



Roof Underlayment & House wrap

Technical Data Sheet



Arknt[®]

TYPICAL APPLICATION



Arcno TECHNICAL DATA

Arcno Specifications

Width per roll:	4ft/1.22m	4.9ft/1.5m
Length per roll:	250ft/76.2m	328ft/100m
Roll size:	1000ft ² /93m ²	1615ft ² /150m ²

Arcno Technical Data

Water Vapour Transmission (perms)	0.03
Linear Dimensional Change, (-2.5% to 1%)	-1.7%
Tensile Strength MD (lbf/in)	68
Tensile Strength CD (lbf/in)	65
Tearing Strength MD (lbf)	17
Tearing Strength CD (lbf)	18
Fastener Pull-Through Resistance, lbf	38
Hydrostatic Resistance	Pass
Fire Test	Class A
Liquid Water Transmission	Pass
Hydrostatic Resistance	Pass
Thermal Cycling	Pass
Laboratory Accelerated Weathering	Pass

* The Data shown above is based on the test averages and independent test reports. There can be a +/-10% variation in the individual test results. This report should not be considered as a warranty for the manufacturer. The manufacturer is not responsible for the misrepresentation or misinterpretation of the data by the reader.

Arcno meets or exceeds the following code standards: ASTM D8257, ASTM E108, ASTM D4869, ASTM E96, ASTM D1204, ASTM D5035, ASTM D4533, ASTM D228, ASTM D4798.

Install right from the start with
Arkint® Arcno
 SYNTHETIC UNDERLAYMENT
 LOGO PRINTING AVAILABLE



Installation Instructions:

Arcno is a water and vapor barrier and therefore must be installed above a properly ventilated space(s). Follow ALL building codes applicable to your geographical region and structure type as it is considered a vapor barrier.

Always follow safe roofing practices. Always wear and use fall protection devices when working on roofs. Use caution when walking or standing on Arcno underlayment in wet or dusty conditions that may reduce traction. Failure to use proper safety equipment and footwear can result in serious injury.

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 D-4586 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.

Maintenance & Warranty:

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

Technical Support: info@arksynthetics.com

TYPICAL APPLICATION



Armour TECHNICAL DATA

Armour Specifications

Width per roll:	4ft/1.22m	4.9ft/1.5m
Length per roll:	250ft/76.2m	328ft/100m
Roll size:	1000ft ² /93m ²	1615ft ² /150m ²

Armour Technical Data

Nominal Thickness	27mils
Water Vapour Transmission (perms)	0.06
Water Tightness (2000mm, 2h)	Pass
Maximum Tensile Force (MD)(lbf/in)	120
Maximum Tensile Force (CD) (lbf/in)	80
Resistance to Tearing MD (lbf)	30
Resistance to Tearing CD (lbf)	27
Tensile Strength after Ageing (MD)(lbf/in)	109
Tensile Strength after Ageing (CD) (lbf/in)	74
Resistance to Water Penetration after Ageing(%≥)	80
UV Resistance (Days)	180
Temperature Range	-40°F to 240°F

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Armour Meets or exceeds the following code standards: ASTM D8257, ASTM D4869, ASTM E96, ASTM D1204, ASTM D5035, ASTM D4533, ASTM D228, ASTM D4798.



Install right from the start with

Arkint® Armour

SYNTHETIC UNDERLAYMENT
LOGO PRINTING AVAILABLE



Installation Instructions:

USE: 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.

DECK PREP: 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 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 face.

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.

Maintenance & Warranty:

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

Technical Support

For Technician Support, Please email: info@arksynthetics.com

TYPICAL APPLICATION



Armour AD Pro TECHNICAL DATA

Armour AD Pro Specifications

Width per roll:	3ft/0.91m
Length per roll:	67ft/20.42m
Roll size:	201ft ² /18.67m ²

Armour AD Pro Technical Data

Nominal Thickness, mils	44
Moisture Vapor Permeance, perms	0.01
Water Tightness (2000mm, 2h)	Pass
Maximum Load, lbf/in (MD)	112
Maximum Load, lbf/in (CD)	67
Tear Resistance, lbf (MD)	139
Tear Resistance, lbf (CD)	136
Elongation at Break, % (MD)	57
Elongation at Break, % (CD)	52
Adhesion to Plywood, lbf/ft width (39.2 °F / 4°C)	117.1
Adhesion to Plywood, lbf/ft width (73.4°F / 23°C)	32.4
Thermal Stability, in (158°F / 70°C)	0.0
Flexibility at -20°F (-29°C)	Pass
Sealability Around Nail	Pass
Waterproof Integrity of Lap Seam	Pass

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Armour AD Pro Meets or exceeds the following code standards:
ASTM D1970, ASTM E96, ASTM D5147, ASTM D903, ASTM D1204, ASTM D4073, ASTM D7349.

