IKO Rubershield Evo Membranes

Technical Data Sheet – Section 2.10

PRODUCT INFORMATION



The IKO Rubershield Evo membranes are classed as Low Resistance (LR) vapour permeable (often referred to as 'breather') membranes for warm unventilated, cold ventilated, and cold unventilated pitched roof constructions. They are also suitable for use in timber frame wall constructions with an outer leaf of masonry, weatherboarding, or tile/ slate cladding.

By allowing for the passage of vapour they help to minimise the risk of condensation whilst maintaining a secondary barrier to the elements.

IKO Rubershield Evo membranes conform to BS 5534:2014+A2:2018 and have BBA certification to support their use within fully supported or unsupported, tiled or slated roofing systems, and timber frame wall construction.

This document should help you choose the correct Low Resistance (LR) vapour permeable membrane and system components to complete your project.

USE

The IKO Rubershield Evo membranes are for use within a range of pitched roofing applications, and timber frame wall construction.

Ventilated Cold Pitched Roofs

In projects proposing the use of conventional ventilation to the roof space or re-roofing projects retaining their cross-flow ventilation i.e. eaves-to-eaves; eaves-to-ridge, our IKO Rubershield Evo membranes offer the addition of vapour permeability to enhance and improve upon the roof constructions ability to deal with harmful water vapour transferring from the habitable spaces below.

For roofers wishing to maintain a traditional High Resistance (HR) non-vapour permeable membrane material within their ventilated pitched roofing projects, or for slating practices that nail directly to a sarking board without battens, our IKO Pitched Roof Underlay can be used.

Unventilated Warm and Cold Pitched Roofs

For new build and building extensions, greater emphasis is placed upon the building's energy performance, and modern methods of construction are increasingly leading to the requirement for building envelopes to be constructed airtight.

Modern materials and techniques are used together to minimise and restrict air leakage through the building fabric and out into the external environment, thus increasing the energy efficiency of the building fabric. The impact on roofing means that older systems that rely upon conventional cross flow ventilation are no longer suitable and our approach should be that of unventilated warm and cold roof systems incorporating the IKO Rubershield Evo Membranes.

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Timber Frame Walls

Will resist liquid water penetration and wind-blown snow and will protect the sheathing and frame from external moisture.

OPTIONS

IKO Rubershield	Size (m)	Integrated Tape?	Product Code	Membrane Colours (top/ bottom)
Evo	1 x 50	No	11601000	Grey/ White
	1.5 x 50		11602000	
Evo Plus	1 x 20	No	11701020	Beige/ White
	1 x 50		11701000	
	1.5 x 50		11702000	
Evo Pro	1 x 50	No	11801000	Anthracite/ White
	1.5 x 50		11802000	
Evo Pro SA2	1.5 x 50	Yes	11803000	
Evo Ultra	1 x 50	No	11901000	Green/ White
	1.5 x 50		11902000	
Evo Ultra SA2	1.5 x 50	Yes	11903000	
Evo Apex	1 x 50	No	12001000	Grey/ Grey
	1.5 x 50		12002000	
Evo Apex SA2	1.5 x 50	Yes	12003000	

INDEPENDENT ACCREDITATION

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 25/7457

CE
EN 13859-1; 2

UK CA
EN 13859-1; 2

The product carries BBA Agrément Certification 25/7457, a Declaration of Performance Certificate (DoP) and is UK Conformity Assessed.

SPECIFICATION

All construction detailing and specification should conform to UK Building Regulations, relevant Codes of Practice and British Standards.

In particular it is recommended that reference is made to the relevant parts of:

- BS 5534:2014+A2:2018 Slating and tiling for pitched roofs and vertical cladding. Code of practice
- BS 5250:2021 Management of moisture in buildings. Code of practice
- BS 8000-6:2023 Workmanship on construction sites - slating and tiling of roofs and walls. Code of practice

Particular attention should be made to ensure roof design & installations are in line with recommendations within BS 5250:2021, for effective control of moisture.

