

R-TECH[®]

BELOW GRADE INSULATION

BY INSULFOAM

Description

R-Tech[®] is an engineered 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 EPS as our InsulFoam brand insulations and meets or exceeds the requirements of ASTM C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation. In addition, R-Tech has excellent dimensional stability, compressive strength and water resistance properties. R-Tech is an ENERGY STAR[®] qualified insulation and can contribute toward LEED[®] credits.

Uses

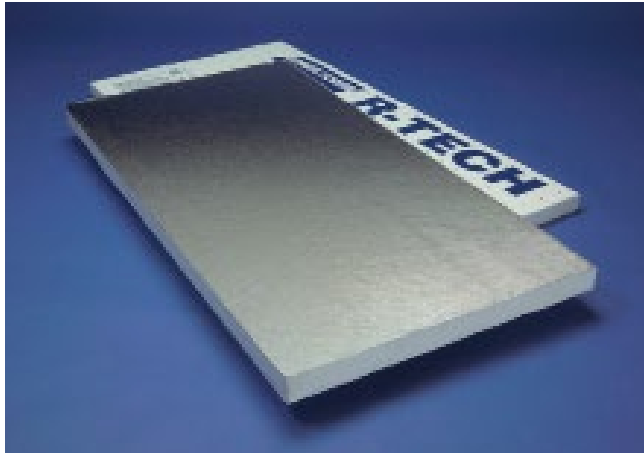
R-Tech Below Grade Insulation is successfully used in numerous commercial, industrial and residential applications, insulating the foundation wall or slab and protecting the waterproofing or damp proofing, especially during backfilling. The following are examples of the many applications:

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

TIME TESTED PROTECTION.



- **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 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 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 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 is available in 4' x 8' sheets with thicknesses from $\frac{3}{8}$ " to 5" in $\frac{1}{8}$ " 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 Insulfoam Below Grade installation guidelines for recommended installation procedures, available at www.insulfoam.com or by asking your local Representative.

Typical Tested Physical Properties of Insulfoam R-Tech Below Grade Insulation*

Property	Type I	Type VIII	Type II	Type IX	Type XIV	Type XV	Test Method
Nominal Density (pcf)	1.0	1.25	1.5	2.0	2.50	3.0	ASTM C303
C-Value (Conductance) BTU/(hr•ft²•°F)							
(per inch) @ 25° F	.230	.220	.210	.200	0.198	0.196	ASTM C518
@ 40° F	.240	.235	.220	.210	0.206	0.198	or
@ 75° F	.260	.255	.240	.230	0.222	0.217	ASTM C177
R-value (Thermal Resistance) (hr•ft²•°F)/BTU							
(per inch) @ 25° F	4.35	4.55	4.76	5.00	5.05	5.10	ASTM C518
@ 40° F	4.2	4.25	4.55	4.76	4.85	5.05	or
@ 75° F	3.9	3.92	4.17	4.35	4.50	4.60	ASTM C177
Compressive Strength (psi, 10% deformation)	13	13 - 18	15 - 21	25 - 33	40	60	ASTM D1621
Flexural Strength (min. psi)	33	30	35	50	60	75	ASTM C203
Dimensional Stability (maximum %)	< 2%	2%	2%	2%	2.0	2.0	ASTM D2126
Water Vapor Permeance (max. perm., 1 inch)	< 1.0	3.5	3.5	2.0	2.5	2.5	ASTM E96
Water Absorption (max. % vol.)	< 1.0	3.0	3.0	2.0	2.0	2.0	ASTM C272
Capillarity	none	none	none	none	none	none	-
Flame Spread	< 20	< 20	< 20	< 20	< 20	< 20	ASTM E84
Smoke Developed	150 - 300	150 - 300	150 - 300	150 - 300	150-300	150-300	ASTM E84

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

