

## Metal Building Insulation

Class 1 / Class A

#### **Recommended For:**

- Pre-Engineered Steel Buildings
- Post Frame / Pole Barns
- Agricultural Buildings
- Residential Metal Roofs
- Mini Storage
- Livestock Confinement

### Why Install rFOIL<sup>™</sup>?

- Blocks 97% of Radiant Heat Transfer
- Prevents Interior Condensation
- Class 1 / Class A Fire-Rated (ASTM E84-08)
- Puncture and Tear-Resistant
- Unaffected by Humidity
- Will not Promote Mold and Mildew
- Safe, Non-Toxic and Non-Carcinogenic
- Easy to Handle and Install
- Various Tab Options
- UV-Resistant

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**rFOIL**<sup>™</sup> reflective Insulation is a single or double layer of polyethylene bubbles bonded to and sandwiched between a radiant barrier metalized foil and white polyethylene sheet.

**rFOIL**<sup>™</sup> is specifically designed to control heat gain or loss, and prevent interior condensation, in all types of metal and metal-clad buildings.





# Metal Building Insulation

#### **FEATURES**

#### **BENEFITS**

Reflective Metalized Aluminum Surface Facing	- Reduces Radiant Heat Gain and Loss - Blocks 97% of Radiant Heat Transfer - Saves Energy Use - Lowers Heating/Cooling Costs - Improves Interior Comfort
Multi-Layer Bubble Core	<ul> <li>Provides Continuous Thermal Break</li> <li>Lowers Risk of Interior Surface Condensation</li> <li>Durable and Long-Lasting</li> <li>Superior Puncture, Tensile and Tear Strength</li> <li>Will Not Absorb Water or Vapor</li> <li>Does Not Harbor Moisture or Mold</li> <li>Clean, Safe, No-Itch Material</li> </ul>
White Interior Facing Option	- Brightens Building Interior - Attractive Appearance - Easy to Clean
Practical Tab/Edge Options	- Various Options for All Metal Building Applications - Simplifies Installations - Improves Vapor-Sealing Efforts
QuickSeam (Adhesive Tape on Tab)	- Saves Time and Labor - Ensures a Continuous Vapor and Condensation Barrier - Simplifies and Speeds Installation

#### **PRODUCTS**

### **SPECIFICATIONS**

AVAILABLE IN:		DOUBLE	SINGLE
- Single or Double Bubble	NOMINAL THICKNESS	5/16"	3/16"
- Square Edge, Tab 1 Side, Tab 2 Sides, Quick Seam	WEIGHT	0.78 oz/sq.ft	0.47 oz/sq.ft
Adhesive Strip	TEMPERATURE RANGE - ASTM C411	-50 °F to	o 180 °F
- Width: 12", 16", 18", 24", 48" and 72"	FLAME SPREAD (ASTM E84-08)	(	)
- Length: 102' and 125'	SMOKE DEVELOPMENT (ASTM E84-08)	1	5
<ul> <li>rFOIL<sup>™</sup> meets ASTM Class 1 / Class A Testing</li> </ul>	FIRE RATING - ASTM E84-08	CLASS 1 / CLASS A	
	EMISSIVITY - ASTM C1371	0.03 - 0.04	
	REFLECTIVITY - ASTM 3903	0.96 -	0.97
	WATER VAPOR PERMEANCE - ASTM	< 0.01	Perms
	E96, ONGC 51.33-M89		
	<b>TENSILE AND ELONGATION - ASTM D882</b>	MACHINE 69 lt	os/sq.in (173%)
	<b>TENSILE AND ELONGATION - ASTM D882</b>	TRANSVERSE 7	5 lbs/sq.in (194%)
	LINEAR SHRINKAGE	NO	NE
	FLEXIBILITY - CAN / CGSB-51.33 M89	NO CRA	ACKING
	RESISTANT TO FUNGI AND BACTERIA	DOES NOT PRO	MOTE GROWTH

Specific Applications and Installation Guides can be found on our Applications Manuals









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## Metalized Foil Barrier

### **Recommended For:**

- Commercial Buildings
- Residential Buildings
- Manufactured Homes
- Mobile Homes
- DIY Applications
- And much more...

