AYR·FOIL®
HI-PERFORMANCE REFLECTIVE INSULATION

HI-PERFORMANCE REFLECTIVE INSULATION

THE MOST VERSATILE INSULATION IN THE WORLD

GREAT ENERGY SAVINGS FOR NEW CONSTRUCTION AND RETROFIT PROJECTS

CONTRACTOR INFORMATION AND INSTALLATION GUIDE

AYR-FOIL™ (by RESISTO, a division of SOPREMA CANADA INC.) is a Canadian manufacturer fully committed to designing, manufacturing, and marketing reflective insulation and radiant barrier products.

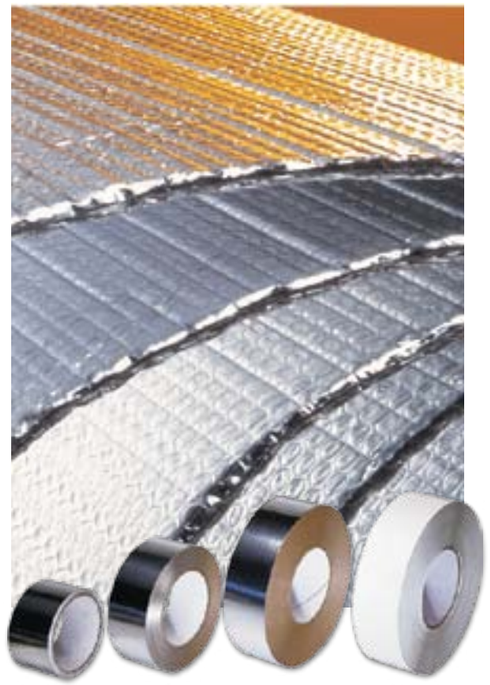
Our state of the art manufacturing plant is the most versatile in the industry. Custom widths up to 99 inches wide are available to meet your special needs.

Our technicians have developed specific installation methods for residential, commercial, industrial, agricultural and HVAC applications. Our products have been tested by independent laboratories to meet most North American building code requirements.

The design of **AYR-FOIL™** Reflective Insulation products provide them with R-values ranging from R-4 to R-16 depending on the installation method used and the direction of the heat flow.

AYR-FOIL™'S MISSION

- To promote the use of reflective insulation and radiant barriers.
- To educate contractors and end users on the remarkable properties of **AYR-FOIL™**'s products and provide accurate information on their R-values and performance.
- To diversify our product line and develop new markets.
- The **RESISTO** organization is committed to fully meeting the requirements of existing and future customers.



We are there to help you!
Feel free to contact us.

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www.resisto.ca

www.resisto.us

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THE MOST VERSATILE INSULATION IN THE WORLD!

PRODUCT DESCRIPTIONS

AYR-FOIL™ A2A–M2M

Reflective surface
Polyethylene bubble
Polyethylene
Polyethylene bubble
Reflective surface

AYR-FOIL™ A2V–M2V

Reflective surface
Polyethylene bubble
Polyethylene
Polyethylene bubble
White polyethylene (UV protected)

AYR-FOIL™ A1V–M1V

Reflective surface
Polyethylene bubble
White polyethylene (UV protected)

AYR-FOIL™ A1A–M1M

Reflective surface
Polyethylene bubble
Reflective surface

AYR-FOIL™ CA2P

Protective coating
Reflective surface
Polyethylene bubble
Polyethylene
Polyethylene bubble
Clear polyethylene

AVAILABLE SIZES

96″ x 125′
(2.4 m x 38.1 m)

72″ x 125′
(1.8 m x 38.1 m)

48″ x 125′
(1.2 m x 38.1 m)

24″ x 125′
(61 cm x 38.1 m)

16″ x 62.5′
(40.6 cm x 19 m)

48″ x 25′
(1.2 m x 7.6 m)

24″ x 25′
(61 cm x 7.6 m)

16″ x 25′
(40.6 cm x 7.6 m)

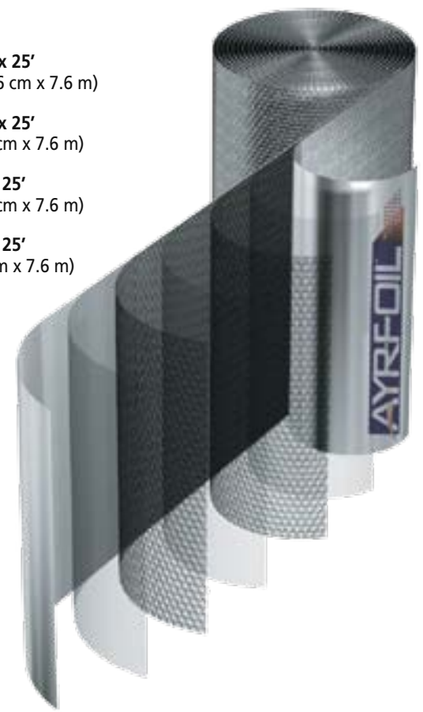
12″ x 25′
(30 cm x 7.6 m)

6″ x 25′
(15 cm x 7.6 m)

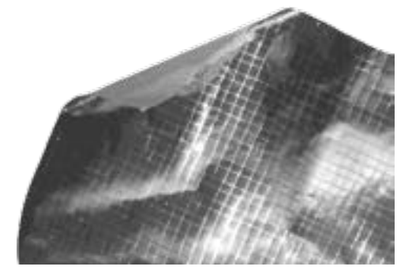
2″ x 25′
(5 cm x 7.6 m)

Other sizes are offered, contact us.

All products are available with a 1″ or 2″ **staple tab** and/or 1″ **quick seam tape**.



