**IKO atelia**

TWO-LAYER MECHANICALLY FASTENED

**Bituminous vapour barrier:**

**P3 (IKO base P3 SBS T/F Atelia 10.0) laid loose**

A 3mm polymeric bitumen membrane reinforced with a 180 g/m² polyester-glass combination. This underlay contains  10 % secondary raw materials by roll weight.

This roofing membrane is 100 % recyclable.

This underlay is distinguished by the following structural elements and finishes:

* thermofusible film applied to the underside.
* a sanded finish on the top side and a thermofusible film on the weld, creating a quick and secure seam joint.

**Technical characteristics** (declared values in accordance with EN 13707)

* Tensile strength (EN 12311-1) length: 700 N/50 mm

width: 450 N/50 mm

* Elongation at break (EN 12311-1) length: 30%

width: 40%

* Nail tear resistance (EN 12310):  100 N
* vapour barrier class E3 in accordance with Buildwise technical memo 215, table 13

The product is produced and controlled by an ISO 9001 and ISO 14001 certified manufacturer.

## Installation

The membrane is laid loose in stretcher bond with a minimum distance between transverse overlaps of  2m on a dry and level surface with welded overlaps of 8 cm in the longitudinal direction and 10 cm in the transverse direction. To obtain a good joint, a bitumen bead of  5 mm must always flow out at the overlap. Before final waterproofing, a temporary ballast layer is required.

This roofing membrane should be extended to at least 10 cm above the insulation layer against all upstands so that an airtight connection can be formed with the waterproofing layers above the insulation layer.

**Insulation panels:**

**PIR with ALU facing (KO enertherm Atelia) mechanically fastened**

The thermal insulation of the roof will be executed using Polyisocyanurate-based boards (also known as PIR boards) in accordance with EN 13165.

The sheets have a pure aluminium facing on both sides and are available with straight edges all around.

The boards have a minimum **compressive strength** of  **200 kPa**.

The insulation boards meet the standards for class 1 long-term **water absorption**  < **1%**. The declared thermal conductivity coefficient **λD** is equal to **0.021 W/mK**.

Thickness of the insulation layer: 76, 95, 115, 132 mm Size of insulation boards: 1200 x 1000 mm

The boards will also satisfy at least the following properties:

* CE marking - EN 13165: T2- DS(70, 90)3-DS(-20, -)2-DLT(2)5-TR60-CS(10/Y)200-WL(T)1
* Fire reaction classification in accordance with EN 13501-1: Class D-s2, d0
* Fire reaction classification in accordance with EN 13501-1 (end-use application): Class B-s2, d0
* Walkability class C
* The weight by volume of the boards is ± 32 kg/m³

The boards have CE approval. The environmental management system for production is "QualityMasters” ISO 14001 certified.

To achieve higher thermal resistance, the boards can be applied in two layers.

## Installation: Mechanically fastened

The number of screws (type Eurofast TLK 75 or equivalent) in the middle, corner and edge zones is determined by the wind load on the roof (see Buildwise technical memo 239) and the effective wind resistance of the screws.

**Bituminous underlayer:** P3 (IKO base P3 SBS T/F Atelia 10.0) mechanically fastened

A 3mm polymeric bitumen membrane reinforced with a 180 g/m² polyester-glass combination. This underlay contains  10 % secondary raw materials by roll weight.

This roofing membrane is 100 % recyclable.

This underlay is distinguished by the following structural elements and finishes:

* thermofusible film applied to the underside.
* a sanded finish on the underside and a thermofusible film on the weld, creating a quick and secure seam joint.

**Technical characteristics** (Declared values in accordance with EN 13707) Longitudinal tensile strength: 700 N/50 mm

Transversal tensile strength: 450 N/50 mm Elongation at break: length 30 %

Width 40 %

Nail tear resistance (EN 12310):  100 N

The product is produced and controlled by an ISO 9001 and ISO 14001 certified manufacturer.

## Installation

The membrane is laid in stretcher bond with minimum distance between transverse overlaps of  2m on a dry and level substrate prepared with bitumen primer (except on insulation) with welded overlaps of 12 cm in the longitudinal direction and 15 cm in the transverse direction to provide temporary waterproofing for the underlay.

To obtain a good joint, a bitumen bead of

 5 mm must always flow out at the overlap.

The membrane is mechanically fastened into the substrate in the overlaps using compatible screws (type Eurofast TLK 45 or equivalent) which are suitable for the mechanical fastening of bituminous membranes and can be included in the recycling process of the bituminous roofing membranes.

Edge fastening will also be executed using the appropriate type of mechanical fastener for the substrate.

The number of screws in the middle, corner and edge zones is determined by the wind load on the roof (see Buildwise technical memo 239) and the effective wind resistance of the screws.

**Bituminous topcoat SBS:** (IKO carrara 7.5) fully welded

White reflective waterproofing membrane composed of elastomeric (SBS) bitumen, thickness 4.3 mm, with fire-retardant properties (Broof(t1-t4)) and a polyester-glass combination insert (250 g/m² trilaminate). The top is finished with a white granulate (SRI 82) containing titanium dioxide. Thermofusible film is applied to the underside. This top layer can be applied using a single- or multi-layer system.

This top layer contains  10 % secondary raw materials by roll weight. This roofing membrane is 100 % recyclable.

In addition to high mechanical values, the reinforcement stands out for its exceptional dimensional stability and delamination resistance, and is composed of three layers:

1. Polyester fibre top layer
2. A core comprising a grid of glass fibre wires laid longitudinally and extra-reinforced polyester wires transversally
3. Polyester fibre underlayer

These three structural elements are bonded, mechanically and chemically, into a single stable whole.

The reinforcement is covered with a bitumen coating which contains no harmful fire-retardant additives.