Install right from the start with
Arkint® Armour AD Pro
SYNTHETIC UNDERLAYMENT
LOGO PRINTING AVAILABLE



Installation Instructions:

USE: Armour AD Pro is a high temperature, self adhered waterproofing membrane made with an advanced black butyl rubber adhesive formulation and designed for use in steep slope roofing. It offers premium protection against water infiltration from snow, ice dams, and wind driven rain. Armour AD Pro is designed for use under most primary roofing materials such as residential or commercial metal, mechanically attached concrete or clay tiles, primed cedar shakes, and asphalt or composite shingles.

STORAGE:

For best results store Armour AD Pro upright in its original packaging in a well-ventilated 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:

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 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 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 position on the roof deck and then press in place by hand or with a weighted roller to increase adhesion to the deck. 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 to increase adhesion. 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.

For Cold Weather Applications : 32°F (0°C) or below, a primer should be used and the upper most 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.

For Steep Slope Applications : (5:12 or greater), high wind areas, or when installing at temperatures greater than 100°F (38°C), it is recommended to blind nail the selvage edge area as per above under cold weather application. For valley applications, peel the release liner; center the sheet over the valley and hand press in place from the center of the valley outward. Note: It is very important Armour AD Pro stay in contact with the roof deck into and out of the valley area. Armour AD Pro should never be suspended or bridge a valley.

It is recommended to follow up with a weighted roller or by walking on the surface. Give special attention to ALL perimeter edge areas and overlaps. Repair holes, fish mouths, tears, and any other penetration damage to the membrane with a round patch of membrane extending passed the damaged area by 6 inches in all directions. Do not install fasteners through membrane over any unsupported areas of the structural deck, such as over joints between adjacent structural panels.

PRECAUTIONS:

Armour AD Pro is a moisture and vapor barrier and therefore must be installed above a properly ventilated space(s). Follow ALL building codes applicable to your geographical region and structure type. Armour AD Pro is not designed for indefinite outdoor exposure. Final roofing should be installed within 180 days of underlayment installation. These provided Installation instructions are designed to offer recommendations to achieve best performance from our products. However, it is imperative that you follow all building codes or architectural specifications applicable to your geographical region and structure type.

Technical Support:

For Technician Support, Please email: info@arksynthetics.com

TYPICAL APPLICATION



BreaEase TECHNICAL DATA

BreaEase Specifications

Width per roll:	5ft/1.52m	9ft/2.74m
Length per roll:	200ft/61m	150ft/46m
Roll size:	1000ft²/93m²	1350ft²/125m²

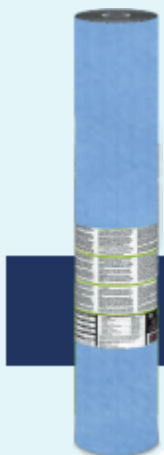
BreaEase Technical Data

Nominal Thickness	22mils
Water Vapour Transmission (g/m², 24h, ≥)	600
Water Tightness (2000mm, 2h)	Pass
Maximum Tensile Force (MD)(N/50mm, ≥)	228
Maximum Tensile Force (CD) (N/50mm, ≥)	159
Resistance to Tearing MD (Nail Shank)	143
Resistance to Tearing CD (Nail Shank)	136
Tensile Strength after Ageing (MD)(%, ≥)	80
Tensile Strength after Ageing (CD) (%, ≥)	80
Resistance to Water Penetration after Ageing(%, ≥)	80
UV Resistance (Days)	180
Temperature Range	-40°F to 240°F

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BreaEase Meets or exceeds the following code standards: ASTM D882, ASTM E96, ASTM D882, ASTM D5034, ASTM D779, ASTM E2556.

Install right from the start with
Arkint® BreaEase
 SYNTHETIC UNDERLAYMENT
 LOGO PRINTING AVAILABLE



Installation Instructions:

Storage: Rolls of Arkint® BreaEase should be stored palletised 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 Arkint® 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 Arkint® 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 Arkint® 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: Arkint® 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 Arkint® 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: Arkint® 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. Arkint® 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 principle 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 Arkint® 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: Arkint® BreaEase around external corners ensuring a return of 300mm min.