OTHER PRODUCTS



RADIANT BARRIERS

ALUMINUM FOIL–ALUMINUM FOIL
Perforated or not

ALUMINUM FOIL–KRAFT PAPER
Perforated or not

(All radiant barriers are available in 50″ (1.27 m) x 250′ (76.2 m) rolls.)

* Other products and sizes are available, contact us.

PRE-FABRICATED INSULATION KIT

WATER HEATER KIT
(40 or 60 gallons)

AYR-FOIL™ TAPE TO SEAL SEAMS

ALUMINUM FOIL TAPE
2″ x 30′
2″ x 150′

WHITE VINYL TAPE OR WHITE POLYESTER TAPE
2″ x 300′

REFLECTIVE METALIZED TAPE
2″ x 30′
2″ x 150′

* Other formats and types of tapes. contact us.

DEFINITIONS
REFLECTIVE INSULATION
RADIANT BARRIERS
R-VALUES

HOW DOES IT WORK ? WHY USE IT ?

Before you decide which product you need and how it needs to be installed, it is important to understand the difference between a reflective insulation system and a radiant barrier.

DEFINITION OF A REFLECTIVE INSULATION SYSTEM AND A RADIANT BARRIER (SOURCE : RIMA) :

Reflective insulation is thermal insulation composed of enclosed air spaces sandwiched between one or more low emittance materials. A radiant barrier system specifies that the reflective material facing an open air space. The main difference between the two is that a reflective insulation system has a measurable R-value.

By definition, this means that our **AYR-FOIL™** bubble products are reflective insulation systems because they already have an enclosed air space sandwiched between the outer layers. Radiant barriers are typically products such as aluminium-aluminium or aluminium-kraft paper. These products can also be reflective insulation systems if their foil side is facing an enclosed air space.

With its **AYR-FOIL™** products, RESISTO is committed to develop the use of bubble foil insulation. This is why you will find a lot more info on bubble-foil products than laminated foil in this installation guide.

AYR-FOIL™ is a 5/16" or 3/16" thick, multi-layer, reflective insulation available in rolls of various widths and lengths. Two outer layers of reflective material reflect up to 97% of radiant heat. Each reflective surface is bonded to a tough layer of polyethylene for strength. Two inner layers of insulating bubble pack resist conductive heat flow while a centre layer of polyethylene gives **AYR-FOIL™** high reliability and strength.

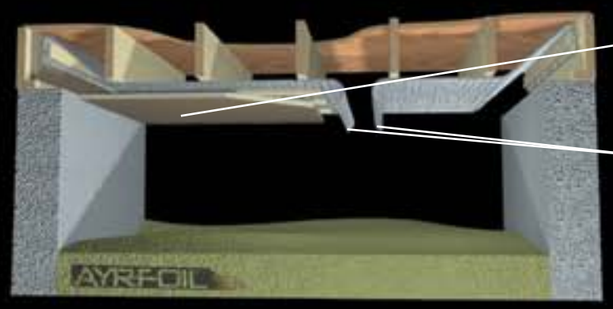
AYR-FOIL™ reflects the sun's rays (infra-red) in the hot summer months. It also retains interior heat and helps to reduce or eliminate potentially damaging ice dams and condensation during the winter months.

Radiant heat, the major source of heat transfer, is energy in the form of infrared rays. It travels at the speed of light, even through a vacuum, and is either transmitted through, absorbed into or reflected by any material it comes in contact with. Air, water, and glass, for example, transmit visible light to varying degrees. A white surface such as snow reflects it; while a black surface absorbs it. **AYR-FOIL™** reflective insulation reflects up to 97% of radiant energy.

WHAT ARE R-VALUES ?

R-values are commonly used to rate the thermal resistance and effectiveness of insulating materials. When properly installed, **AYR-FOIL™** has a good R-value, which effectively resists heat transfer through thermal conduction. Because it acts as a radiant energy barrier **AYR-FOIL™** is superior to other mass insulation products with the same R-values. In addition to ensuring exceptional indoor comfort, **AYR-FOIL™** stands out by its ability to provide superior energy savings.

CRAWL SPACES



R-21
1" RIGID INSULATION AND AYR-FOIL™ A2A

R-12.5
AYR-FOIL™ A2A

- Prevents cold floors
- Increases the R-value
- Prevents insects and rodents from building nests
- Prevents ground moisture from causing dry rot

*To avoid condensation problems, do not install fibrous insulation between the joists during cold weather.

INSTALLATION METHOD

1

Make sure there is no fibrous insulation between the floor joists.

2

Staple AYR-FOIL™ under the floor joists.
Be sure to seal it well around the perimeter joist as close as possible to the top corner.

3

Seal all the seams with AYR-FOIL™ ALUMINUM TAPE.

TO INCREASE THE R-VALUE:

4

Install wood strapping on the AYR-FOIL™ perpendicular to the joists.

5

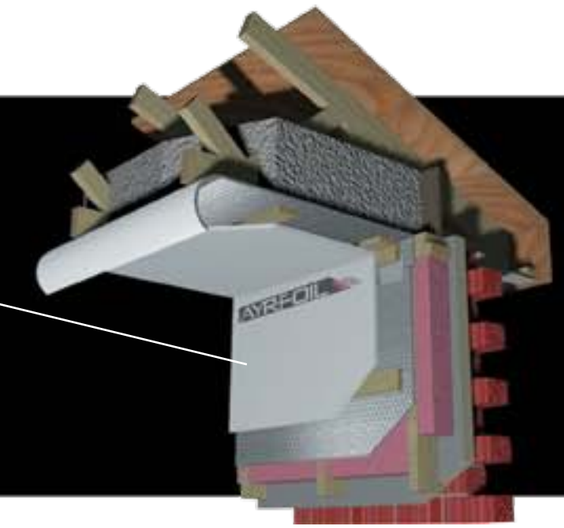
Nail the rigid insulation to the strapping according to the manufacturer's recommendations.
Make sure the air space between the foil and the rigid insulation is properly sealed.