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Where required by building warranty providers i.e. NHBC, LABC, etc. installers and those undertaking specifications should seek guidance from Technical Standards as issued by the provider in addition to the above.

If required, please consult with IKO Technical Services.

PERFORMANCE

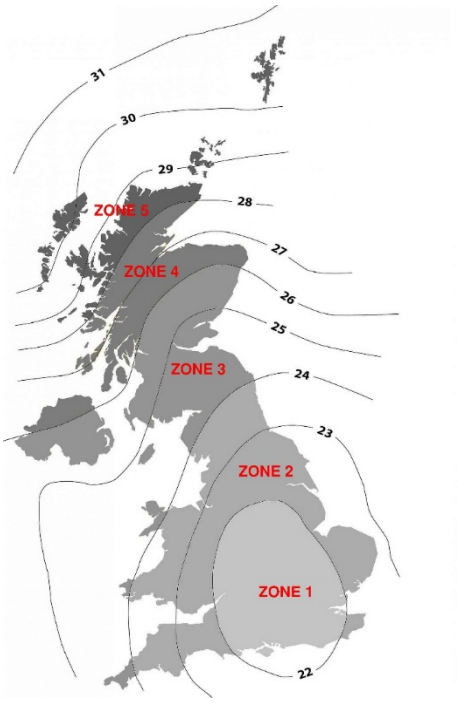
	Evo	Evo Plus	Evo Pro*	Evo Ultra*	Evo Apex*
Mass per unit (g/m²)	100	120	130	150	170
Tensile strength (MD) N/5cm	220	260	280	310	350
Tensile strength (CD) N/5cm	150	180	220	250	265
Elongation (MD,%)	55	60	60	60	60
Elongation (CD,%)	45	50	50	50	50
Tear resistance (MD) N	115	140	150	200	210
Tear resistance (CD) N	140	170	200	220	230
Resistance to water penetration (class)	W1	W1	W1	W1	W1
Water vapour transmission (Sd value)	0.02	0.02	0.02	0.02	0.02
Reaction to fire (Euro class)	E	E	E	E	E
Heat Resistance (°C)	(+)100	(+)100	(+)100	(+)100	(+)100
UV-resistance	3 Months	3 Months	3 Months	3 Months	3 Months
Declared Wind Uplift Resistance, Pa					
≤ 345mm batten gauge (Battened lap)	1018	1097	1210	1625	1644
≤ 250mm batten gauge (Battened lap)	1767	2119	2350	--	--
≤ 345mm batten gauge (taped laps)	--	--	2704	3421	3419

* same figures shown apply to SA2 versions (with integral tape).

Geographical Wind Zones for Pitched Roofing

The BBA Approved IKO Rubershield Evo range of underslating membranes meet with the requirements of 5534:2014+A2:2018 in providing classification of underlays in respect of performance against published Geographical Wind Zones and Wind Uplift Test Data.

Zone suitability applies only for underlays in applications where a well-sealed ceiling is present, ridge height is not greater than 15m, roof pitch is between 12.5º and 70º, site altitude is not greater than 100m, and no significant site topography is present. Other applications might require underlays with greater wind-uplift resistance, and it is advisable to seek professional advice.



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Wind Zone Suitability	Evo	Evo Plus	Evo Pro*	Evo Ultra*	Evo Apex*
≤ 345mm batten gauge (Battened lap)	1 to 2	1 to 2	1 to 3	1 to 5	1 to 5
≤ 250mm batten gauge (Battened lap)	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5
≤ 345mm batten gauge (taped laps)			1 to 5	1 to 5	1 to 5
Supported Application**	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

* Same figures shown apply to SA2 versions (with integral tape).

** As specified within BS5534:2014, membranes tested to Zone 1 at equal to or less than 250mm Batten Gauge are suitable for use in all Wind Zones at any Batten Gauge when fully supported by a nominally airtight sheet sarking board i.e. plywood, OSB, rigid insulation board.