Window openings: Wrap Arkint® BreaEase into window/door openings and seal to frame with Acrylic Tape or Plastering Tape if render is later to be applied. Make good to corners using Tape. Cavity barriers/trays/flashings Dress Arkint® BreaEase over cavity barrier/tray/flashings ensuring a minimum lap of 100mm.

Floor junctions: Dress Arkint® BreaEase over intermediate floor zone ensuring a minimum lap of 100mm between sheets. Airtightness – sealing (optional). With all laps and penetrations sealed, Arkint® BreaEase will contribute to the overall airtightness of the building. Seal the laps in Arkint® 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 Arkint® BreaEase membrane. Retrospective spray applied micro emulsions can also pose significant risk to polymer-based materials such as Arkint® 050. Masking the membrane against preservative treatments should be considered.

Temporary exposure period: Arkint® 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.

Technical Support: Please email: info@arksynthetics.com

TYPICAL APPLICATION



Breasa TECHNICAL DATA

Breasa Specifications

Width per roll:	5ft/1.52m	9ft/2.74m
Length per roll:	200ft/61m	150ft/46m
Roll size:	1000ft ² /93m ²	1350ft ² /125m ²

Breasa Technical Data

Nominal Thickness	6.69 mils
Water Vapor Transmission, ng/Pa·s·m ²	8320
Water Ponding	No leakage
Breaking Force, N (MD)	578
Breaking Force, N (CD)	379
Water Resistance, minute (Interior face wetted)	27
Water Resistance, minute (Exterior face wetted)	18
Tensile Strength, N/mm (MD)	11.0
Tensile Strength, N/mm (CD)	4.9
Tensile Strength after Ageing (MD)(%, ≥)	90
Tensile Strength after Ageing (CD) (%, ≥)	90
Resistance to Water Penetration after Ageing(%, ≥)	90
UV Resistance (Days)	180
Temperature Range	-40°F to 240°F

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Breasa Meets or exceeds the following code standards: ASTM D882, ASTM E96, ASTM D882, ASTM D5034, ASTM D779, ASTM E2556.

Install right from the start with

Arkint® Breasa

BREATHABLE MEMBRANE
LOGO PRINTING AVAILABLE



Installation Instructions:

Storage: Rolls of Arkint® Breasa should be stored palletised 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 Arkint® 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 Arkint® 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 Arkint® 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: Arkint® 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 Arkint® 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: Arkint® 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. Arkint® 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 principle 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 Arkint® 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 Arkint® Breasa around external corners ensuring a return of 300mm min.

Window openings: Wrap Arkint® Breasa into window/door openings and seal to frame with Acrylic Tape or Plastering Tape if render is later to be applied. Make good to corners using Tape. Cavity barriers/trays/flashings Dress Arkint® Breasa over cavity barrier/tray/flashings ensuring a minimum lap of 100mm.

Floor junctions: Dress Arkint® Breasa over intermediate floor zone ensuring a minimum lap of 100mm between sheets. Airtightness – sealing (optional). With all laps and penetrations sealed, Arkint® Breasa will contribute to the overall airtightness of the building. Seal the laps in Arkint® Breasa with Double Sided (acrylic) Tape. Fixing penetrations can be sealed by applying Butyl Tape to the substrate before the membrane is installed.

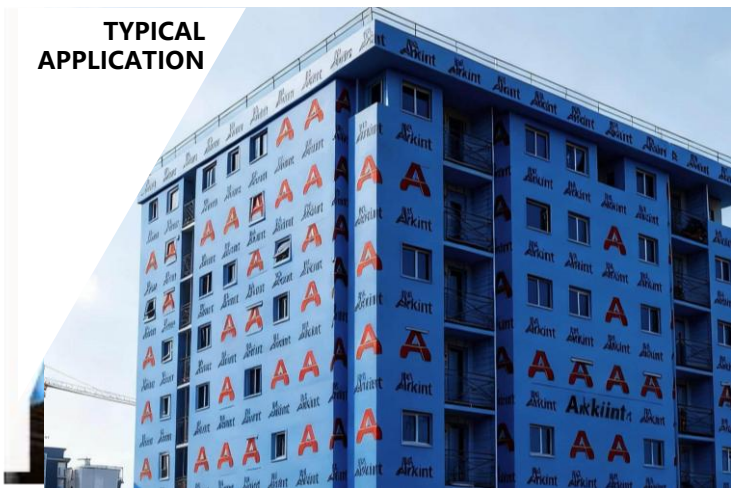
Complicated penetrations may be sealed using FlexWrap.