INSULATING VAPOUR BARRIER FOR WALLS AND CEILINGS

ADDS R-4.5 TO THE R-VALUES OF WALLS

ADDS R-3.8 ADDED TO THE R-VALUES OF CEILINGS

- DRYWALL
- WOOD STRAPPING (AIR SPACE)
- AYR-FOIL™ A1V
- 2" X 4" OR 2" X 6" (5 CM X 10 CM OR 5 CM X 15 CM) WITH FIBREGLASS IN THE MIDDLE
- REGULAR OUTSIDE FINISH



INSTALLATION METHOD

WALLS

1

Make sure the fiberglass is installed correctly between the studs.

2

Staple the AYR-FOIL™ A1V to the studs with the white side facing the fiberglass (reflective side facing in) every 16" (40.6 cm) c / c. Do not overlap the materials.

3

Seal the seams with AYR-FOIL™ REFLECTIVE TAPE.

CEILINGS

1

As with walls, the AYR-FOIL™ and strapping can be installed first. AYR-FOIL™ can support the attic insulation. Simply install the fibrous insulation over the AYR-FOIL™ between the rafters.

- The R-value includes the **AYR-FOIL™ A1V** and the enclosed air space adjacent to the walls and ceiling.
- Is a very robust, certified vapour barrier that increases the long-term effectiveness of fibrous insulation.
- Prevents air infiltration.

INTERIOR RETROFITS

MATERIAL ADDED

- WOOD STRAPPING
- AYR-FOIL™ A2A
- WOOD STRAPPING
- DRYWALL

ADDS R-7.5 TO THE R-VALUES OF WALLS AND CEILINGS

- **AYR-FOIL™** can be installed on any kind of surface.
- Contains no hazardous materials.
- Prevents heat loss by conduction, convection and radiation.
- Is an excellent vapour barrier.

INSTALLATION METHOD

1

Make sure that the surface is level and dry. Seal all cracks prior to installing the product. If there is an existing vapour barrier, perforate it at several places to prevent the build up of moisture between two vapour barriers.

2

Install the first layer of wood strapping every 16" (40.6 cm) c/c.

3

Staple the AYR-FOIL™ A2A to the wood strapping without overlapping it. Seal the seams with AYR-FOIL™ REFLECTIVE TAPE.

4

Install the second layer of strapping and the drywall.

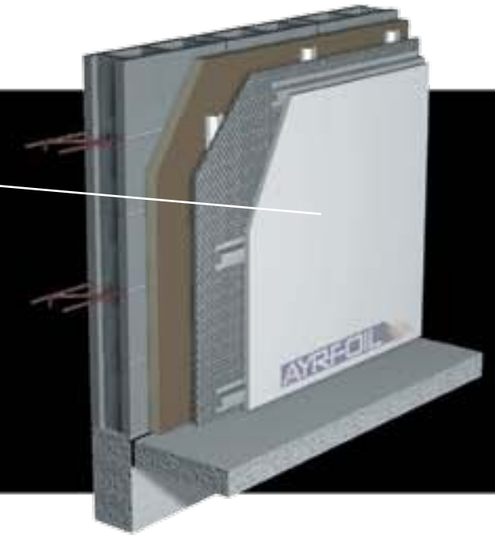
CONCRETE BLOCK WALL

FOUNDATION WALLS

ADDS R-14 TO THE R-VALUE OF THE WALL

MATERIAL ADDED

- CONCRETE BLOCKS (OR FOUNDATION WALLS)
- RIGID INSULATION 1" (2,5 CM)
- STRAPPING (AIR SPACE)
- AYR-FOIL™ A2A
- STRAPPING (AIR SPACE)
- DRYWALL



INSTALLATION METHOD

1

Attach the rigid insulation temporarily to the concrete blocks.

2

Screw the first layer of metal strapping to the wall through the rigid insulation.

3

Attach the AYR-FOIL™ A2A to the metal strapping using double-sided tape.

4

Seal the seams with AYR-FOIL™ ALUMINUM TAPE.

5

Install the second layer of strapping and the drywall according to the manufacturer's recommendations.

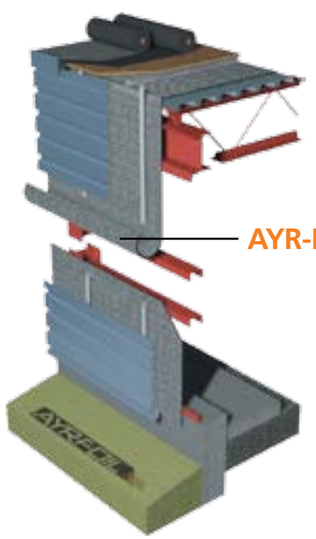
- **AYR-FOIL™** can be installed on both sides of concrete block walls. Make sure that the **AYR-FOIL™** is installed on the warm side of the wall assembly in colder climates.
- The insulation system is very effective and airtight.
- The insulation system term boasts long-term stability.

* Other installation methods are possible.

INSULATING A METAL BUILDING

THE BEST REFLECTIVE INSULATION FOR METAL BUILDINGS AND POST FRAME AND POLE BUILDINGS

- Quick and easy to install.
- Reduces condensation and energy costs.
- Reduces heat gains indoors.
- Protects livestock.
- Available in custom widths up to 98" (2.5 m) with staple tabs.
- Available with staple tabs or quick seam double-sided self-adhesive tape for quick installation.
- UV resistant.



