



Roof Underlayment & House wrap

Installation Instruction



Ark~~nt~~[®]



Installation Guide

Arcno

High-Performance Synthetic Underlayment

For Metal • Tile • Slate • Wood • Asphalt • Synthetic Shingles

Product Overview

Arcno synthetic underlayment is a top choice for roofing professionals, delivering superior protection against water intrusion, moisture buildup, mold, and rot. Its premium, non-slip, wrinkle-free surface ensures fast, clean, and safe installation, performing flawlessly under virtually all steep-slope roofing materials—including metal, tiles, slate, wood, asphalt, and synthetic shingles. Lightweight, durable, and highly reliable, Arcno keeps roofs secure and long-lasting, even in extreme weather.

Deck Prep

Arcno should be applied to a properly prepared dry deck that is smooth, clean and free from any depressions, projections, or protruding nails. Acceptable roof deck materials are minimum 3/8 inch plywood, minimum 7/16 inch OSB, or minimum 6 inch roof deck boards. Roof decks should be structurally sound and meet or exceed minimum requirements of the roof deck manufacturer and local building codes.

Use

Arcno must be covered by primary roofing within 180 days of application and is designed for use under asphalt or synthetic shingles, metal in residential applications, and cedar shakes that have been primed.

Application

Slopes from 4:12 and higher: Arcno is to be laid out horizontally (parallel) to the eave with the printed side up. Horizontal laps should be 4 inches and vertical laps should be 6 inches and anchored approximately 1 inch in from the edge. End laps in a succeeding course should be located at least 6 feet from laps in the preceding course. Slopes 2:12 to less than 4:12: Cover the deck with two layers of Arcno. Begin by fastening a 22 inch wide strip of Arcno along the eaves with the minimal fasteners need to hold the course in place. Place a full-width sheet over the 22 inch course and overlap each successive course by 50 % plus 1 inch. Additional fasteners may be required in high. wind regions per local building codes. Vertical lap requirements are the same as 4:12 and higher slopes. Slopes less than 2:12: Arcno is not recommended for use.



Fasteners

Provided there is no rain or high winds, Arcno can be anchored with staples, cap staples or corrosive resistant 3/8 inch head X 1 inch leg roofing nails (ring, shank preferred, smooth leg acceptable), when covered with primary roofing on the same day. If Arcno will not be covered on the same day and up to 180 days, then product must be attached to the roof deck using a minimum 1 inch diameter plastic or metal cap roof nail (ring shank preferred, smooth leg acceptable). Miami-Dade approved tin tags/metal caps are also acceptable, and it is recommended for best performance to use with the rough edge facing up. For extended exposure, it is required that Arcno be anchored in all locations printed on the facer. Consult local building codes for fastener type and spacing requirements. For extended exposure conditions where driving rain or strong winds are expected, it is recommended to take additional precautions such as doubling the lap widths. Alternatively, or in addition to, a compatible sealant could be used between the laps or a peel and stick tape could be applied to the overlaps.

Anchoring

All anchoring nails must be flush, 90 degrees to the roof deck, and tight with the underlayment surface and the structural roof deck. Where seams and joints require sealant or adhesive, use a low solvent plastic roofing cement meeting ASTM D4586 Type1, or Federal Spec SS-153 Type 1 such as Karnak, Henry, DAP, MB, Geocel or equivalent. Acceptable alternatives are butyl rubber, urethane, and EDPM based caulk or tape sealant.

Precautions

Personal Protection: When working on roofs, always wear appropriate personal protective equipment (PPE), including non-slip footwear, safety harness, gloves, and safety glasses to prevent falls from height or cuts from membrane materials and tools.

Environmental Conditions: Avoid installation in high winds, rain, snow, ice, or extreme temperatures (too hot or too cold), as these conditions can affect membrane performance and compromise safety.

Handling Penetrations: Properly prepare and seal roof penetrations (such as chimneys, vents, skylights, etc.) using roof-specific waterproof sealants or self-adhesive membrane patches to maintain continuous waterproofing and airtightness.

Maintenance & Warranty

Arcno do not need special maintenance after installed; Lifetime warranty from the day of installation if it is quality defects.

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Remark:

Recommendations on methods, materials, and construction details are provided by Ark Synthetics based on current knowledge and experience. They serve as a general guide for designers, contractors, and manufacturers. Installation should also consider local conditions, project-specific requirements, and guidance from designers or other qualified professionals. For project assistance, contact: info@arksynthetics.com

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Installation Guide

Armour

High-Performance Anti-Slip Roof Underlayment

For Asphalt Shingles • Metal Roofing • Tiles • Synthetic Shingles • Steep-Slope Systems

Product Overview

Armour is engineered for demanding roofs, offering superior tear resistance, dimensional stability, and a slip-resistant surface for safe footing on steep, wet, or dusty slopes.

Mechanically fastened, it provides a reliable secondary barrier against moisture intrusion and performs in extreme temperatures.

Storage

Rolls of Armour should be stored on a flat, clean surface, either upright or lying down, and kept under cover to protect from direct sunlight and moisture. Avoid placing heavy objects on top to prevent damage or deformation. Ensure the storage area is dry and well-ventilated to maintain product integrity.