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

Temporary exposure period: Arkint® 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.

Technical Support: info@arksynthetics.com

TYPICAL APPLICATION



Breasmart AD TECHNICAL DATA

Breasmart AD Specifications

Width per roll:	3.12ft/0.95m
Length per roll:	100ft/30m
Roll size:	312ft ² /29m ²

Breasmart AD Technical Data

Nominal Thickness	29.9 mils
Water Vapour Transmission (g/m ² ,24h,≥)	300
Water Tightness (2000mm, 2h)	Pass
Maximum Tensile Force (MD)(N/50mm, ≥)	260
Maximum Tensile Force (CD) (N/50mm, ≥)	140
Resistance to Tearing MD (Nail Shank)	120
Resistance to Tearing CD (Nail Shank)	125
Tensile Strength after Ageing (MD)(%,≥)	80
Tensile Strength after Ageing (CD) (%,≥)	80
Resistance to Water Penetration after Ageing(%,≥)	80
UV Resistance (Days)	180
Temperature Range	-40°F to 240°F

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Breasmart AD Meets or exceeds the following code standards: ASTM D882, ASTM E96, ASTM D882, ASTM D5034, ASTM D779, ASTM E2556.

Install right from the start with
Arkint® Breasmart AD
 BREATHABLE MEMBRANE
 LOGO PRINTING AVAILABLE



Installation Instructions:

Storage: For best results, store Arkint® 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).

Precautions:

Arkint® BreaSmart AD functions as a vapor-permeable water-resistive barrier and air barrier material. Follow all applicable building codes for your geographical region and structure type.

Best practice is to store rolled materials at or above 50°F (10°C) prior to cold weather installation.

Arkint® BreaSmart AD is not intended for indefinite outdoor exposure and should be covered with wall cladding as soon as possible after installation, and no later than 180 days after installation.

The layout of Arkint® BreaSmart AD should be planned in advance to minimize waste and ensure that all penetrations are properly detailed for watertightness and air tightness.

Substrate Preparation:

Arkint® 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.

For substrate or adhesion questions, contact Ark Synthetics: +1 778-325-1557 or info@arksynthetics.com.

Wall Penetrations:

Penetrations must be detailed to ensure watertight and airtight conditions.

Windows, doors, and other penetrations should be installed in proper sequence to maintain a water-shedding condition.

Fastener:

The contractor is responsible for proper installation of fasteners and associated components interfacing with Arkint® 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 Arkint® 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.

Arkint® 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

Arkint® 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 Arkint® BreaSmart AD to maintain continuity and water-shedding performance.

Technical Support: info@arksynthetics.com

TYPICAL APPLICATION



Sapphire TECHNICAL DATA

Sapphire Specifications

Width per roll:	4.94ft/1.5m
Length per roll:	164ft/50m
Roll size:	802ft ² /75m ²

Sapphire Technical Data

Nominal Thickness	9.84 mils
Water Vapour Transmission (perms)	0.06
Water Tightness (2000mm, 2h)	Pass
Maximum Tensile Force (MD)(N/50mm, ≥)	180
Maximum Tensile Force (CD) (N/50mm, ≥)	130
Resistance to Tearing MD (Nail Shank)	200
Resistance to Tearing CD (Nail Shank)	200
Tensile Strength after Ageing (MD)(%, ≥)	80
Tensile Strength after Ageing (CD) (%, ≥)	80
Resistance to Water Penetration after Ageing(%, ≥)	80
UV Resistance (Days)	180
Temperature Range	-40°F to 240°F

* The Data shown above is based on the test averages and independent test reports. There can be a +/- 10% variation in the individual test results. This report should not be considered as a warranty for the manufacturer. The manufacturer is not responsible for the misrepresentation or misinterpretation of the data by the reader.

Sapphire Meets or exceeds the following code standards: ASTM D8257, ASTM D4869, ASTM E96, ASTM D1204, ASTM D5035, ASTM D4533, ASTM D228, ASTM D4798.