## **Insulates**:

- Walls
- Ceilings
- Crawl Spaces
- Basement Walls
- Attic
- Between Joists

## Why Install rFOIL<sup>™</sup>?

- Staple Tabs for Between Joists
- Minimal Product
- Thickness
- Easy to Handle and Install
- Vapor Barrier Protection
- Increases Insulating Value of Wall Systems



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**rFOIL**<sup>™</sup> reflective Insulation is a single or double layer of polyethylene bubbles bonded to and sandwiched between two radiant barrier metalized sheet.

Its unique construction is specially designed to reduce radiant heat gain or loss in Residential, Commercial and HVAC applications while increasing comfort.





FEATURES	BENEFITS	
Square edge configuration for normal edges	<ul> <li>Square edge metalized rFOIL<sup>™</sup> is a multi purpose insulation</li> <li>Easily cut and configured around obstacles</li> <li>Tape seals can be made at any angle</li> </ul>	
1" tabs running the length of the rFOIL <sup>™</sup>	<ul> <li>Staple tabs can be stapled between joists</li> <li>Allows for quick and easy installation</li> <li>Helps create the air space necessary</li> </ul>	
Tabs equipped with tape running the length of the rFOIL <sup>™</sup>	<ul> <li>Quick seam tabs can be used in place of rFOIL<sup>™</sup> tape</li> <li>Seals the seams with ease</li> <li>Seals the metalized rFOIL<sup>™</sup> in order to avoid breaks in the insulation</li> </ul>	

#### PRODUCTS

### **SPECIFICATIONS**

AVAILABLE IN:		SINGLE	DOUBLE
	NOMINAL THICKNESS	3/16"	5/16"
- Single or Double Bubble	WEIGHT	0.47 oz/sq.ft	0.74 oz/sq.ft
- Square Edge, Tab 1 Side,	TEMPERATURE RANGE - ASTM C411	-50 $^{\circ}$ F to 180 $^{\circ}$ F	-50 $^\circ$ F to 180 $^\circ$ F
Tab 2 Sides, Quick Seam	FLAME SPREAD (ASTM E84-08)	0	0
- Width: 12", 16", 18", 24", 36"	SMOKE DEVELOPMENT (ASTM E84-08)	20	20
and 72"	FIRE RATING (ASTM E84-08)	CLASS 1 / CLASS A	CLASS 1 / CLASS A
- Length: 50', 75', 100', 102'	EMISSIVITY - ASTM C1371	0.03 - 0.04 (FOIL Side)	0.03 - 0.04 (FOIL Side)
and 125'	REFLECTIVITY - ASTM 3903	0.96 - 0.97 (FOIL Side)	0.96 - 0.97 (FOIL Side)
	WATER VAPOR PERMEANCE - ASTM E96, ONGC 51.33-M89	< 0.01 Perms	< 0.01 Perms
	TENSILE AND ELONGATION - ASTM D882	94 lbs/sq.in (375%)	94 lbs/sq.in (340%)
	TENSILE AND ELONGATION - ASTM D882	91 lbs/sq.in (368%)	91 lbs/sq.in (322%)
	CORROSIVITY	Not Applicable	Not Applicable
	LINEAR SHRINKAGE	NONE	NONE
	FLEXIBILITY - CAN / CGSB-51.33 M89	NO CRACKING	NO CRACKING
	RESISTANT TO FUNGI AND BACTERIA	DOES NOT PROMOTE GROWTH	DOES NOT PROMOTE GROWTH

Specific Applications and Installation Guides can be found on our Applications Manuals

rFOIL<sup>™</sup> Code Compliance International code council ( ICC) report ESR-1236