Deck Prep

Armour is an air, water and vapor barrier and therefore should be installed above a properly ventilated space(s). It is recommended to follow all building codes applicable to your geographical region and structure type.

All protrusions from the deck area must be removed and ensure the deck has no voids, damaged or unsupported areas. Deck surface should be free of debris, dry and moisture free.

Use

Armour must be covered by primary roofing within 180 days of application. Armour is designed for use under all primary roofing types including; Metal, Shake and Shingle roofing.

Application

For slopes 4:12 and higher Armour is to be laid out horizontally (parallel) to the eave with the printed side up. Horizontal laps should be 4" and vertical laps should be 6" and anchored approximately 1" in from the edge. For low slope applications (less than 4:12) it is recommended to overlap 50% plus 1", for complete definition of low slope and guidelines consult authorities having jurisdiction. Armour product is not recommended for

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slopes less than 2:12. The use of a roofing hammer, hatchet hammer, pneumatic air or gas driven fastener tools is acceptable. The use of a straight edge cutting knife is recommended.

Fasteners

For same day coverage with primary roofing Armour can be anchored with corrosive resistant 3/8" head x 1" leg roofing nails (ring shank preferred, smooth leg acceptable). The use of every other anchoring location printed on the product is also acceptable. **DO NOT USE STAPLES:** The use of staples to penetrate Armour A30 will void warranty.

Anchoring

All anchoring nails must be flush, 90 degrees to the roof deck, and tight with the underlayment surface and the structural roof deck. Where seams and joints require sealant or adhesive use a low solvent plastic roofing cement meeting ASTM D-4586 Type 1, or Federal Spec SS-153 Type 1 such as Karnak, Henry, DAP, MB, Geocel or equivalent. Acceptable alternatives are butyl rubber, urethane, and EDPM based caulk or tape sealant.

Extended Exposure

If Armour product will be exposed longer than 1 day but less than 5 days then it is recommended to anchor using corrosive resistant 3/8" head x 1" leg roofing nails (Ring shank preferred). Use of every other anchoring point in the field is acceptable. For exposure more than 5 days and up to 180 days Armour 30 product must be anchored with 1" plastic or metal cap smooth or ring shank roofing nails. Miami-Dade approved tin tags and nails or metal caps are also acceptable, and it is recommended for best performance to use with the rough edge facing up. For extended exposure it is always recommended to anchor on every printed position on the facer. Note: Armour is not designed for indefinite outdoor exposure. For extended exposure conditions where driving rain or strong winds are expected it is recommended to take additional precautions such as doubling the lap widths. Alternately or in addition to a compatible sealant could be used between the laps or a peel and stick tape could be applied to the overlaps.

Precautions

Personal Protection: When working on roofs, always wear appropriate personal protective equipment (PPE), including non-slip footwear, safety harness, gloves, and safety glasses to prevent falls from height or cuts from membrane materials and tools.

Environmental Conditions: Avoid installation in high winds, rain, snow, ice, or extreme



temperatures (too hot or too cold), as these conditions can affect membrane performance and compromise safety.

Handling Penetrations: Properly prepare and seal roof penetrations (such as chimneys, vents, skylights, etc.) using roof-specific waterproof sealants or self-adhesive membrane patches to maintain continuous waterproofing and airtightness.

Maintenance & Warranty

Armour do not need special maintenance after installed; Lifetime warranty from the day of installation if it is quality defects.

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Installation Guide

Armour AD

High-Performance Self-Adhered Roof Underlayment

For Asphalt Shingles • Metal Roofing • Tiles • Synthetic Shingles • Steep-Slope Systems

Product Overview

Armour AD is a temp-tolerant self-adhered underlayment designed for steep-slope roofs, offering superior waterproofing and anti-slip walkability. With excellent tear strength and dual ice-and-water protection, it ensures reliable performance and installer confidence even in extreme cold.

Storage

For best results store Armour AD Pro upright in its original packaging in a wellventilated area at room temperature between 40°F (4.4°C) and 90°F (32°C).

Deck Preparation

Armour AD Pro should be installed over a clean, smooth, and dry deck. The deck should also not have any voids, protrusions, damaged or unsupported areas. For re-roofing projects, replace any water damaged sheathing and sweep roof deck thoroughly removing dust, dirt and loose nails. Do not install over old roof covering.

STANDARD APPLICATION INSTRUCTIONS

Temperature Requirements

For best results Armour AD Pro should be installed when the air, membrane, and substrate temperature is over 40°F (4.4°C). However, Armour AD Pro can be installed in temperatures as low as 32°F (0°C) and rising.

Priming

Priming is not required when attaching to wood or OSB decks. Concrete or masonry decks should be primed with a solvent or water-based primer that meets ASTM D41 for self-adhesive membranes.

Membrane Installation

Membrane to be applied in shingle-lap fashion working from the low point to the high point of the roof. For easier installation, it is recommended to cut the membrane into manageable lengths. Then peel back one side of the split release liner and apply in

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position on the roof deck and then press in place by hand or with a weighted roller to increase adhesion. Once one side has been pressed to the deck peel back the remaining half of the release liner and press down to adhere to the roof deck again using a weighted roller.

