



rFoil Insulation

Top Covers and Side Walls

Foil bubble rFoil is a single or double layer of polyethylene bubbles bonded to and sandwiched between two Radiant Barrier aluminum Foil sheets. After years of research, it has been proven that reflective foil products are excellent insulators. The effect of Radiant Barrier Foil (RBF) on radiant heat gain and loss is nothing less than astounding. Although conventional mass insulation products (fiberglass, loose fill, wood, etc.) are effective against convection and conduction, they have no effect on 'radiated' heat transfer. It reduces radiant heat loss in winter or gain in summer, by as much as 70%.

The benefits of radiant insulation...

- * Safe, non-toxic and non-carcinogenic.
- * Not affected by humidity or condensation.
- * Durable - won't collapse, compress or disintegrate.
- * Lightweight and compact for easy transportation.
- * Easy to install. No protective garments necessary.
- * Resistant to bacteria and fungi.
- * Resistant to rodents.
- * CLASS A / CLASS 1 fire rating.
- * Virtually indestructible, will not collapse, compress or disintegrate over time (10 year warranty)

rFoil building code specifications and testing criteria:

- * Thermal Performance ASTM C236 & ASTM C518
- * Flame Spread and Smoke Density STM E84
- * Fungus Resistance il-Std 810B Method 508
- * Pliability C 12224-93
- * Water Vapor Transmission ASTM E96
- * Emissivity Testing
- * Beach Puncture Resistance TAPPI T-803-88
- * Tensile and Elongation ASTM D882-1995
- * Tongue Tear ASTM D1117-1997
- * Corrosivity D3310-90 (1995)
- * CAN/CGSB-51.33-M89 | CAN/ULC-S 102.2-M88
- * R-Value 8.3 - Down 14.3 Horizontal 9.8

INSULATION PERFORMANCE COMPARISON CHART				
	rFOIL	6" Thick Fiberglass	4" Thick Cellulose	3/4" Unfaced Foam Board
Reflectivity	97%	5-10%	5-10%	5-10%
Emissivity	0.03	.90 - .95	.90 - .95	.90 - .95
Health Hazard	None	Caution	None	None
Fire Rating	Class A Class 1	N/A	N/A	N/A
Vapor Penetration/Condensation	Prevents	Allows	Allows	Allows
Shrinkage/Compaction	None	Settles	Settles	None
Special Clothes	None	Required	Required	None
Water Contact Damage	None	Yes	Yes	Yes
Radon	Inhibits	Permits	Permits	Permits

How does condensation affect insulation?

Aluminum foil is one of the few insulation products that are not affected by humidity and therefore the insulating value remains unchanged from a dry state to a very high humidity condition. The r-value of mass type insulation is reduced by over 35% with only 1.5% moisture content (i.e. R-21 to R-13.65). The moisture content of insulation materials in homes typically exceeds 1.5%.

Why our R-Values are worth even more?

R-Values represent resistance to conductive heat transfer - but do not measure a product's ability to reflect radiant heat transfer. Yet over 75% of a building's heat loss or gain is through radiation and rFOIL can reflect 97% of the radiant heat rays! It is a common misconception that insulation must be thick to perform well. It is also a common mistake to consider only a material's R-Value when choosing insulation. It is highly possible for a thinner reflective material to provide better thermal performance than a thicker non-reflective product. Not including gold and silver, pure aluminum is the most reflective material on the planet. The thin aluminum layer in rFOIL reflects radiant heat energy; and this ability is unrelated to the product's overall thickness and R-Value.

A small test proves rFoil effectiveness

At the start of the test, the temperature was 74°F in both sections. After one hour of heat lamp exposure, the temperature of the fiberglass-insulated (R-19) section rose to 107°F (+40.5%). Meanwhile, the temperature of the section insulated with rFoil only rose to 78°F (+5.4%). 750% more heat was transferred through the fiberglass-insulation than through rFoil.