SYSTEM COMPONENTS

IKO has a range of essential system components, specifically tailored to facilitate the use of the IKO Rubershield Evo membranes. The following represents the system components available as part of that range:

IKO Rubershield Jointing Tape
A 45mm x 25m double-sided acrylic tape for vapour permeable membranes at overlaps and areas of detailing to improve overlap security against wind uplift and air leakage. Product Code: 42025045.

IKO Rubershield Lap Tape
A 75mm x 20m single-sided tape for use on all overlaps and areas of detailing alongside/ in conjunction with IKO Rubershield Jointing Tape for a fully airtight installation. Product Code: 42025050.

IKO Eaves Protection Strip
A strip of high-performance polyester-based roofing felt to provide long-term protection at the eaves position of a pitched roof arrangement. Available in widths: 330mm (product code: 04041610), or 500mm (product code: 04051600).

IKO Flash-e
A lead-free flashing available 6m x various widths between 150mm and 1000m. Can be used for abutment flashings and pitched valley linings.

SITE STORAGE

Material should be:

- Checked to ensure that it conforms to the project specification.
- Unloaded and handled with care to avoid damage.
- Stored on end on a firm, clean base protected from direct sunlight.

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CONSTRUCTION

Preparation

Before commencing membrane installation work, the following should be checked:

- Packaging should be checked to ensure correct specification against issued design criteria i.e. ventilation requirements, Air & Vapour Control Layer inclusion, required Wind Zone performance, etc.
- Roof or wall structure is structurally sound, secured and braced as specified;
- Timber noggins, lay boards, fascia boards and tilting fillets are installed where required at hips, valleys and other details to support the ends of tiling battens and underlay membrane as required;
- Roof structure is set to the required pitch;
- Pre-existing roof structure should be checked for sharp objects and protrusions which may snag, impede drape or damage the membrane i.e. nails.

Application - Pitched Roofing

Work should commence with the installation of IKO Eaves Protection Strip, laid parallel to the eaves and fixed with clout nails to every rafter, 25mm from the top edge. The bottom edge should be dressed and detailed over the fascia, eaves support board and tilt fillets into the externally mounted gutter position, a minimum material overhang of 50mm or to the centre line of the gutter system is desirable. Do not allow the material to sit in direct contact with the gutter as this may obstruct water flow.



Horizontal overlaps must be created to shed water out and down the slope. Roof pitch and overlaps should be set for the rafter pitch and roof construction accordingly.

Roof pitch °	Horizontal lap (mm)		Vertical lap (mm)
	Unsupported	Fully supported	
12.5 - 14	225	150	100
15+	150	150	100

Where timbers treatments have been used, care should be undertaken that these are dry before the installation of the IKO Rubershield membranes.

Spray applied emulsions can pose a risk to vapour permeable membranes and, in these situations the IKO permeable membrane must be protected.

With the printed side uppermost, The IKO Rubershield Evo membranes should be laid to overlap the IKO Eaves Protection Strip by the required horizontal lap measurement. They are fixed with clout nails to each rafter 25mm in from the top edge of the lower sheet and 25mm from the exposed edge of the upper sheet.

Depending on the Wind Uplift performance required for the stated region, the joint must be restrained by either tape (see Figure 1), or by battened lap (see Figure 2).

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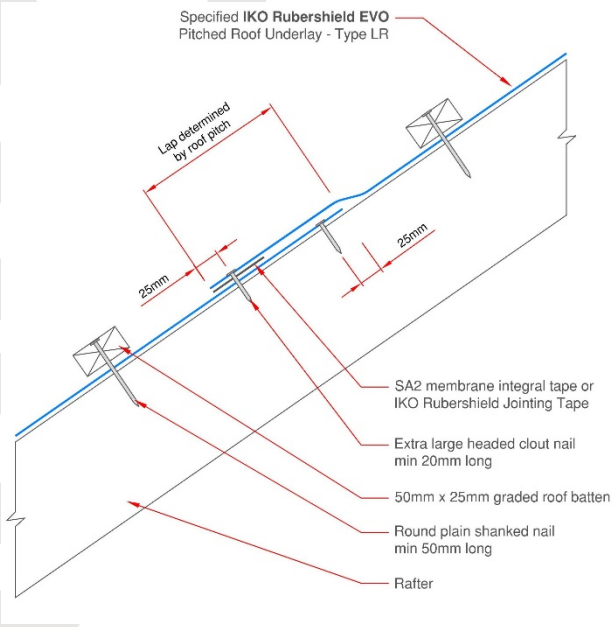