The naturally expanding graphite crystals increase up to 250 times in volume in the event of fire and form a heat-insulating layer. Partly due to the endothermic combustion reaction, this has a flame retardant effect. Flame spread is restricted and heat radiation is low. The expandable graphite also ensures low smoke density. The expansion effect of the expandable graphite reduces dripping from bitumen coating. The fire-resistant roof waterproofing membrane is halogen-free and no toxic gases are released in the event of fire.

The expandable graphite crystals are factory-applied to the polyester composite carrier, so that both the polyester carrier and the bitumen coating are not subject to modification and their performance characteristics are guaranteed. The fire-resistant and fire-safe properties are maintained throughout the membrane's service life.

Weld safety is optimised by a thermofusible film on the weld seam. Thermofusible film is applied to the underside. This melts away on flame contact and increases adhesion. The thermofusible film is accurately aligned with the edges of the membrane.

The top of the membrane is finished with a white heat-reflective granulate. The mineral finish (SRI 82) is coated with anatase titanium dioxide (TiO2). Under the influence of UV light, it acts as a catalyst and converts nitrogen oxides (Nox) and sulphur oxides (SOx), which contribute to environmental acidification and the greenhouse effect, into harmless and environmentally neutral substances. This helps reduce the amount of secondary particulates in the air.

**Technical characteristics** (Declared values in accordance with EN 13707) Longitudinal tensile strength: 1000 N/50 mm

Transversal tensile strength: 900 N/50 mm Elongation at break: 50%/55%

Cold-bend adhesive layer  -25°C

Nail tear resistance:  150 N

Flame-resistant to prEN 13501: Broof(t1) after testing in accordance with ENV 1187

## Technical certificates:

* CTG 500

- ATG 2996

- IAB 08/0316

DUBOkeur certificate provided.

These sealing membranes are produced in accordance with the quality system for production and sales, ISO 9001 and ISO 14001, and are audited on a regular basis by independent inspection bodies of international standing.

## Installation

The membrane is installed in stretcher bond in the direction of drainage with a minimum distance between transverse overlaps of  2m on IKO base P3 SBS T/F Atelia 10.0 with welded overlaps of

8 cm longitudinally and 15 cm transversally. All details are executed in accordance with Buildwise technical memo 244.

During welding, the soft flame of the asphalt torch should be directed about 2/3 onto the roller itself and 1/3 onto the substrate, in such a way that a bitumen bead is always present ahead of the roller.

To obtain a good joint, a bitumen bead of

 5 mm must always flow out at the overlap.

## Attention to end seams of top layers:

* Torch separately with small burner
* Remove wrappers from the roll to be placed
* Cut away corners at T-seams to avoid capillary action
* Check waterproofing at T-seams
* Check adhesion on rainwater drains and overflows

## Additional note:

All details, edge finishes, expansion joints, stud pipes, dome upstands, drains, etc. should always be executed in two layers.

P3 (IKO base P3 SBS T/F Atelia 10.0) underlay is mechanically fastened and SBS waterproofing membrane (IKO carrara 7.5) is fully torched on top.

Upstands are also executed with two-layer waterproofing by means of vertical edge strips 1 metre wide. The seal at the upstand is applied obliquely with respect to the seal in the roof plane. The underlay is fixed using the appropriate method for the substrate present, but sufficiently wind-stable according to the requirements of wind resistance of Buildwise technical memos 215 and 239.

# 10-year insured waterproofing guarantee

On completion of the roof waterproofing work, the roofing contractor will hand over a non-contributory insured application warranty without termination clause from the manufacturer of the waterproofing products (IKO), endorsed for the benefit of the building owner.

This insurance guarantees indemnity for a period of 10 years in the event of a defect in the waterproofing of the roof caused by a manufacturing defect in the Insured Products of the IKO Group and/or a non-systematic defect in execution by an IKO Group Approved Roofing contractor/Contractor and/or a design defect.

An element of this insurance is a documented annual maintenance on the roofing system (see terms and conditions of the premium-free insured application guarantee).

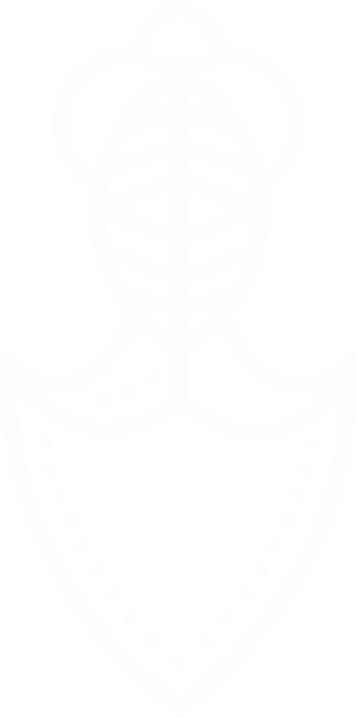
Compensation includes the removal, resupply and reinstallation of the failing waterproofing products free of charge in the event of any of the aforementioned defects, as well as compensation for physical, material and/or immaterial consequential losses in the event of waterproofing defects caused by a product fault.

The insurance must be underwritten by an officially recognised insurance company and supported by a "Guarantee Certificate" with a unique reference number and signed by the roofer and manufacturer.

# Return certificate

The manufacturer of the waterproofing system guarantees that used roofing membranes will be taken back at the end of their economic life of approx. 35 years on presentation of the return certificate.

The returned waterproofing system can then be used as raw material for new bitumen roofing membranes or other useful applications.



**ROOFING I LIQUID WATERPROOFING I INSULATION**

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# Products and system certificates:

This waterproofing system must have the following certificates issued by the manufacturer:

* A declaration of anticipated lifetime
* A rainwater recovery certificate
* A declaration describing the proportion of secondary raw materials used