THE BEST INSULATION FOR METAL BUILDINGS

Whether for a new metal building or a retrofit, many different methods can be used to insulate metal buildings. Of course, the R-values will depend on the installation method used. Even though a number of installation methods are presented in this Guide, we recommend that you contact our specialists. They can help you select the best system for your needs and measure the R-value of your building.

AYR-FOIL™ REFLECTIVE INSULATION PRODUCTS

- Are quick and easy to install.
- Reduce condensation, air infiltration, and energy costs.
- Reduce inside heat gains and provide an excellent R-value.
- Protect livestock.
- Are reliable, long-lasting vapour barriers.
- Prevent condensation and are not affected by mold.
- Can be installed on the interior or exterior of structures, over existing insulation.
- Are available in rolls up to 8' (2.5 m) wide.
- Are easy to clean and provide a good-looking finish.

POST FRAME AND POLE BUILDINGS

AYR-FOIL™ helps to solve or limit two of the major problems associated with post frame buildings. The reflective side of **AYR-FOIL™**'s prevents temperature increases providing a more comfortable environment for workers and livestock. In addition, the air bubbles reduce condensation problems. Furthermore, the white polyethylene side is easy to clean and has a bright shiny finish.

BENEFITS

- Is an excellent vapour barrier.
- Is an effective sun screen that prevents farm buildings from overheating and protects the livestock.
- Has a clean and washable finish.
- Eliminates condensation problems
- Is UV resistant

INSTALLATION METHOD

1

Install wood strapping on the wood or metal structure. In general, 1" x 3" wood strapping is ideal.

2

Other strapping systems may also be used.

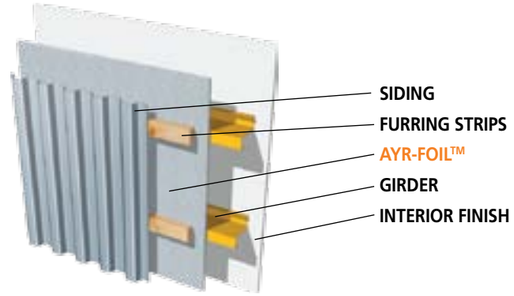
3

Unroll the AYR-FOIL™ A2V, white side facing the outside of the structure and the strapping the inside of the building. Staple it to the strapping every 4" (10 cm). Rust resistant staples must be used.

4

Seal seams with 2"-wide (5 cm) AYR-FOIL™ WHITE VINYL TAPE.

METAL BUILDINGS



METAL WALLS

AYR-FOIL™ A2A or **A1A** can be used to insulate metal buildings and provide R-values of up to R-8 and R-10 respectively.

1

Start at end of purlins.

2

Attach foil securely.

3

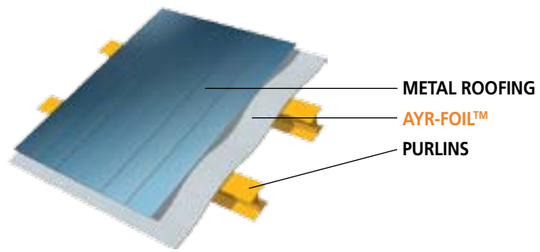
Pull tight when unrolling the foil. Seal seams using AYR-FOIL™ TAPE or AYR-FOIL™ QUICK SEAM TAPE (double-sided).

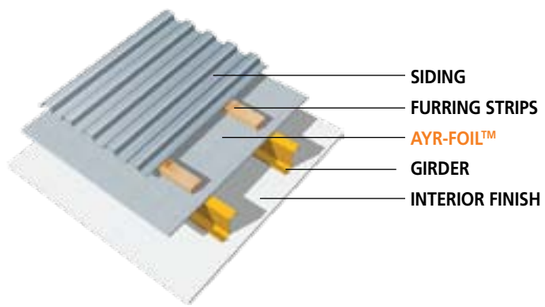
4

Attach the thermal block on top of the foil.

5

Install metal roofing using the customary method.





METAL ROOF

AYR-FOIL™ is perfect for insulating roofs and provides an R-10 value, using either the purlin, or drape method.

PURLIN METHOD

1

Start at end of purlins.

2

Attach foil securely. Pull tight when unrolling the foil.

3

Seal seams using AYR-FOIL™ TAPE or AYR-FOIL™ QUICK SEAM TAPE (double-sided).

4

Attach the thermal block on top of the metal foil.

5

Install the metal roofing using the customary method.

DRAPE METHOD

1

Apply the double-sided tape to the first C or Z channel, starting at furthest end of the building.

2

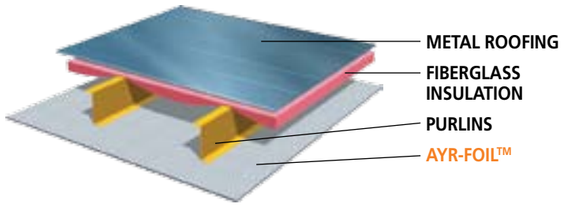
Roll out the AYR-FOIL™ A2A or A2V on the surface allowing it to sag between the channels to create an air space.

3

Seal seams using AYR-FOIL™ TAPE or AYR-FOIL™ QUICK SEAM TAPE (double-sided).

4

Install the metal roofing using the customary method.



RETROFITTING METAL BUILDINGS

It is easy to obtain an R-19 value with **AYR-FOIL™ A2V** or **A2A** Reflective Insulation products when they are installed over existing fibreglass*.

1

Start at end of purlins.