Figure 1: Taped Overlap Detail

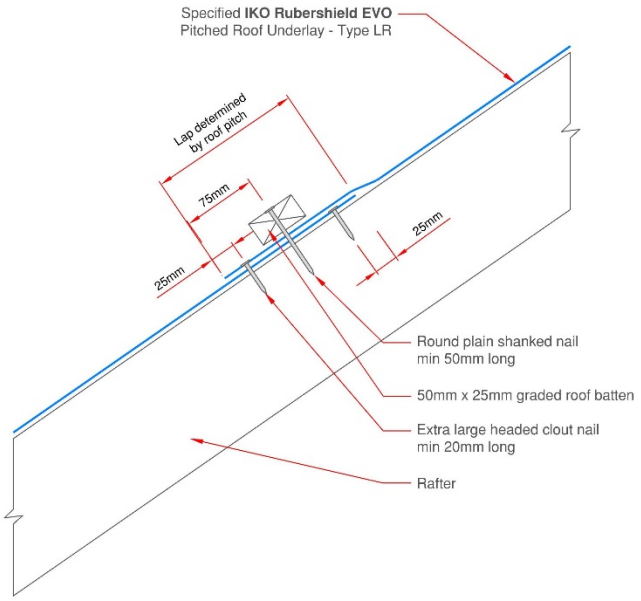


Figure 2: Battened Overlap Detail

When being used unsupported, the roofing membrane should achieve a nominal 10mm drape in between the support positions to prevent contact with the underside of the tiles, thus avoiding the transfer of wind loading to the primary roof covering. The drape also serves as drainage for water within the batten space to the eaves position and into the gutter. Fully supported membranes i.e. installed over sarking boards must incorporate counter battens.

Where the pitched roof design requires ridge ventilation, the top edge of the underlay should be set, laid and fixed down with clout nails to each rafter at dimensions set by the ridge system manufacturer. The membrane should not impede or restrict the required/ specified air flow requirement.

At verges, the underlay should be laid or neatly cut onto the outer skin of the wall or onto the flying rafters in the case of overhanging verges.

Fixing of subsequent materials such as verge cloak material, verge tiles or dry verge systems should follow the guidance issued by the respective system provider.

At hip positions, the main underlay should be overlapped across the hip by 150mm. On completion of adjacent sloped areas, a separate 600mm piece of membrane should be laid longitudinally for the length of the hip and secured to each rafter 25mm in from the edge.

At valley positions, lay boards to support valley linings should be fixed beneath the underlay in between the rafters, finishing flush with the tops of the rafters.

When using lead valleys, the underlay from adjacent slopes should be cut to the rake of the valley and lap onto the valley lining by no less than 50mm but should not go beyond the longitudinal tilt fillet.

When using proprietary valley systems such as GRP linings, the guidance of the respective system manufacturer should be sought.

On interleaved valleys, a continuous 600mm wide strip of underlay should be laid down the valley, allowing the underlay from adjacent slopes to overlap by no less than 300mm.

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At abutments, roofing underlay should be dressed and cut neatly. Membranes should be turned up by a 100mm minimum behind roof flashings and sealed to adjacent prepared structure with the IKO Rubershield Joint Tape.

Any penetrations made through the underlay should be protected from water ingress using IKO Rubershield Joint Tape or detailed to include proprietary seals specified and installed in accordance with the respective manufacturer's guidelines.

Application - Timber Frame Walls

The products must be secured with stainless steel staples or large headed clout nails at regular intervals; these intervals should not exceed 500mm.