The above report has been issued based on rfoil compliant with the below codes:

- 2006 international building code (IBC)
   2006 international residential code (IRC)
- 1997 Uniform building code (UBC)











## Fire Retardant Metal Building Insulation

#### **Recommended For:**

- Pre-Engineered Steel Buildings
- Post Frame / Pole Barns
- Agricultural Buildings
- Residential Metal Roofs
- Mini Storage
- Livestock Confinement
- Any Structure with Strict Fire Safety Requirements

### Why Install rFOIL<sup>™</sup>?

- Blocks 97% of Radiant Heat Transfer
- Prevents Interior Condensation
- Class 1 / Class A Fire-Rated (ASTM E84-08)
- Puncture and Tear-Resistant
- Unaffected by Humidity
- Will Not Promote Mold and Mildew
- Safe, Non-Toxic and Non-Carcinogenic
- Easy to Handle and Install
- Various Tab Options
- UV-Resistant

**rFOIL286**<sup>™</sup> Reflective Insulation is a single layer of ¼" high-strength polyethylene bubble, bonded to and sandwiched between a layer of metalized aluminum film, with an interior facing of UV-Resistant polyethylene.

**rFOIL286**<sup>™</sup> Reflective Insulation is patented, and specifically designed for applications that require strict code compliance for exposed insulation and fire safety. **rFOIL286**<sup>™</sup> has a Class 1 / Class A fire rating (ASTM E84-08), and successfully meets the requirements of the NFPA Full Corner Room Burn Test.



Passes NFPA 286 Full Room Burn Test

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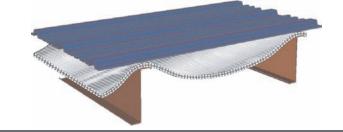


FEATURES	BENEFITS
Patented Fire-Retardant Design and Composition	- Class 1 / Class A Fire Rating (ASTM E-84-05) - Passes the NFPA 286 Full Corner Room Burn Test - Safest Reflective Insulation Available - Reduces or Eliminates Fire-Related Liability
Reflective Metalized Aluminum Surface Facing	- Reduces Radiant Heat Gain and Loss - Blocks 97% of Radiant Heat Transfer - Saves Energy Use - Lowers Heating/Cooling Costs - Improves Interior Comfort
Multi-Layer Bubble Core	<ul> <li>Provides Continuous Thermal Break</li> <li>Lowers Risk of Interior Surface Condensation</li> <li>Superior Puncture, Tensile and Tear Strength</li> <li>Durable and Long-Lasting</li> <li>Does Not Harbor Moisture or Mold</li> <li>Will Not Absorb Water or Vapor</li> <li>Clean, Safe, No-Itch Material</li> </ul>
White Interior Facing Option	- Brightens Building Interior - Attractive Appearance - Easy to Clean
Practical Tab/Edge Options	- Various Options for All Metal Building Applications - Simplifies Installations - Improves Vapor-Sealing Efforts
QuickSeam (Adhesive Tape on Tab)	- Saves Time and Labor - Ensures a Continuous Vapor and Condensation Barrier - Simplifies and Speeds Installation

PRODUCTS

#### AVAILABLE IN:

- Quick Seam Adhesive Strip or Tab 2 sides
- Width: 48" and 72"
- Length: 102' and 125'



Specific Applications and Installation Guides can be found on our Applications Manuals

rFOIL<sup>™</sup> Approvals - NFPA 286 Full Corner Room E - ASTM E84-08 Fire Test - ASTM 1225 Standard Specificat

Full Corner Room Burn Test Fire Test Standard Specifications for Reflective Insulations and Building Applications





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555 Lawton Ave. Beloit, WI 53512 p. 608.365.2161 Toll Free. 800.766.2825 f. 800.834.7447 www.cnbhnp.com

SPECIFICATIONS POLY / 1/4" BUBBLE / REFLECTIVE NOMINAL THICKNESS 1/4"