Selvage Edge Rolling

For improved adhesion hand rolling over the selvage edge and directly above the selvage edge using a weighted roller is recommended. If a roller is not available or not considered safe, walk on all laps and as much of the field area as possible.

Cold Weather Application (32°F / 0°C or below)

A primer should be used and the uppermost selvage edge blind-nailed using 3/8" head roofing nails 1" or longer. Space nails along edge at 12" intervals using the marked locations. For best results, allow Armour AD Pro to ambiently warm to room temperature prior to application.

Steep Slope / High Wind / Hot Weather

For slopes 5:12 or greater, high-wind areas, or temperatures above 100°F (38°C), blind nail the selvage edge as described above. For valley applications, peel the release liner, center the sheet, and hand-press from center outward. Armour AD Pro must stay in continuous contact with the deck and should never be bridged or suspended across valleys.

Final Notes & Repair

Follow up with a weighted roller or by walking on the surface. Pay special attention to all perimeter edges and overlaps. Repair holes, fish mouths, tears, and other damage using a round patch of membrane extending 6 inches beyond the damaged area in all directions. Do not install fasteners through the membrane over unsupported deck areas such as structural panel joints.

Precautions

Personal Protection: When installing self-adhered roof underlayment, always wear appropriate personal protective equipment (PPE), including non-slip shoes, safety harness, gloves, and safety glasses, to prevent falls from height or cuts from membrane edges and tools.

Environmental Conditions: Avoid installing self-adhered underlayment in high wind, rain, snow, ice, or extreme temperatures (too hot or too cold), as these conditions may reduce adhesion or compromise safety during installation.



Handling Penetrations: Properly prepare and seal roof penetrations, such as chimneys, vents, and skylights, using roofing-specific sealants or membrane patches to ensure continuous waterproofing and airtightness.

Maintenance & Warranty

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Installation Guide

BreaEase

High-Performance Breathable House Wrap

For Residential & Commercial Walls • Roof Walls • Basements

Product Overview

BreaEase protects homes from wind, water, and moisture intrusion while allowing walls to breathe and dry efficiently. Lightweight, durable, and easy to install, it helps prevent mold, rot, and energy loss, ensuring long-lasting building envelope performance. BreaEase is suitable for installation behind siding, brick, or stucco, providing an effective air and water barrier while allowing walls to dry naturally.

Storage

Rolls of BreaEase should be stored palletized or on their sides on a smooth clean surface, under cover and protected from direct sunlight.

General

Care should be taken when handling the membrane in order to prevent tears and punctures occurring. Any that do occur should be repaired with Acrylic Tape.

Application

Unroll BreaEase horizontally over the face of the construction. Ensure maximum coverage of membrane by extending 100mm min below the lowest structural timber/steel member.

Initial fixing

Double sided (acrylic) Tape (50mm) may be used to provide an initial fix for BreaEase, but mechanical fixings (see below) must be made almost immediately after. Permanent security of the membrane may also be made with external insulation, battens or cladding brackets. Extra care should be taken where the membrane is exposed to high wind conditions.

Fixing – to timber studs/sheathing

Fix BreaEase with stainless steel staples or corrosion resistant nails. Fix membrane at 600mm centres horizontally, 300mm centres vertically and at 150mm centres at joints and openings.



Fixing - to masonry

BreaEase may be fixed to masonry with a suitable anchor fixing system or a masonry nail/screw and EPDM rubber washer. Fixings should be at maximum 500mm centres. Butyl Tape (double sided) may be used to fix the membrane in addition to the mechanical methods suggested above. A Primer can be applied to chalky or porous masonry to seal the surface and improve adhesion before applying adhesive tape.

Fixing - to steelwork (SFS)

Initial (temporary) fixing of BreaEase may be made with continuous strips of Double Sided (acrylic) Tape. These should be supplemented with mechanical fixings through to the steel structure, where suitable drill-tip or self tapping screws may be used. The screws must sit flush (not countersunk) and a rubber or EPDM washer should sit between the screw heads and the membrane to avoid water ingress. Screw fixings should be spaced vertically at 500mm centres on every stud (typically spaced at 600mm horizontal centres).

Fixing - Rainscreen Cladding Applications

BreaEase may be fixed to the external face of a cement bonded particle board, OSB or ply sheathing, using a combination of Double sided (acrylic) Tape and stainless-steel staples. BreaEase may also be secured by fixing through the sheathing to the underlying structure using suitable drill-tip or self-tapping screws. See Fixing - to steelwork (SFS) above. In many cases, the retrospective fixing of timber battens or metal brackets (& insulation) will provide the principal security for the membrane. Care should be taken to ensure these components are fixed tightly over the membrane to avoid water ingress. If in doubt Butyl Tape may be used between the component and the membrane.

Fixing to insulation

Fix BreaEase to rigid/semi-rigid insulation with a proprietary expanding insulation fixing anchor at maximum 500mm centres. Penetrations made by wall ties or cladding brackets must be made good with either Acrylic Tape.