Fixing to timber/sheathing
Fix IKO Rubershield Evo membranes with stainless steel staples or clout nails. Fixings should be flush and not stand proud. Fixings should be undertaken at maximum 600mm centres horizontally and at 300mm centre vertically.

The membrane should be fixed at 150mm centre around openings and joints and made good with IKO Rubershield Lap Tape.

Fixing to insulation
Where application of the membrane is to rigid insulation boards, this should be undertaken with expanding insulation fixing anchors or thermally broken tube fasteners.

In cladding applications battens or metal brackets could be used to fix the membrane.

Fixing to brick/block or stone
Where fixing to brick, block or stone, use a suitable masonry anchor system or masonry fixing with rubber washer.

Fixings should be a maximum 500mm centres. IKO Rubershield Jointing Tape may be used to fix the membrane in conjunction with the masonry fixings.

Fixing to cement particle board
The membrane can be temporarily fixed using the IKO Rubershield Jointing Tape.

Use self-tapping screws through the cement particle board to the support frame, use with rubber washers.

Fixing to steel
Fix to steel with an appropriate fixing with rubber washers, spacing maximum 600mm centres.

It is essential that the positions of the studs are marked on the face of the breather membrane, usually by tape, to enable fixing of wall ties/ battens.

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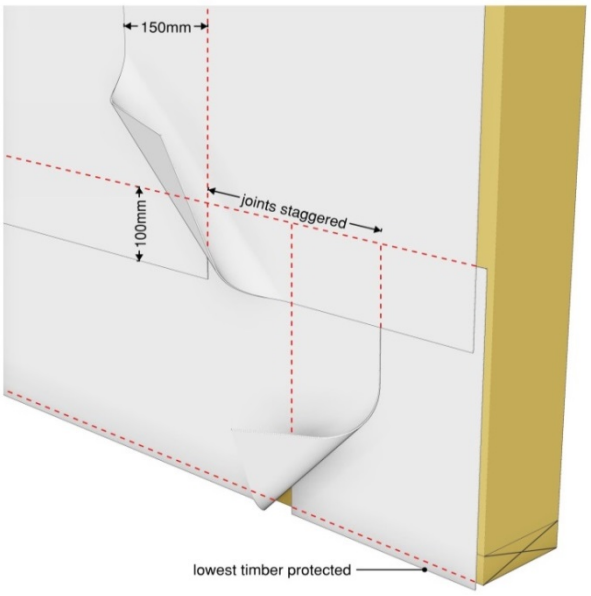


Figure 3 - Joint arrangement
(Tapes omitted for clarity)

Upper layers should overlap lower layers to shed water away from the sheathing and should be minimum 100mm. Vertical laps should be 150mm and should be staggered wherever possible.



Figure 4 - External corner arrangement
(Tapes omitted for clarity)

It is essential that the lowest timbers in the wall are protected by the breather membrane by overlapping by 100mm.

On external corners, the membrane should be taken around corners by at least 300mm.

REPAIR

This product can be damaged by careless handling, high winds or vandalism. Damage to the membrane must be repaired prior to the installation of external walls or cladding by laying another sheet over the damaged area, by patching and sealing correctly, ensuring water is shed away from the sheathing. Any small repairs can be made using IKO Rubershield Lap Tape.

COMPLETION

Completed work should be protected from potential damage by subsequent site work.

These products are designed as secondary barriers to the primary waterproof covering. They should not be considered as the primary waterproofing layer.

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Exposure

IKO Rubershield Evo membranes may be left exposed for up to 2 weeks, provided the membrane has been adequately secured and sealed in accordance with IKO recommendations.

Note: vapour permeable membranes are not deemed waterproof membranes and should not be used to make buildings watertight.

Good roofing practice is to install the primary waterproof covering i.e. tiling, slates as soon as practically possible and within 2 weeks of membrane installation; only then should the roof structure be considered as fully protected from the external environment.