2

Attach foil securely.

3

Seal seams using AYR-FOIL™ TAPE or AYR-FOIL™ QUICK SEAM TAPE (double-sided).

4

Attach the thermal block on top of the metal foil.

5

Install the metal roofing using the customary method.

* Other retrofit assemblies are possible. Consult our specialist.

INSULATING METAL ROOFS

AYR-FOIL™ A2V and **A1V** Reflective Insulation products are ideal for quickly and easily insulating existing metal roofs. Because they are only 3 / 16" or 5 / 16" thick, they are perfect for tight spaces. Once installed, **AYR-FOIL™ A2V** and **A1V** products reflect the heat to keep the inside of the building cooler and prevent water infiltrations.

INSTALLATION METHOD

1

Pre-cut lengths of AYR-FOIL™ that span eave-to-eave, up and over the ridgeline.

2

Begin at one eave by laying the AYR-FOIL™ flat on the roof. Unroll toward the ridge and continue down to the other side.

3

Lay the next course of AYR-FOIL™ parallel to the first. If using tap products, make sure the square edge faces the tab edge of the previous course of AYR-FOIL™.

4

Seal the joints and make sure the entire roofline is covered with AYR-FOIL™.

5

Attach furring material of choice over the AYR-FOIL™ covered roof.

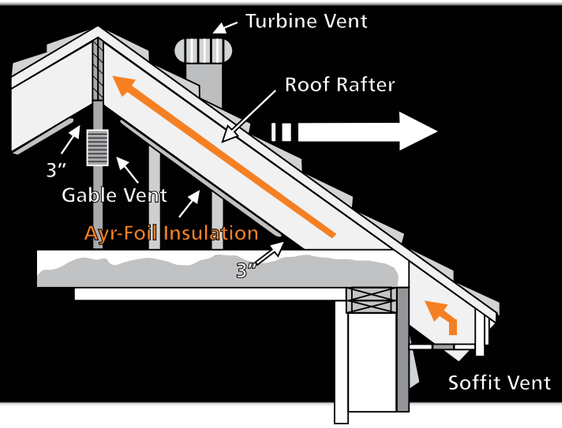
6

Install the metal roof on the furring.

WARNING:

To ensure proper ventilation, vents (ridge, gable, soffit, etc) should not be covered with AYR-FOIL™ insulation.

RADIANT BARRIER FOR ATTICS



In the summer, most of the heat entering homes and buildings comes through the roof. Using a reflective foil like **AYR-FOIL™** aluminium-aluminium or aluminium-kraft paper saves on air conditioning costs and maintains a comfortable temperature inside. **AYR-FOIL™** attic barrier can reduce heat gains through the attic by as much as 78%. Both products available are perforated to eliminate condensation problems. **AYR-FOIL™** radiant barriers can also improve fibrous insulation performance in the winter.

INSULATING ATTICS

1

Staple the AYR-FOIL™ radiant barrier in place. For adequate ventilation leave a 3" (7.6 cm) gap along the ridgepole and the base of the rafters. A turbine and gable vent or soffit vent will circulate air between the rafters.

2

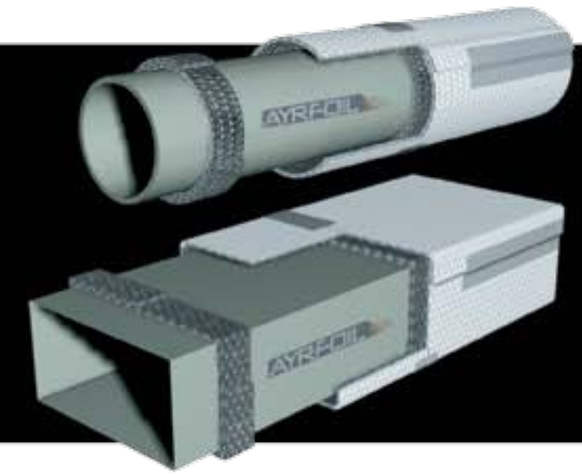
The joints can be overlapped without sealing the seams.

INSULATING WATER PIPES AND AIR DUCTS

ROUND OR REGULAR DUCTS

AYR-FOIL™ A2A
R-4.3 WITHOUT SPACER STRIPS
R-6 WITH SPACER STRIPS

TALK TO OUR TECHNICIANS ABOUT THE R-8 INSTALLATION METHOD.



INSTALLATION METHOD

1

Install 2"-wide (5 cm) strips of AYR-FOIL™ every 16" (40.6 cm) around pipes (two thicknesses) to create an air space.

2

Roll the AYR-FOIL™ A2A over the spacer strips and overlap the preceding piece by approximately 1" (2.5 cm). Avoid placing the envelope seams over the spacer seams. The foil side must face the pipe or duct.

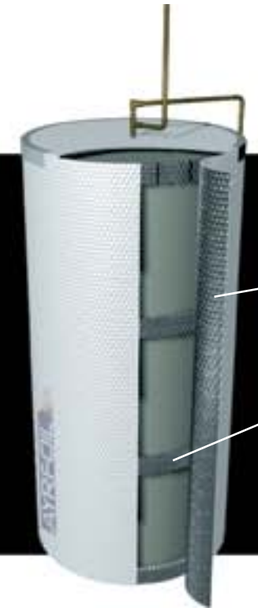
3

Seal all seams with AYR-FOIL™ REFLECTIVE FOIL TAPE.

