

INSULGRADE

MOISTURE RESISTANCE INSULATION

Description

InsulGrade (InsulFoam) is an engineered insulation consisting of a superior closed-cell, lightweight and resilient expanded polystyrene (EPS). InsulGrade meets or exceeds the requirements of ASTM C578, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*. InsulGrade can be manufactured in a wide range of block and panel sizes, and in a wide assortment of shapes and densities. In addition, InsulGrade offers a long-term, stable R-value and has excellent dimensional stability, compressive strength and water resistance properties. InsulGrade is an ENERGY STAR® qualified insulation and can contribute toward LEED® credits.

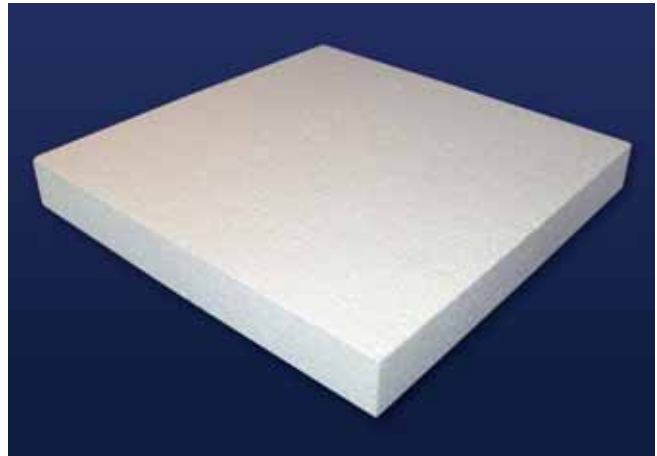
Uses

InsulGrade is successfully used in numerous commercial, industrial and residential applications. The following are examples of the many InsulGrade applications:

- Commercial Roofing Insulation
- Packaging
- Architectural Shapes
- Below-grade Insulation
- Metal Roof Flute-Fill
- Docks & Piers
- Void Fill
- Ramps & Bridge Approaches
- Pre-cast/Pre-stressed Concrete Panels
- Road Base
- Foundations
- Retaining Walls
- Sheathing
- Interior Wall Insulation
- Exterior Insulation Finishing Systems (EIFS)

Advantages

- **Environmentally Friendly.** InsulGrade does not contain any ozone-depleting blowing agents, may contain recycled material and is 100% recyclable.
- **Insect and Mold Resistance.** InsulGrade can be manufactured with an inert additive that deters termites and carpenter ants. InsulGrade does not sustain mold and mildew growth.
- **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 InsulFoam 20-year Thermal Performance Warranty.
- **Proven Performance.** EPS has been manufactured using the same chemistry since the mid-1950s, providing proven performance.



- **Water Resistance.** InsulGrade does not readily absorb moisture from the environment.
- **Cost Effective.** InsulGrade is typically less expensive than comparable insulation 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.

Sizes

InsulGrade is offered in an assortment of sizes and shapes and is readily available in custom lengths, widths and densities with little to no impact on lead time.

Installation Recommendations

Please refer to the appropriate InsulFoam application sheets for recommended installation procedures.

INSULGRADE
MOISTURE RESISTANCE 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•ft ² •°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•ft ² •°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)	10 - 14	13 - 18	15 - 21	25 - 33	40	60	ASTM D1621
Flexural Strength (min. psi)	25	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)	5.0	3.5	3.5	2.0	2.5	2.5	ASTM E96
Water Absorption (max. % vol.)	4.0	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.