Laps

All horizontal laps should be 100mm min. Vertical laps should be 150mm min.

External corners dress

BreaEase around external corners ensuring a return of 300mm min.

Window openings

Wrap BreaEase into window/door openings and seal to frame with Acrylic Tape or

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Plastering Tape if render is later to be applied. Make good to corners using Tape.

Cavity barriers/trays/flashings

Dress BreaEase over cavity barrier/tray/flashings ensuring a minimum lap of 100mm.

Floor junctions

Dress BreaEase over intermediate floor zone ensuring a minimum lap of 100mm between sheets.

Airtightness – sealing (optional)

With all laps and penetrations sealed, BreaEase will contribute to the overall airtightness of the building. Seal the laps in BreaEase with Double Sided (acrylic) Tape. Fixing penetrations can be sealed by applying Butyl Tape to the substrate before the membrane is installed. Complicated penetrations may be sealed using Tape.

Compatibility

Where timber treatments are used care should be taken to ensure they are touch-dry before the installation of the BreaEase membrane. Retrospective spray applied micro emulsions can also pose significant risk to polymer-based materials such as BreaEase. Masking the membrane against preservative treatments should be considered.

Temporary exposure period

BreaEase may be left exposed for a period not exceeding 6 months, provided that the membrane is adequately secured in accordance with our recommendations. Site conditions and exposure to wind should be assessed to determine whether extra security measures for the membrane are required.

Precautions

Personal Protection: When handling house wrap, always wear appropriate personal protective equipment (PPE), including gloves and safety glasses, to prevent cuts from sharp edges or installation tools.

Environmental Conditions: Avoid installation in wet, windy, dusty, or extreme temperature conditions (too hot or too cold), as these can affect adhesion and overall performance of the house wrap.

Handling Penetrations: Properly prepare and seal wall penetrations (such as windows, doors, pipes, and vents) using dedicated sealing tape or sealant to maintain continuous air and water resistance.



Maintenance & Warranty

BreaEase do not need special maintenance after installed; Lifetime warranty from the day of installation if it is quality defects.

Remark

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Installation Guide

Breasa

Contractor-Preferred Exterior House Wrap

For Residential & Commercial Walls • Roof Walls • Basements

Product Overview

Breasa protects homes from wind, water, and moisture while allowing walls to breathe. Its tear-resistant, UV-stable design ensures durable, long-lasting performance on the job site, helping prevent mold, rot, and energy loss. Lightweight and easy to install, it speeds up construction while maintaining reliable wall protection. Breasa is suitable for use behind siding, brick, or stucco, providing an effective air and water barrier while allowing walls to dry naturally.

Storage

Rolls of Breasa should be stored palletized or on their sides on a smooth clean surface, under cover and protected from direct sunlight.

General

Care should be taken when handling the membrane in order to prevent tears and punctures occurring. Any that do occur should be repaired with Acrylic Tape.

Application

Unroll Breasa horizontally over the face of the construction. Ensure maximum coverage of membrane by extending 100mm min below the lowest structural timber/steel member.

Initial fixing

Double sided (acrylic) Tape (50mm) may be used to provide an initial fix for Breasa, but mechanical fixings (see below) must be made almost immediately after. Permanent security of the membrane may also be made with external insulation, battens or cladding brackets. Extra care should be taken where the membrane is exposed to high wind conditions.

Fixing – to timber studs/sheathing

Fix Breasa with stainless steel staples or corrosion resistant nails. Fix membrane at 600mm centres horizontally, 300mm centres vertically and at 150mm centres at joints and openings.



Fixing - to masonry

Breasa may be fixed to masonry with a suitable anchor fixing system or a masonry nail/screw and EPDM rubber washer. Fixings should be at maximum 500mm centres. Butyl Tape (double sided) may be used to fix the membrane in addition to the mechanical methods suggested above. A Primer can be applied to chalky or porous masonry to seal the surface and improve adhesion before applying adhesive tape.

Fixing - to steelwork (SFS)

Initial (temporary) fixing of Breasa may be made with continuous strips of Double Sided (acrylic) Tape. These should be supplemented with mechanical fixings through to the steel structure, where suitable drill-tip or self tapping screws may be used. The screws must sit flush (not countersunk) and a rubber or EPDM washer should sit between the screw heads and the membrane to avoid water ingress. Screw fixings should be spaced vertically at 500mm centres on every stud (typically spaced at 600mm horizontal centres).

Fixing - Rainscreen Cladding Applications

Breasa may be fixed to the external face of a cement bonded particle board, OSB or ply sheathing, using a combination of Double sided (acrylic) Tape and stainless-steel staples. Breasa may also be secured by fixing through the sheathing to the underlying structure using suitable drill-tip or self-tapping screws. See Fixing - to steelwork (SFS) above. In many cases, the retrospective fixing of timber battens or metal brackets (& insulation) will provide the principal security for the membrane. Care should be taken to ensure these components are fixed tightly over the membrane to avoid water ingress. If in doubt Butyl Tape may be used between the component and the membrane.