- **AYR-FOIL™ pipe wrap can be used for smaller pipes and ducts. Available in 2", 4", 6" and 12" (5 cm, 10 cm, 15 cm and 30 cm) wide formats.**
- **AYR-FOIL™ spacer strips are available in a 2" x 25' format and come in bags of 24.**

- Prevents condensation.
- Reduces noise, and vibration.
- Is equivalent to more than 1 ½" (3.8 cm) of fibreglass insulation.
- Is not affected by moisture or water.
- Contains no hazardous materials and is non-allergenic.
- Can be washed.
- Does not need to be painted.
- Is ideal for air conditioning and ventilation ducts.
- With spacer strips, adds R-6 to the R-value.

WATER HEATERS



AYR-FOIL™ A2V

AYR-FOIL™ 2" (5 CM) SPACING STRIP

- Is perfect for 40-and 60-gallon gas* and electric water heaters. It can also be used with larger tanks.
- Has a clean, washable finish.

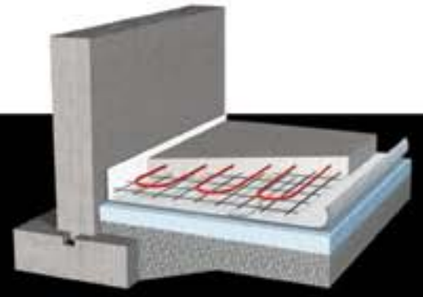
* VERY IMPORTANT: To prevent fire hazards, do not cover the combustion chamber of the pilot light.

AYR-FOIL™ CAN PREVENT UP TO 18% ON ENERGY LOSSES FROM WATER HEATERS.

PIPE AND DUCT WRAP

INSULATION SYSTEMS UNDER CONCRETE SLABS

WITH OR WITHOUT RADIANT HEAT



WITH

- CONCRETE SLAB
- AYR-FOIL™ CA2P (REFLECTIVE SIDEUP)
- RIGID INSULATION
- SAND OR GRAVEL
- GROUND

WITHOUT

- CONCRETE SLAB
- AYR-FOIL™ A2V (WHITE SIDE UP) OR CA2P (REFLECTIVE SIDE UP)
- SAND OR GRAVEL
- GROUND

WITH RADIANT HEAT

1

Unroll AYR-FOIL™ CA2P over the rigid insulation*, with the reflective side facing up.

2

Overlap the seams by 2" (5 cm). Cut AYR-FOIL™ CA2P so that it overlaps the base of the wall by 6" (15 cm).

3

Seal the seams with 2"- wide (5 cm) AYR-FOIL™ ALUMINIUM TAPE.

4

Pour the concrete over the AYR-FOIL™ CA2P.

* Consult heating systems manufacturers to know more about rigid insulation requirements.

WITHOUT RADIANT HEAT

1

Unroll AYR-FOIL™ over the sand or gravel, with the reflective side facing the ground (white side up (A2V)) or reflective side up (CA2P).

2

Overlap the seams by 2" (5 cm). Cut AYR-FOIL™ so that it overlaps the base of the wall by 6" (15 cm).

3

Seal the seams with 2"- wide (5 cm) AYR-FOIL™ WHITE VINYL TAPE or ALUMINIUM TAPE 2"- wide (5 cm).

4

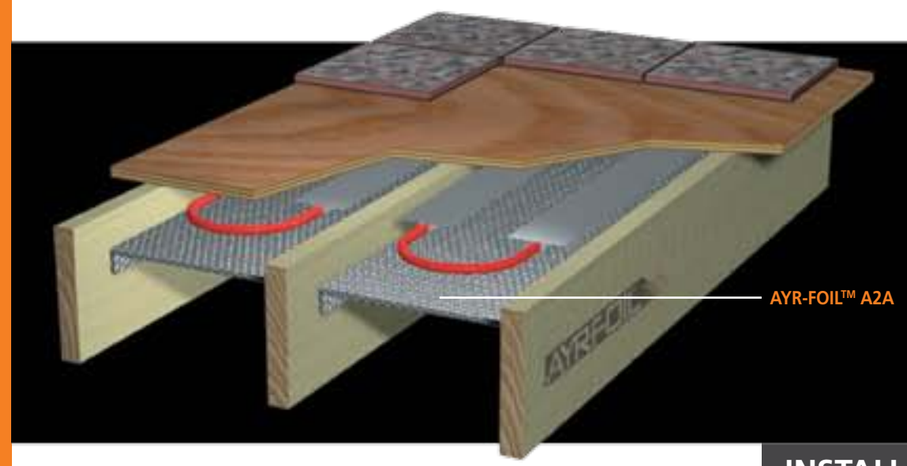
Pour the concrete over the AYR-FOIL™.

It is the exclusive responsibility of the user to ensure that the products are installed according to applicable Building Codes and municipal authorities' requirements (ex.: R Value requirement).

WITH OR WITHOUT AYR-FOIL™ A2V OR CA2P

- Eliminates basement dampness.
- Increases comfort in the basement.
- Keeps the temperature of the slab very close to room temperature.
- Is easy and quick to install.
- Possesses 60 psi crush resistance.
- Helps reflect energy from the slab back into the room.
- Breaks the thermal bridges between the slab and the ground.

RADIANT HEATING UNDER A WOOD FLOOR



UP TO R-14.5

- Is installed between the joists.
- Conserves heat.
- Maximizes the efficiency of the heating system.
- Allows for a quick response time by the heating system.

INSTALLATION METHOD

1

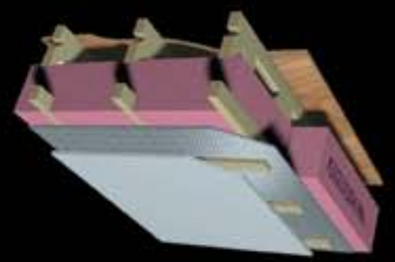
Cut the AYR-FOIL™ A2A to the right width, generally 16" or 24" (41 or 61 cm).