WEIGHT	0.78 oz/sq.ft
TEMPERATURE RANGE - ASTM C411	-50 °F to 180 °F
FIRE RATING - ASTM E84-05	CLASS 1 / CLASS A
FIRE RATING NFPA 286	CONFORMS
EMISSIVITY - ASTM C1371	0.03 - 0.04
REFLECTIVITY - ASTM 3903	0.96 - 0.97
WATER VAPOR PERMEANCE - ASTM	< 0.01 Perms
E96, ONGC 51.33-M89	
<b>TENSILE AND ELONGATION - ASTM D882</b>	MACHINE 69 lbs/sq.in (173%)
<b>TENSILE AND ELONGATION - ASTM D882</b>	TRANSVERSE 75 lbs/sq.in (194%)
CORROSIVITY	200 °F - 7 Days
LINEAR SHRINKAGE	NONE
FLEXIBILITY - CAN / CGSB-51.33 M89	NO CRACKING
RESISTANT TO FUNGI AND BACTERIA	DOES NOT PROMOTE GROWTH



## Concrete Underpad

#### **Recommended For:**

- Insulating Under Concrete
- Slabs
- Beneath Concrete Over-Pours
- Edge-Slabs and Expansion Joints

#### Why Install rFOIL<sup>™</sup>?

- Reduces Radiant Heat Loss through Floors
- High-Strength, Multi-Layer Vapor and Radon Barrier (7 mil)
- Cost-Effective Alternative to Rigid Foam Insulation
- Improves Efficiency of In-Floor Radiant Heating Systems
- Reduces Slab Reaction Time at System Startup
- Saves Energy Usage and Utility Costs
- Easy to Form around Obstructions
- Installs Easily Over any Grade
- Withstands Job Site Traffic

**rFOIL<sup>™</sup> Concrete Underpad** is an outstanding reflective insulation and puncture-resistant vapor barrier. It is composed of a double layer of high-strength polyethylene bubbles (up to 60 psi), sandwiched between one layer of metalized aluminum, and a layer of white polyethylene.

**rFOIL<sup>™</sup> Concrete Underpad** provides exceptional thermal value and a strong, permanent vapor and radon barrier. It is a cost-effective alternative to rigid foam insulation, and is always installed with the white side facing upwards.

Class 1 / Class A Fire Rating ASTM E84-08

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FEATURES	BENEFITS
Reflective Metalized Aluminum Facing (installed facing down)	- Reduces Radiant Heat Loss - Redirects Radiant Heat Energy Back to Living Area - Saves Energy Usage and Lowers Heating Costs - Extends Life of Heating System - Faster Reaction Time for Radiant Floor Heating
White Polyethylene Facing	- Unaffected by Lime and other Corrosive Chemicals, often Found in Concrete.
Multi-Layer 7 mil Bubble Core	<ul> <li>Provides Continuous Thermal Break below the Slab</li> <li>Keeps underground moisture away from slab</li> <li>Durable and Long-Lasting Polyethylene</li> <li>Strong Puncture Resistance and Tear Strength</li> <li>Outstanding Vapor and Radon Barrier</li> <li>Can also Insulate the Edge-Slab and Outside of Foundation</li> </ul>
Lightweight, Flexible Materials	- Just Unroll, Overlap, and Tape the Seams - Easy to Cut and Configure around Obstructions - Ideal for Edge-Slab Insulation and Expansion Joint (Easily Folds Upward at Perimeter Footing)