Fixing to insulation

Fix Breasa to rigid/semi-rigid insulation with a proprietary expanding insulation fixing anchor at maximum 500mm centres. Penetrations made by wall ties or cladding brackets must be made good with either Acrylic Tape.

Laps

All horizontal laps should be 100mm min. Vertical laps should be 150mm min.

External corners dress

Breasa around external corners ensuring a return of 300mm min.

Window openings

Wrap Breasa into window/door openings and seal to frame with Acrylic Tape or Plastering

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Tape if render is later to be applied. Make good to corners using Tape.

Cavity barriers/trays/flashings

Dress Breasa over cavity barrier/tray/flashings ensuring a minimum lap of 100mm.

Floor junctions

Dress Breasa over intermediate floor zone ensuring a minimum lap of 100mm between sheets.

Airtightness – sealing (optional)

With all laps and penetrations sealed, Breasa will contribute to the overall airtightness of the building. Seal the laps in Breasa with Double Sided (acrylic) Tape. Fixing penetrations can be sealed by applying Butyl Tape to the substrate before the membrane is installed. Complicated penetrations may be sealed using Tape.

Compatibility

Where timber treatments are used care should be taken to ensure they are touch-dry before the installation of the Breasa membrane. Retrospective spray applied micro emulsions can also pose significant risk to polymer-based materials such as Breasa. Masking the membrane against preservative treatments should be considered.

Temporary exposure period

Breasa may be left exposed for a period not exceeding 6 months, provided that the membrane is adequately secured in accordance with our recommendations. Site conditions and exposure to wind should be assessed to determine whether extra security measures for the membrane are required.

Precautions

Personal Protection: When handling house wrap, always wear appropriate personal protective equipment (PPE), including gloves and safety glasses, to prevent cuts from sharp edges or installation tools.

Environmental Conditions: Avoid installation in wet, windy, dusty, or extreme temperature conditions (too hot or too cold), as these can affect adhesion and overall performance of the house wrap.

Handling Penetrations: Properly prepare and seal wall penetrations (such as windows, doors, pipes, and vents) using dedicated sealing tape or sealant to maintain continuous air and water resistance.

Maintenance & Warranty

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Breasa do not need special maintenance after installed; Lifetime warranty from the day of installation if it is quality defects.

Remark

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Installation Guide

BreaSmart AD

Premium Peel & Stick Exterior House Wrap

For Residential & Commercial Walls • Roof Walls • Basements

Product Overview

BreaSmart AD is a high-performance exterior house wrap that provides continuous protection against wind, water, and moisture while allowing walls to breathe and dry efficiently. Lightweight, durable, and UV-stable, it helps prevent mold, rot, and energy loss, ensuring long-term wall protection. Its self-adhesive backing bonds directly to the wall surface, creating a tighter seal around seams, penetrations, and corners. This reduces the risk of air and water infiltration, simplifies installation in windy conditions, and enhances overall wall airtightness. BreaSmart AD can be applied directly to clean, dry wall sheathing, including wood, OSB, or plywood. It can be used under siding, brick, or stucco to provide a continuous air and water barrier.

Storage For best results, store BreaSmart AD upright in its original packaging in a well-ventilated area at room temperature between 40°F (4.4°C) and 120°F (49°C).

Substrate Preparation

BreaSmart AD can be applied over multiple substrates, including but not limited to

- OSB
- Plywood
- Rigid vinyl
- Anodized aluminum

Requirements

- The substrate must be dry, free of dust, debris, voids, protrusions, and damaged or unsupported areas.
- Priming is not required.

Wall Penetrations

- Penetrations must be detailed to ensure watertight and airtight conditions.
- Windows, doors, and other penetrations should be installed in proper sequence to

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maintain a water-shedding condition.

Fastener

- The contractor is responsible for proper installation of fasteners and associated components interfacing with BreaSmart AD.
- Fasteners and components must create a continuous compression seal around penetration points to maintain barrier continuity.
- Any fastener or component that cannot create a proper seal must be supplemented with sealant to fully encapsulate the penetration.

General Application

- Plan the layout of BreaSmart AD in advance to minimize waste and ensure all penetrations are properly detailed.
- Use a two-handed roller to ensure proper adhesion.
- Protect the leading edge during installation to prevent water from getting behind the membrane.
- BreaSmart AD can be repositioned for up to 30 minutes after application. Full adhesion depends on job site conditions.
- Limit coverage to a single floor; do not span floor lines. Apply subsequent courses in a water-shedding manner.
- Do not stretch the material.

Laps/Seams

- BreaSmart AD can be applied horizontally or vertically.
- All overlaps must create a water-shedding condition, with lower courses installed first and lapped under upper courses.
- Overlaps must not allow water to collect.
- Side and end laps in the field of the wall must be a minimum of 3 inches.
- Vertical laps within 24 inches of an interior or exterior corner must be a minimum of 6 inches.
- Inside and outside corner overlaps must be at least 12 inches, with the membrane first applied to the corner substrate, then overlapping onto the adjacent wall plane.
- Vertical laps from floor to floor should be staggered or separated by a horizontal strip of

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BreaSmart AD to maintain continuity and water-shedding performance.