2

Staple the AYR-FOIL™ to the sides of the joists (see illustration).

* AYR-FOIL™ is also available in 16" and 24" (41 and 61 cm) widths with staple tabs for easy, quick installation.

OTHER APPLICATIONS



ADDS R-4 THE R-VALUE

GARDEN SHEDS, FISHING AND HUNTING CABINS

- Can be use as an interior finish.
- Conserves heat.
- Keeps the inside cool in summer and warm in winter.
- Makes it possible to cool down and heat up the rooms more quickly.

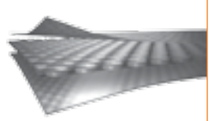
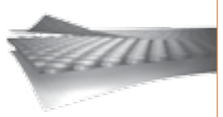
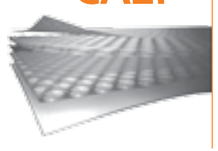
INSULATING GARAGE DOORS

- **AYR-FOIL™** reduces heat losses.
- Is very light (no need to adjust the door opener).
- Has a clean and washable finish.
- Has an R-6 value.

CATHEDRAL CEILINGS

- Be sure to leave at least a 2" (5 cm) air space between the top of the insulation and the roof.
- Install fibrous insulation between the rafters.
- Attach the **AYR-FOIL™ A1V** to rafters.
- Install wood strapping.
- Install drywall.

PRODUCT PROPERTIES

PRODUCT	DESCRIPTION	THICKNESS	DIMENSIONS*	EMISSIVITY
A2A 	2 layers of bubbles, reflective surface on both sides	8 mm (5/16 in)	16″ 24″ 48″ 72″ or 96″ W X 62.5′ or 125′ L	0.06
A2V 	2 layers of bubbles, reflective surface on one side and white polyethylene on other side, UV resistant	8 mm (5/16 in)		0.06
A1A 	1 layer of bubbles, reflective surface on both sides	4 mm (3/16 in)		0.06
A1V 	1 layer of bubbles, reflective surface on one side and white polyethylene on other side, UV resistant	4 mm (3/16 in)		0.06
CA2P 	2 layers of bubbles, reflective surface with protective coating on one side and translucent polyethylene coating on other side	8 mm (5/16 in)		0.2

See complete data sheets at **www.resisto.ca** / **www.resisto.us**

RADIANT BARRIER DATA SHEET

	ALUMINIUM- ALUMINIUM	ALUMINIUM-KRAFT PAPER
Basis weight	10 lbs / 1000 sq. ft	21 lbs / 1000 sq. ft
Bursting strength	65 psi (Mullen burst)	40 psi
Puncture strength		25 beach units
Tensile strength	23 lbs/ n width (MD) 24 lbs/in width (XD)	40 lbs/in width (MD) 25 lbs/in width (XD)
Caliper thickness	0.005 inches	0.008 inches
Operating temperature	-40° F to 240° F (-40°C to 116°C) (no delamination)	-40° F to 240° F (-40°C to 116°C) (no delamination)
Water immersion (24 hrs at 73° F (23°C)	No delamination	No delamination
Emissivity	0.03–0.05	0.03– 0.05
Flame spread (ASTM E84)	Aluminium exposed 5 Polyester exposed 5	Aluminium exposed 5 Kraft paper exposed 25
Smoke developed	Aluminium exposed 0 Polyester exposed 10	Aluminium exposed 0 Kraft paper exposed 10

See complete data sheets at **www.resisto.ca** / **www.resisto.us**

INSTALLATION AND SAFETY TIPS

THE FOLLOWING TIPS APPLY TO ALL AYR-FOIL™ PRODUCTS AND SHOULD BE TAKEN INTO CONSIDERATION DURING THE INSTALLATION.

- The R-values given in this guide are based on current knowledge and testing methods. Since **AYR-FOIL™** prevents heat transfers in three ways (see pages 5 and 6), energy savings and overall performance can be better than other insulation products with higher R-values. Always verify local codes before beginning the construction of new buildings.
- All cracks and holes on the surfaces should be repaired before installing **AYR-FOIL™**. If there is an existing vapour barrier, it must be removed or perforated to avoid condensation problems.
- With **AYR-FOIL™** A1V or A2V, the reflective side must face the air space. See the illustrations for exceptions.
- Installing **AYR-FOIL™** products has no effect on construction methods. Some details in the illustrations should be considered as general indications only. When in doubt, contact our technical department.
- **AYR-FOIL™** should not be overlapped unless it is being installed under a concrete slab. The seams must be sealed properly.
- To reduce air infiltration and moisture transfers to a minimum, **AYR-FOIL™** should not be perforated. All perforations must be sealed with **AYR-FOIL™** TAPE or an appropriate caulking.
- Air spaces next to **AYR-FOIL™** products should be at least 5/8" wide (16 mm). For vertical air spaces larger than 2 1/2" (62 mm), an anti-convection barrier should be installed every 4 feet.
- **AYR-FOIL™** can be stapled, nailed, screwed, glued, or taped. When in doubt, ask one of our technicians to help you select the appropriate installation method.
- Always use protective eye glasses when using staple or nail guns.
- Always be careful when working with large pieces of **AYR-FOIL™** on windy days.
- Wear sunglasses when working outside with **AYR-FOIL™** products.

BENEFITS FOR CONTRACTORS, ARCHITECTS, AND END-USERS

AYR-FOIL™ is one of the most cost-effective energy saving products on the market. Its remarkable properties make it the ideal solution for new construction or retrofit projects in the residential, commercial, and agricultural sectors. It is also recommended for HVAC applications, metal buildings, and post frame buildings. With the increasing demand for energy efficient and environmentally safe products, we believe that **AYR-FOIL™** provides more benefits than any other type of insulation.