#### PRODUCTS

#### **SPECIFICATIONS**

AVAILABLE IN:	Testing	FOIL / Double Bubble / POLY
- Configurations: Square Edge - Width: 48"	NOMINAL THICKNESS	5/16"
	WEIGHT	0.82 oz/sq. ft.
- Length: 125'	TEMPERATURE RANGE	-50°F to 180°F
- Lengin. 125	FLAME SPREAD (ASTM E84-08)	0
	SMOKE DEVELOPMENT (ASTM E84-08)	15
	THERMAL RESISTANCE	See tech sheets for R-Value in specific applications
	FIRE RATING	CLASS 1 / CLASS A
	EMISSIVITY	0.03 - 0.04
	REFLECTIVITY	0.96 - 0.97 (FOIL side)
Land	WATER VAPOR PERMEANCE	<0.01 Perms
	TENSILE STRENGTH (CAN/CGSB - 51.33-M89)	21.13 lbs/sq. in.
	LINEAR SHRINKAGE	NONE
	FLEXIBILITY (CAN/CGSB - 51.33-M89)	NO CRACKING
	RESISTANT TO FUNGI AND BACTERIA	DOES NOT PROMOTE GROWTH
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Specific Applications and Installation Guides can be found on our Applications Manuals

#### **More Benefits**

- Warmer, More Comfortable Floors
- Conforms Easily to Uneven Grades
- Strongly Bonded to Resist Delamination
- Sealed Seams Provide a Consistent Insulation







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## **ULTRA CBF** Concrete Barrier Foil

#### **Recommended For:**

- Insulating Under Concrete Slabs
- In-Floor Radiant Heating
- Beneath Concrete Over-Pours
- Edge-Slabs and Expansion Joints
- Outside Foundation Walls
- Snow Melt Systems
- Under Carpet

### Why Install rFOIL<sup>™</sup>?

- Reduces Radiant Heat Loss through Floors
- Multi-Layer Vapor and Radon Barrier (10 mil)
- Cost-Effective Alternative to Rigid Foam Insulation
- Improves Efficiency of In-Floor Radiant Heating Systems
- Saves Energy Usage and Utility Costs
- Easy to Form around Obstructions
- Installs Easily Over any Grade
- Withstands Job Site Traffic



Patent No. US 6,562,439B2 US 6,514,596B1

**Ultra CBF** is an outstanding reflective insulation and puncture-resistant vapor barrier. Ultra CBF is composed of a single layer of pure aluminum, laminated between two layers of ultra-strong polyethylene bubble (up to 140 psi).

**Ultra CBF** is the ultimate under-slab insulation. It provides exceptional thermal value and a strong, permanent vapor and radon barrier. Ultra CBF typically costs less than 2" rigid PE board insulation. Ultra CBF is easier to handle, cut, and install than rigid foam insulation, yet has nearly six times the compression strength.





## **ULTRA CBF** Concrete Barrier Foil

FEATURES	BENEFITS
Reflective Aluminum Inner Layer	<ul> <li>Reduces Radiant Heat Loss</li> <li>Redirects Radiant Heat Energy Back to Living Area</li> <li>Saves Energy Usage and Lowers Heating Costs</li> <li>Extends Life of Heating System</li> <li>Faster Reaction Time for Radiant Floor Heating</li> </ul>
Multi-Layer 10 mil Bubble Core	<ul> <li>Provides Continuous Thermal Break below the Slab</li> <li>Keeps Underground Moisture Away from Slab</li> <li>Durable and Long-Lasting Polyethylene</li> <li>Superior Puncture Resistance and Tear Strength</li> <li>Outstanding Vapor and Radon Barrier</li> <li>Can also Insulate the Edge-Slab and Outside of Foundation</li> </ul>
Lightweight, Flexible Materials	<ul> <li>Simply Unroll, Overlap, and Tape the Seams</li> <li>Easy to Cut and Configure around Obstructions</li> <li>Ideal for Edge-Slab Insulation and Expansion Joint (Easily Folds Upward at Perimeter Footing)</li> </ul>