Precautions

Personal Protection: When handling self-adhered house wrap, always wear appropriate personal protective equipment (PPE), including gloves and safety glasses, to prevent cuts from sharp edges or installation tools. When working with the adhesive side, use a roller or flat tool to press the membrane evenly; avoid excessive hand pressure that may cause sticking to gloves or hands.

Environmental Conditions: When installing self-adhered house wrap, avoid wet, dusty, or extreme temperature conditions. Low temperatures may reduce adhesion, requiring preheating or waiting for warmer conditions, while high temperatures increase stickiness, making repositioning difficult.

Handling Penetrations: When preparing wall penetrations such as windows, doors, pipes, or vents, properly seal openings using the membrane itself, dedicated sealing tape, or sealant to maintain continuous air and water resistance. Self-adhered membranes bond directly to clean, dry substrates, eliminating the need for temporary mechanical fixings.

Maintenance & Warranty

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Installation Guide

Sapphire

High-Performance Air & Moisture Control Barrier

For Walls • Roofs • Attics • Basements

Product Overview

Sapphire is a premium air and moisture control barrier designed to optimize building envelope performance. It provides superior airtightness, vapor management, and moisture protection, helping maintain energy efficiency, prevent mold, and extend building life. The membrane is lightweight, flexible, and easy to install, making it ideal for residential, commercial, and light-industrial applications.

Storage

Rolls of Sapphire should be stored flat or on their sides on a clean, level surface, ideally on pallets, and kept covered to protect them from direct sunlight.

Damage Prevention

Handle the membrane carefully to minimise the risk of tears or punctures. Minor punctures may be repaired using ARK Acrylic Tape, while larger damaged areas should be replaced with new material.

Installation Orientation

Sapphire is installed on the internal side of the building envelope, with the smooth blue side and logo facing the interior. The membrane may be laid horizontally or vertically depending on the substrate.

Fixing – Timber

Initial fixing can be achieved using ARK Double Sided (acrylic) Tape together with stainless steel staples. For long-term security, timber battens should be installed over the membrane, also sealing staple penetrations.

If battens are not used, apply ARK Butyl Tape (double sided) to studs or noggins before stapling. Subsequent internal lining fixings should also penetrate through the ARK Butyl Tape.

Fixing – Masonry

Sapphire may be attached to masonry using suitable anchor fasteners, masonry nails, or screws with EPDM washers. Fixings should not exceed 500mm spacing. ARK Double

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Sided (acrylic) Tape may be used alongside mechanical fixings.

If compressible washers are not used, apply ARK Butyl Tape (double sided) at fixing points to maintain airtightness. For chalky or porous masonry, a primer may be applied to enhance adhesion before taping.

Fixing – Steelwork (SFS)

Temporary fixing may be carried out using continuous strips of ARK Double Sided (acrylic) Tape, supplemented by mechanical fixings into the steel structure using drill-tip or self-tapping screws. A rubber or EPDM washer should be positioned between the screw head and membrane.

Screws are typically spaced vertically at 500mm per stud (common 600mm stud centres). Membrane security may be further enhanced by installing battens or lining brackets after fixing.

Rainscreen Cladding Applications

Sapphire may be fixed to cement-bonded particle board, OSB, or plywood sheathing using ARK Double Sided (acrylic) Tape and stainless-steel staples. It may also be secured by fixing through the sheathing into the supporting structure (see steelwork fixing).

In many rainscreen assemblies, battens or metal brackets (with insulation) provide the main restraint for the membrane. Ensure components are tightened to prevent water ingress; ARK Butyl Tape may be applied where additional sealing is required.

Fixing – Insulation

Attach Sapphire to rigid insulation using proprietary expanding insulation anchors at maximum 500mm spacing. Penetrations caused by wall ties or cladding brackets should be sealed using ARK Acrylic Tape or ARK UltraWrap Flex Tape.

Laps

Maintain minimum 100mm laps between sheets and seal using ARK Acrylic Tape or ARK Double Sided (acrylic) Tape.

Detailing

Ensure continuous coverage across internal wall or roof surfaces. Maintain airtight continuity at wall, floor, and roof junctions, sealing with ARK Acrylic Tape or ARK Double Sided (acrylic) Tape.

Windows, Doors, and Loft Hatches

Sapphire should be sealed tightly to frames using ARK Acrylic Tape or ARK Double Sided



(acrylic) Tape. Internal corners may be reinforced with ARK Sapphire Tape or ARK UltraWrap Flex Tape.

Where plaster or render is to be applied, ARK Plastering Tape should be used for window perimeter sealing.

Penetrations

All penetrations (lighting, pipework, cabling, etc.) must be sealed with ARK UltraWrap Flex Tape. Fixings through timber, masonry, or steel should be sealed using ARK Butyl Tape.

Batten / Service Void

An internal lining such as plasterboard may be spaced off Sapphire to form a service void, helping to avoid membrane perforations from electrical or plumbing installations while maintaining airtightness and reflective performance.