Install right from the start with
Arkint® Sapphire
 SYNTHETIC UNDERLAYMENT
 LOGO PRINTING AVAILABLE



Installation Instructions:

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 minimize 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 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 attach 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

TYPICAL APPLICATION



SilverGuard TECHNICAL DATA

SilverGuard Specifications

Width per roll:	4.94ft/1.5m
Length per roll:	164ft/50m
Roll size:	802ft ² /75m ²

SilverGuard Technical Data

Nominal Thickness	12.2 mils
Water Vapour Transmission (perms)	0.02
Water Tightness (2000mm, 2h)	Pass
Maximum Tensile Force (MD)(N/50mm, ≥)	180
Maximum Tensile Force (CD) (N/50mm, ≥)	150
Resistance to Tearing MD (Nail Shank)	200
Resistance to Tearing CD (Nail Shank)	200
Tensile Strength after Ageing (MD)(%, ≥)	80
Tensile Strength after Ageing (CD) (%, ≥)	80
Resistance to Water Penetration after Ageing(%, ≥)	80
UV Resistance (Days)	180
Temperature Range	-40°F to 240°F

* The Data shown above is based on the test averages and independent test reports. There can be a +/-10% variation in the individual test results. This report should not be considered as a warranty for the manufacturer. The manufacturer is not responsible for the misrepresentation or misinterpretation of the data by the reader.

SilverGuard Meets or exceeds the following code standards: ASTM D8257, ASTM D4869, ASTM E96, ASTM D1204, ASTM D5035, ASTM D4533, ASTM D228, ASTM D4798.



Install right from the start with
Arkint® SilverGuard
 SYNTHETIC UNDERLAYMENT
 LOGO PRINTING AVAILABLE



Installation Instructions:

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.

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.

Technical Support: info@arksynthetics.com

TYPICAL APPLICATION



SilverBarrier TECHNICAL DATA

SilverBarrier Specifications

Width per roll:	4.94ft/1.5m
Length per roll:	164ft/50m
Roll size:	802ft ² /75m ²

SilverBarrier Technical Data

Nominal Thickness	5.51 mils
Water Vapour Transmission (perms)	0.06
Water Tightness (2000mm, 2h)	Pass
Maximum Tensile Force (MD)(N/50mm, ≥)	480
Maximum Tensile Force (CD) (N/50mm, ≥)	490
Resistance to Tearing MD (Nail Shank)	290
Resistance to Tearing CD (Nail Shank)	300
Tensile Strength after Ageing (MD)(%, ≥)	80
Tensile Strength after Ageing (CD) (%, ≥)	80
Resistance to Water Penetration after Ageing(%, ≥)	80
UV Resistance (Days)	180
Temperature Range	-40°F to 240°F

* The Data shown above is based on the test averages and independent test reports. There can be a +/-10% variation in the individual test results. This report should not be considered as a warranty for the manufacturer. The manufacturer is not responsible for the misrepresentation or misinterpretation of the data by the reader.

SilverBarrier Meets or exceeds the following code standards: ASTM D8257, ASTM D4869, ASTM E96, ASTM D1204, ASTM D5035, ASTM D4533, ASTM D228, ASTM D4798.



Install right from the start with
Arkint® SilverBarrier
 SYNTHETIC UNDERLAYMENT
 LOGO PRINTING AVAILABLE



Installation Instructions:

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.

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.

Technical Support: info@arksynthetics.com

About Ark

*Build safer structures;
create lasting energy efficiency*
-- Founder of ARK

Ark Synthetics was founded in 2020 and is headquartered in Vancouver, Canada. We are dedicated to providing high-performance, reliable, and durable building material solutions for the North American market. In 2025, we established our U.S. subsidiary, Ark Guard, to better serve customers and markets in the United States. We believe building materials are not just the foundation of structures—they carry safety and trust.

Mr. Bu, CEO of Ark Synthetics, has been fully dedicated to the roofing and wall protection materials industry since the very beginning. With over 20 years of experience in manufacturing, product development, and factory operations, he established two production factories in China and built long-term collaborations with Australian clients to co-develop and optimize products. His meticulous attention to detail, relentless pursuit of innovation, and deep passion for the industry have enabled his products to achieve breakthroughs in fire resistance, waterproofing, durability, and weather performance, earning trust from clients in North America, Europe, and around the world.

Upon entering the Canadian market, we partnered with the internationally recognized organization Intertek for rigorous testing of our core products. We successfully obtained key North American approvals, including CCRR, CCMC, Miami-Dade County NOA, and the Florida Product Approval Listing, confirming that our products meet the highest standards for safety, durability, and code compliance.

The name “Ark” is inspired by Noah’s Ark, symbolizing protection, safety, reliability, and the strength to withstand storms. Ark Synthetics / Ark Guard products embody these values—providing long-lasting protection for buildings and earning customers’ trust.

Looking ahead, we remain committed to quality as our foundation, innovation as our driving force, and real-world problem-solving as our focus. We partner with clients across Canada, the U.S., and worldwide to deliver truly-reliable building materials.





Building Better Envelopes. Together.



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