The NFRC Guidance Document 'Installing Pitched Roofs in accordance with BS5534' states:

- BS 5534:2014+A2:2018 recommends that you should always use underlay beneath tiles and slates to provide a continuous barrier against wind uplift and as a secondary barrier against wind-driven rain, snow or dust. In fact, underlay takes on about 50% of a roof covering's total wind load.

- The underlay should provide temporary weather protection before slates and tiles are installed. However, if there is persistent heavy rainfall or a severe freeze/thaw, underlays should not be exposed for more than a few days. Exposure to UV light can also lead to a premature failure of the underlay. If leaving the underlay exposed is unavoidable, then protect it with a tarpaulin.

POST COMPLETION

Building owners and occupiers should be aware of the measures required to ensure that the product functions as intended when installed as part of a complete pitched roof system. Common issues to roof spaces and roof voids in the course of a buildings life cycle often relate to condensation, and it is important that building users, owners and custodians ensure that all possible risks are minimised or eradicated by adopting good practice in building operation, follow on maintenance and future building service installations.

The following additional measures are not exhaustive, but must be considered as part of that approach to good practice:

- All penetrations into the roof space from habitable spaces must be properly sealed, and loft hatches made convection tight by, for example, using a compressible draught seal.
- All water tanks in the loft space should be covered and all pipe work lagged.
- Services passing through and/or into the roof space from inside and outside must be correctly sealed.
- Appropriate measures must be taken to limit the rate of water vapour transfer into the loft space from the dwelling below. Appropriate ventilation rates and approaches to restrict the effects of high humidity areas such as mechanical extraction from bathrooms, etc. should be provided in accordance with UK Building regulations and relevant British Standards.

DURABILITY

When installed and conditions are maintained as per IKO literature, relevant Codes of Practice and UK Building Regulations, the product will remain unaffected by normal conditions found within the roof or wall space and will have a life comparable to that of the primary waterproof covering.

OTHER RELEVENT DOCUMENTATION

Where applicable, Material Safety Data Sheets (MSDS), Declaration of Performances (DoPs), and Third-Party Accreditations are available to view and download from the IKO website Resource Centre:
https://ikogroup.co.uk/resource-centre/

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PRODUCT SUPPORT

Should you have any queries in relation to this product please contact one of the relevant teams below:

Technical technical.ab@iko.com
- For Reinforced Bitumen Membranes, IKOpro and Flexia Liquid Applied Waterproofing, Pitched Roofing, IKO Hyload Structural Waterproofing

technical.ma@iko.com
- For Mastic Asphalt

technical.cc@iko.com
- For Single Ply and Permatec Hot Melt

Sales sales.uk@iko.com
Marketing getintouch.uk@iko.com

COMPANY ACCREDITATIONS

IKO PLC, a roofing, waterproofing, and insulation company, holds various accreditations that demonstrate its commitment to quality, safety, and environmental responsibility. These include ISO certifications for quality management and occupational health and safety, British Board of Agrément (BBA) accreditations for specific products and systems, and Factory Mutual (FM) approval for certain roofing systems.

All our manufacturing plants have BS EN ISO 9001, BS EN ISO 14001, BS EN ISO 45001, BES 6001, and PAS 2080 accreditation, meaning we match the quality and sustainability requirements and use responsibly sourced raw materials in our production. We also re-use by-products from manufacture, wrap products in minimal packaging, and we employ a streamlined transportation network.

IKO is also a leading member of all relevant trade associations such as NFRC, BFRA, SPRA, LRWA, MAC, RSTA, BJA and LCRIG having technical experts within the technical and standards committees to help us get informed first-hand about recent updates on technical requirements for the design and installation of roofing, waterproofing, road and bridge maintenance industry products.

DISCLAIMER

Whilst every precaution is taken to ensure that the information given in this literature is correct and up-to-date it is not intended to form part of any contract or give rise to any collateral liability, which is hereby specifically excluded.

IKO reserves the right to amend and/or withdraw this document without notice.

Intending purchasers of our materials should therefore verify with the company whether any changes in our specification, application details, withdrawals or otherwise have taken place since this literature was published.

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