Timber battens should be a minimum of 25mm thick, with ARK Butyl Tape applied behind them for added sealing.

Light Fittings

Where no service void exists, a sealed enclosure should be formed around light fittings and sealed using ARK Butyl Tape or ARK Acrylic Tape. Wiring penetrations should be sealed thoroughly with ARK UltraWrap Flex Tape.

For downlights, sealed low-energy LED units with F-Capped approval are recommended to allow continuous insulation coverage. If halogen lighting is used, an F-Capped approved loft cap must be installed above

Precautions

Personal Protection: Wear appropriate personal protective equipment (PPE), such as gloves and safety glasses, to prevent cuts from sharp membrane edges or installation tools.

Environmental Conditions: Avoid installation in wet, dusty, or extreme temperature conditions (too hot or too cold), as these may affect tape adhesion or membrane performance.

Handling Penetrations: For penetrations such as electrical conduits or lighting fixtures, properly prepare and seal the openings (e.g., with dedicated sealing tape or sealant) to maintain airtightness.

Fastening Methods: Avoid using nails or sharp fasteners that could damage the membrane. If screws or nails are used, consider using washers or pre-drilling, and



seal all penetration points.

Maintenance & Warranty

Sapphire do not need special maintenance after installed; Lifetime warranty from the day of installation if it is quality defects.

Remark:

Recommendations on methods, materials, and construction details are provided by Ark Synthetics based on current knowledge and experience. They serve as a general guide for designers, contractors, and manufacturers. Installation should also consider local conditions, project-specific requirements, and guidance from designers or other qualified professionals. For project assistance, contact: info@arksynthetics.com

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Pub. No. AS-36675. Printed in Canada. April 2025.
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Installation Guide

SilverGuard

Contractor-Preferred Reflective Air & Moisture Barrier

For Walls • Roofs • Attics • Basements

Product Overview

SilverGuard is a high-performance reflective air and moisture barrier, trusted by building professionals for superior protection against water infiltration, air leakage, and heat transfer. Its lightweight, durable design combines advanced reflective technology with excellent waterproofing and airtightness, ensuring efficient, long-lasting performance in walls and roofs. SilverGuard installs quickly and easily, delivering a reliable building envelope that enhances energy efficiency and safeguards structures in all climates.

Storage

Rolls should be stored palletised or on their sides on a smooth, clean surface, kept covered and protected from direct sunlight.

Damage

Handle SilverGuard carefully to avoid tears and punctures. Small punctures can be repaired with ARK Metallised Tape; larger damaged areas should be replaced.

Orientation

Install SilverGuard to the internal side of the building envelope with the reflective foil facing an airspace (typically toward the interior). Sheets may be laid horizontally or vertically to suit the substrate.

Fixing – to Timber

Initial fixing should use ARK Double-Sided (acrylic) Tape with stainless-steel staples. Permanently secure with a timber batten to seal staple penetrations. Where battens are not used, apply ARK Butyl Tape (double-sided) to studs/noggins before stapling. Internal lining fixings should also pass through the Butyl Tape.

Fixing – to Masonry

Fix using anchor systems or masonry screws/nails with EPDM washers. Maximum fixing centres 500mm. ARK Double-Sided (acrylic) Tape may supplement mechanical fixing. For airtightness where no compressible washer is used, apply ARK Butyl Tape (double-sided) at fixing points.



Fixing – to Steelwork (SFS)

Temporary fixing may be made with continuous ARK Double-Sided (acrylic) Tape. Supplement with mechanical screws (drill-tip or self-tapping) with rubber/EPDM washers. Screw spacing 500mm vertically on each stud (typical 600mm centres). Additional security may be provided by battens or lining brackets/channels.

Rainscreen Cladding Applications

Fix to cement board, OSB or ply sheathing using ARK Double-Sided (acrylic) Tape and staples, or fix through sheathing into structure using suitable screws (refer to steelwork guidance). Timber battens or metal brackets/insulation may provide primary restraint—ensure tight contact to prevent water ingress. Where uncertain, apply ARK Butyl Tape between components. Protection layers should be installed promptly to avoid membrane damage.

Fixing to Insulation

Fix to rigid insulation with expanding insulation anchors at max 500mm centres. Penetrations from wall ties or cladding brackets should be sealed using ARK Metallised Tape or ARK UltraWrap Flex Tape.

Laps

Maintain 100mm laps and seal with ARK Metallised Tape or ARK Double-Sided (acrylic) Tape.

Detailing

Ensure full internal coverage of walls or roof. Maintain continuity at walls, floors and roof junctions using ARK Metallised Tape and/or ARK Double-Sided (acrylic) Tape.

Windows / Doors / Loft Hatches

Seal tightly to frames using Metallised Tape or Double-Sided Tape. Reinforce internal corners using ARK Flashing Tape or ARK UltraWrap Flex Tape.

Penetrations

Seal penetrations (lighting, pipework, wiring, etc.) with ARK UltraWrap Flex Tape. Fixings to timber, masonry or steelwork may be sealed using ARK Butyl Tape.