BENEFITS FOR CONTRACTORS

AYR-FOIL™

- Is easy to install because of its solidity and flexibility.
- Does not require any special tools or protection.
- Saves up to 50% on installation time compared to other types of insulation.
- Requires much less space for storage. (2500 sq. ft can easily fit in a pick-up truck).
- Is an excellent insulation solution for retrofit work where space is an issue.
- Is available in convenient sizes for easy installation; custom sizes are also available on request.

BENEFITS FOR ARCHITECTS

AYR-FOIL™

- Provides the most cost-effective R-value for its thickness.
- Provides a solution for reducing and eliminating condensation problems.
- Reduces costs associated with heat losses and gains thanks to its reflective properties.
- Is a technologically advanced insulation that limits heat transfers.
- Is an environmentally friendly product.

BENEFITS FOR THE END-USERS

AYR-FOIL™

- Ensures that homes and buildings are healthier, more comfortable, and more energy efficient.

SOME REMARKABLE PROPERTIES OF AYR-FOIL™ REFLECTIVE INSULATION

- The white film is UV protected.
- Is environmentally friendly.
- Is non-toxic and non-allergenic, and harmless to humans and the environment.
- Is easy to work with. A utility knife and reflective tape are all you need. The easy installation saves you time.
- Reflects up to 97% of radiant energy. Energy transfers are down to minimum.
- Is robust and is not affected by mold and bacteria.
- Prevents insects and rodents from building nests.
- Is 100% waterproof.
- Has high moisture and puncture resistance.
- Is light and thin.
- Installation requires little space during retrofitting works.
- R-values are unaffected by humidity and water.
- Creates a thermal break.
- Is easy to repair. If a rip occurs, simply patch with foil tape. If the damage is extensive, cut the damaged area out and staple a new piece in place.
- Is ideal for retrofits and can be installed over existing insulation or on drywall.
- As a radiant barrier, reduces the solar heat gains through the roof.
- Is not affected by bad weather or frost and can be stored outdoors.
- Is shipped in plastic bags for easy storage.
- Is anti-static and does not damage computers.
- Is non-capillaty.
- Does not tear when being installed.
- Does not shrink over time.
- Properties not affected by UV rays.
- When not covered, its ability to reflect the light makes the rooms brighter.
- Robust: the reflective surface is mold-resistant.

TESTING AND CERTIFICATION + FAQ

Tests were performed on **AYR-FOIL™** reflective insulation products and radiant barriers by certified independent laboratories. American, Canadian and European laboratories used different techniques to validate the performance of the products based on the building codes in effect in their country. Visit our web site at **www.resisto.ca / www.resisto.us** for a complete list of data sheets.

For more information, feel free to contact us.

Thermal performance for heat flow up, down and horizontal	ASTM C236
Thermal performance for heat flow up, down and horizontal	ASTM C518
Hot Surface Performance	ASTM C411
Flame spread and smoke development (reflective surface)	ASTM E84 class 1/A
Flame spread and smoke development (On the white poly side)	ASTM E84 class 1/A
Water vapour transmission	ASTM E96
Tensile strength	CGSB 51.33 M89
Pliability	CGSB 51.33 M89
Emissivity	ASTM E408-71/ ASTM C1371
Standard specification for Reflective insulation	ASTM C1224
Fungi resistance	ASTM C1338-08
Temperature/humidity resistance	ASTM C1258

FAQ

WHERE CAN I USE AYR-FOIL™ INSULATION?

Your imagination is almost the only limit to the many uses of **AYR-FOIL™**. It can be installed wherever you would use any other insulation. It can also be used for other applications. For example, it can be used as a camping mattress, stadium seat, cooler insulation, windshield sunscreen and much more.

IS THE AIR SPACE NECESSARY?

Since it already contains enclosed air spaces, **AYR-FOIL™** already has a good R-value. However, you will obtain better results and superior performance with an enclosed air space facing the reflective surface on one or both sides. Ideally, the air space should be 3/4" wide but can range from 1/2" to 2".

DOES AYR-FOIL™ WORK IN WARM AND COLD CLIMATES?

YES. Whether you live in a warm or a cold climate, the three methods of heat transfer (conduction, convection and radiation) apply. **AYR-FOIL™** will radiate out warm air in the summer and keep it in during the winter.

IS AYR-FOIL™ A VAPOUR BARRIER?

YES. All our bubble products are ASTM E96-certified type 1 vapour barriers. Like any other vapour barrier, **AYR-FOIL™** has to be in the right place in your assembly. Perforated aluminium-aluminium and aluminium-kraft paper radiant barriers are available when a vapour barrier is not desired.

IS AYR-FOIL™ A FIRE RETARDANT?

NO. **AYR-FOIL™** is not a fire retardant (like drywall for instance) but it has a class 1-A flame spread and smoke development rating on both the reflective surface and the white poly side based on the ASTM E84 test. This meets most building codes requirements for insulation products.

WHY SHOULD I USE AYR-FOIL™ TAPE?

In most applications, we recommend sealing seams with an appropriate tape. **AYR-FOIL™** TAPE meets fire ratings and vapour barrier requirements. The glue is designed to adhere permanently to the foil and white polyethylene.

AYR·FOIL®
HI-PERFORMANCE REFLECTIVE INSULATION

ANOTHER EFFECTIVE SOLUTION BY

RESISTO
une division de SOPREMA

Customer Service
TOLL FREE : 1 877 478.8408
www.resisto.ca
www.resisto.us

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