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.

Toll free: 1 877 478.8408
Fax: 1 819 478.0199
info@ayr-foil.com
www.resisto.ca
www.resisto.us

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**THE MOST VERSATILE INSULATION IN THE WORLD!**

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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
White polyethylene (UV protected)

AYR-FOIL™ CA2P
Protective coating
Reflective surface
Polyethylene bubble
Polyethylene
Polyethylene bubble
Clear polyethylene

AVAILABLE SIZES

<table>
<thead>
<tr>
<th>Size</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>96” x 125”</td>
<td>(2.4 m x 38.1 m)</td>
</tr>
<tr>
<td>72” x 125”</td>
<td>(1.8 m x 38.1 m)</td>
</tr>
<tr>
<td>48” x 125”</td>
<td>(1.2 m x 38.1 m)</td>
</tr>
<tr>
<td>24” x 125”</td>
<td>(61 cm x 38.1 m)</td>
</tr>
<tr>
<td>16” x 62.5”</td>
<td>(40.6 cm x 1.9 m)</td>
</tr>
<tr>
<td>48” x 25”</td>
<td>(1.2 m x 0.7 m)</td>
</tr>
<tr>
<td>24” x 25”</td>
<td>(61 cm x 0.7 m)</td>
</tr>
</tbody>
</table>

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

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.

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.

INSULATING VAPOUR BARRIER FOR WALLS AND CEILINGS

- 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.

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

R-12.5
AYR-FOIL™ A2A

ADDs R-4.5 TO THE R-VALUES OF WALLS
- 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

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

- 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

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.

CONCRETE BLOCK WALL FOUNDATION WALLS

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.

Installation Method

MATERIAL ADDED
— WOOD STRAPPING
— AYR-FOIL™ A2A
— WOOD STRAPPING
— DRYWALL

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

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.

AYR-FOIL™ A2A
DRYWALL

MATERIAL ADDED
— CONCRETE BLOCKS (OR FOUNDATION WALLS)
— RIGID INSULATION 1" (2.5 CM)
— STRAPPING (AIR SPACE)
— AYR-FOIL™ A2A
— STRAPPING (AIR SPACE)
— DRYWALL

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

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.
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.

AYR-FOIL™ helps to solve or limit two of the major problems associated with post frame buildings. The reflective side of AYR-FOIL™ 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.

**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.

**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.

**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.

**RETFITTING 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.
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.

### INSTALLATION METHOD

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.**

3. **Seal all seams with AYR-FOIL® REFLECTIVE FOIL TAPE.**

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AYR-FOIL® A2A

**R-4.3 WITHOUT SPACER STRIPS**

**R-6 WITH SPACER STRIPS**

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

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- 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.

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**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.
**WATER HEATERS**

AYR-FOIL™ A2V
AYR-FOIL™ 2” (5 cm)
SPACING STRIP

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

**PIPE AND DUCT WRAP**

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**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.

---

**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™.

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**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.

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**INSULATION SYSTEMS**
UNDER CONCRETE SLABS
WITH OR WITHOUT RADIANT HEAT

**WITH**
- CONCRETE SLAB
- AYR-FOIL™ CA2P
  (REFLECTIVE SIDE UP)
- RIGID INSULATION
- SAND OR GRAVEL
- GROUND

---

**WITHOUT**
- CONCRETE SLAB
- AYR-FOIL™ A2V
  (WHITE SIDE UP) OR
  CA2P (REFLECTIVE SIDE UP)
- SAND OR GRAVEL
- GROUND

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

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

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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).
RADIANT HEATING UNDER A WOOD FLOOR

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2019

RADIANT HEATING UNDER A WOOD FLOOR

OTHER APPLICATIONS

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.

GARDEN SHEDS, FISHING AND HUNTING CABINS

- Can be used 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.

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

Maximizes the efficiency of the heating system.

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

Up to R-14.5

ADD S R-4 THE R-VALUE

Conserves heat.

---

1

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.

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CATHEDRAL CEILINGS

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- Install fibrous insulation between the rafters.
- Attach the AYR-FOIL™ A1V to rafters.
- Install wood strapping.
- Install drywall.
## RADIANT BARRIER DATA SHEET

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>DESCRIPTION</th>
<th>THICKNESS</th>
<th>DIMENSIONS</th>
<th>EMISSIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2A</td>
<td>2 layers of bubbles, reflective surface on both sides</td>
<td>8 mm (5/16 in)</td>
<td>16&quot; 24&quot; 48&quot; 72&quot; 96&quot; WX 62.5' or 125' L</td>
<td>0.06</td>
</tr>
<tr>
<td>A2V</td>
<td>2 layers of bubbles, reflective surface on one side and white polyethylene on other side, UV resistant</td>
<td>8 mm (5/16 in)</td>
<td>16&quot; 24&quot; 48&quot; 72&quot; 96&quot; WX 62.5' or 125' L</td>
<td>0.06</td>
</tr>
<tr>
<td>A1A</td>
<td>1 layer of bubbles, reflective surface on both sides</td>
<td>4 mm (3/16 in)</td>
<td>16&quot; 24&quot; 48&quot; 72&quot; 96&quot; WX 62.5' or 125' L</td>
<td>0.06</td>
</tr>
<tr>
<td>A1V</td>
<td>1 layer of bubbles, reflective surface on one side and white polyethylene on other side, UV resistant</td>
<td>4 mm (3/16 in)</td>
<td>16&quot; 24&quot; 48&quot; 72&quot; 96&quot; WX 62.5' or 125' L</td>
<td>0.06</td>
</tr>
<tr>
<td>CA2P</td>
<td>2 layers of bubbles, reflective surface with protective coating on one side and translucent polyethylene coating on other side</td>
<td>8 mm (5/16 in)</td>
<td></td>
<td>0.2</td>
</tr>
</tbody>
</table>

### PRODUCT PROPERTIES

- **A2A**: 2 layers of bubbles, reflective surface on both sides. Emissivity: 0.06.
- **A2V**: 2 layers of bubbles, reflective surface on one side and white polyethylene on other side, UV resistant. Emissivity: 0.06.
- **A1A**: 1 layer of bubbles, reflective surface on both sides. Emissivity: 0.06.
- **A1V**: 1 layer of bubbles, reflective surface on one side and white polyethylene on other side, UV resistant. Emissivity: 0.06.
- **CA2P**: 2 layers of bubbles, reflective surface with protective coating on one side and translucent polyethylene coating on other side. Emissivity: 0.2.

### 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/in width (MD), 40 lbs/in width (MD), 24 lbs/in width (XD), 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).
- **Water immersion**: No delamination.
- **Emissivity**: 0.03–0.05, 0.03–0.05.
- **Flame spread (ASTM E84)**: Aluminium exposed 5, Polyester exposed 5, Kraft paper exposed 25.
- **Smoke developed**: Aluminium exposed 0, Polyester exposed 10, Kraft paper exposed 10.

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

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.

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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.
- 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-capillary.
- 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.

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.

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.
ANOTHER EFFECTIVE SOLUTION BY

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

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