.9/inch	ASTM C518 @ 40 °F
	4.6/inch	4.5/inch	@ 75 °F
Published R-Value (Thermal Resistance)	5.0/inch	5.4/inch	ASTM C518 @ 40 °F
	4.6/inch	5.0/inch	@ 75 °F

Effective R-Values* (metallic-reflective facer and dead air space)

R-Tech VII Thickness	Design Temp. °F	Effective R-value* (R-Tech MR + Air Space)
0.50"	25°	5.35
	40°	5.30
	75°	5.10
0.75"	25°	6.63
	40°	6.55
	75°	6.25
1.00"	25°	7.90
	40°	7.80
	75°	7.40
1.25"	25°	9.18
	40°	9.05
	75°	8.75
1.50"	25°	10.45
	40°	10.30
	75°	9.70
1.75"	25°	11.73
	40°	11.55
	75°	10.85
2.00"	25°	13.00
	40°	12.80
	75°	12.00
2.25"	25°	14.28
	40°	14.05
	75°	13.15
2.50"	25°	15.55
	40°	15.30
	75°	14.30

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