Batten Space / Service Void

Internal linings may be spaced off SilverGuard using minimum 25mm battens to reduce penetrations and improve reflective performance. For added air-sealing, apply ARK Butyl Tape behind battens.

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Light Fittings

Where no service void exists, create a sealed enclosure and bond to the membrane using ARK Butyl Tape or ARK Metallised Tape. Seal wiring penetrations with ARK UltraWrap Flex Tape. Preferred units: sealed LED (F-Capped) for continuous insulation. Halogen units must have F-Capped approved loft caps.

Precautions

Personal Protection: Wear appropriate personal protective equipment (PPE), such as gloves and safety glasses, to prevent cuts from sharp membrane edges or installation tools.

Environmental Conditions: Avoid installation in wet, dusty, or extreme temperature conditions (too hot or too cold), as these may affect tape adhesion or membrane performance.

Handling Penetrations: For penetrations such as electrical conduits or lighting fixtures, properly prepare and seal the openings (e.g., with dedicated sealing tape or sealant) to maintain airtightness.

Fastening Methods: Avoid using nails or sharp fasteners that could damage the membrane. If screws or nails are used, consider using washers or pre-drilling, and seal all penetration points.

Maintenance &Warranty

SilverGuard do not need special maintenance after installed; Lifetime warranty from the day of installation if it is quality defects.



Remark:

Recommendations on methods, materials, and construction details are provided by Ark Synthetics based on current knowledge and experience. They serve as a general guide for designers, contractors, and manufacturers. Installation should also consider local conditions, project-specific requirements, and guidance from designers or other qualified professionals. For project assistance, contact: info@arksynthetics.com

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Installation Guide

SilverBarrier

Woven-Fabric Double Reflective Radiant Barrier

For Walls • Windows • RV Roofs • Attics • Basements

Product Overview

Description

SilverBarrier is a high-performance double-sided reflective radiant barrier insulation roll designed for superior heat control and energy efficiency. Constructed with durable aluminum foil laminated to a high-strength woven fabric, it effectively reflects radiant heat while providing structural reinforcement. Ideal for residential, commercial, and RV applications, it can be installed on roofs, walls, windows, and doors to reduce heat gain in summer and heat loss in winter.

Storage and Handling

SilverBarrier should be stored in its original packaging, protected from moisture, UV, and physical damage. Rolls may be stored vertically or horizontally on a clean, level surface. Care should be taken to avoid crushing or sharply bending the rolls, as this can damage the foil laminate.

Installation Requirements

The membrane must maintain an air gap on at least one side to reflect heat effectively. Either reflective face may face the cavity. Direct contact with high-heat surfaces exceeding 80°C should be avoided. All seams and overlaps must be sealed with SilverBarrier Foil Tape to ensure thermal and air barrier continuity.

Tools and Fixings

Installation requires a staple gun with stainless or galvanized staples, a utility knife, straightedge, SilverBarrier Foil Tape, mechanical fasteners for masonry or steel surfaces, and double-sided tape or adhesive for smooth substrates. Personal protective equipment is recommended when working overhead or handling reflective foil.

For roofs and attics

Cut panels to length and install along rafters or joists, stapling at maximum 300mm centers. Maintain a minimum 20mm air gap, overlap sheets 75–100mm, and seal with foil tape. Use counter-battens around service penetrations to prevent damage.

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For walls or interior linings

Fix the membrane to timber framing using staples or tape, maintaining a cavity between the membrane and finished lining. Seal all seams and edges. When used with bulk insulation, the reflective side should face the air cavity.

In metal buildings, workshops, or garages

Fix SilverBarrier to purlins or battens with mechanical fasteners and washers, spaced no more than 500mm apart. Support the membrane to prevent sagging and seal all joints.

For RVs, trailers, or vans

Cut panels to shape and secure with adhesive or tape. Seal all edges to minimize moisture ingress. The membrane can be layered with foam insulation for additional thermal performance, and ventilation must be maintained to prevent condensation.

For ducts, pipes, and water heaters

Wrap the membrane with light tension to avoid compression, overlap seams by at least 50mm, and seal with foil tape. Maintain clearance from high-heat surfaces.

Penetrations and Detailing

Seal all service penetrations with foil or flexible tape. Reinforce exposed edges at openings and use grommets or collars where required. Avoid clusters of fasteners that could puncture the membrane.

Precautions

Personal Protection: Wear appropriate personal protective equipment (PPE), such as gloves and safety glasses, to prevent cuts from sharp membrane edges or installation tools.

Environmental Conditions: Avoid installation in wet, dusty, or extreme temperature conditions (too hot or too cold), as these may affect tape adhesion or membrane performance.

Handling Penetrations: For penetrations such as electrical conduits or lighting fixtures, properly prepare and seal the openings (e.g., with dedicated sealing tape or sealant) to maintain airtightness.

Fastening Methods: Avoid using nails or sharp fasteners that could damage the membrane. If screws or nails are used, consider using washers or pre-drilling, and seal all penetration points.

Maintenance & Warranty

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SilverBarrier do not need special maintenance after installed; Lifetime warranty from the day of installation if it is quality defects.

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