PRODUCTS	SPECIFICATIONS	
AVAILABLE IN:	NOMINAL THICKNESS	5/16"
- Configurations: Square Edge	WEIGHT	1.16 oz/sq. ft.
- Width: 48" - Length: 125'	TEMPERATURE RANGE	-50°F to 180°F
	EMISSIVITY	43%
	REFLECTIVITY	57%
	WATER VAPOR PERMEANCE - ASTM	<0.01 Perms
	E96, ONGC 51.33-M89	
	TENSILE STRENGTH (CAN/CGSB - 51.33-M89)	21.13 lbs/sq. in.
	DEFLECTION (ASTM 1621)	<10% under 0.5 psi
	PUNCTURE RESISTANCE	85 lbs/sq. in.
+++++	COMPRESSIVE STRENGTH	140 psi
	LINEAR SHRINKAGE	NONE
	FLEXIBILITY (CAN/CGSB - 51.33-M89)	NO CRACKING
	RESISTANT TO FUNGI AND BACTERIA	DOES NOT PROMOTE GROWTH

Specific Applications and Installation Guides can be found on our Applications Manuals

#### **More Benefits**

- Warmer, More Comfortable Floors
- Conforms Easily to Uneven Grades
- Strongly Bonded to Resist Delamination
   Sealed Seams Provide a Consistent Insulation
- Will not deteriorate over time
- Aluminum Radiant Barrier Permanently Protected from
- Corrosive Ground Elements, such as Lime and Soil Alkaline





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## **Adhesive Tapes**

METALIZED FOLL TAPE

WHITE POLY TAPE

### **Recommended For:**

- All rFOIL<sup>™</sup> Insulation Products and Related Applications
- Maintaining a Vapour Barrier and Constant Insulator

#### Seals:

- Seams
- Gaps
- Tab sections
- Rips
- Tears

## Why Install rFOIL<sup>™</sup>?

- Economical
- Quick and Easy to Install
- Approved Vapour Barrier
- Available in a Variety of Sizes to Suit Your Needs



**rFOIL<sup>™</sup>Adhesive Tapes** are available in two varieties: White Poly and Metalized Foil.

Both **rFOIL**<sup>™</sup> tapes provide an excellent vapour barrier seal and are specifically designed for use with all **rFOIL**<sup>™</sup> Insulation Products.

Acrylic pressure sensitive adhesive combines superior quick-stick at normal temperatures, with excellent low temperature performance below freezing.

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BENEFITS

#### **FEATURES**

#### Aluminium Tape

- Soft, Metalized Foil
- Pressure Sensitive Acrylic Adhesive

#### White Poly Tape

- Polypropylene Material

- Conforms to irregular surfaces
- Maintains reflective / radiant barrier
- Adheres well to rFOIL<sup>™</sup>, sheet metal, and more!
- Effective in hot and cold climates
- Forms strong bond for long life adhesion
- Durable to withstand installation
- Adheres to any polyethylene or related material
- Conforms to foil or poly to give the seamless look
- Will adheres to poly or aluminium faced rFOIL<sup>™</sup>
- Adheres in all four seasons
- Will seal seams effectively for many years

#### **PRODUCTS**

#### AVAILABLE IN:

- Metalized Foil or White Poly
- Lengths: 30' and 150'
- Widths: 2" and 3"

	ALUMINIUM	WHITE POLY	UL-181B-FX
THICKNESS	1.3 MILS (.0015")	3 MILS (.003")	3 MILS (.003")
ADHESION PEEL (PSTC #1)	42 oz / inch	16 oz / inch width	41 oz / inch width
SHEAR (PSTC #7)	2.2 PSI	2.2 PSI	2.2 PSI
TENSILE (PSTC #7)	22 lbs / inch width	20 lbs / inch width	22 lbs / inch width
ELONGATION (PSTC #31)	150%	136%	150%
MIN TEMPERATURE APPLICATION	-305 °F	N/A	-35 °F to 260 °F
TEMP RESISTANCE	250 °F	N/A	260 °F
MOLD GROWTH	0	N/A	0

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- Acrylic Adhesive

#### **SPECIFICATIONS**