**IKO atelia**

SINGLE PLY MECHANICALLY FASTENED:

**Bituminous vapour barrier:**

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

A polymer bitumen membrane, 3 mm thick, reinforced with a polyester-glass composite inlay of 180 g/m². This underlay contains ≥ 10% secondary raw materials by roll weight.

This roofing membrane is fully recyclable.

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

* lower surface finished with thermofusible film;
* upper surface finished with sand and a thermofusible film on the weld seam, allowing a secure seam joint to be produced quickly and safely.

**Technical features** (declared values as per EN 13707)

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

transverse: 450 N/50 mm

* Rek bij breuk (EN 12311-1) longitudinal: 30%

transverse: 40%

* Nail tear resistance (EN 12310): ≥ 100 N
* vapour barrier class E3 as per TV 215, table 13, of the BBRI

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

## Installation

The membrane is loose-laid in stretcher bond with a minimum distance between the transverse overlaps of ≥ 2m on a dry and level substrate, with welded overlaps of 8 cm in the longitudinal direction and 10 cm in the transverse direction. To ensure a good seam joint, a 5 mm bead of bitumen must extrude from the overlap. Temporary ballasting is required prior to installation of the final waterproofing.

This roofing membrane must be raised to at least 10 cm above the insulation layer against all upstands so as to form an airtight joint with the waterproofing layers above the insulation layer.

**IInsulation boards:**

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

The thermal insulation of the roof consists of polyisocyanurate based boards (also known as PIR boards) as per EN 13165. The boards are on both sides provided with a pure aluminium facing and are available with straight edges all round.

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

The insulation boards comply with WLT class 1; long-term **water absorption < 1%.**

The declared thermal conductivity, **λD**, is equal to **0.021 W/mK.**

Insulation layer thickness: 76, 95, 115, 132 mm Dimensions of the insulation boards: 1200 X 1000 mm

The boards shall also meet at least the following characteristics:

* CE marking - EN 13165: T2- DS(70, 90)3-DS(-20, -)2-DLT(2)5-TR60-CS(10/Y)200-WL(T)1
* Reaction to fire class as per EN 13501-1: Class D-s2, d0
* Reaction to fire class as per EN 13501-1 (end-use application): Class B-s2, d0
* Walkability class C
* Weight by volume of the boards: approx. 32 kg/m³

The boards are CE approved. The environmental management system of the production activities has been ISO 14001 certified by QualityMasters.

To obtain a higher heat resistance, the boards can be applied in 2 layers.

## Installation: Mechanically fastened

The number of screws (type Eurofast TLK 75 or equivalent) in the centre, corner and edge areas is deter- mined by the wind load on the roof (see Technical Information Sheet No. 239 of the BBRI (Belgian Building Research Institute) and the net wind resistance of the screws.

**Bituminous cap sheet:** SBS waterproofing membrane (IKO carrara Tecno SN 7.5) mechanically fastened

White reflective waterproofing membrane composed of elastomer (SBS) bitumen, 4.3 mm thick, with fire retardant properties (Broof(t1-t2)) and a polyester-glass composite inlay (250 g/m² trilaminate). The upper surface is finished with white granulate (SRI 82) that contains titanium oxide. The lower surface is pro- tected by a thermofusible film. This cap sheet can be applied in a single-ply system.

This cap sheet contains ≥ 10 % secondary raw materials by roll weight. This roofing membrane is fully recyclable.

In addition to its high mechanical values, the reinforcement is characterised by exceptional dimensional stability and delamination resistance, and is composed of 3 layers:

1. Polyester fibres on the upper surface
2. A core, consisting of a glass fibre mesh in the longitudinal direction and an extra reinforced polyester mesh in the transverse direction
3. Polyester fibres on the lower surface

These 3 structural elements are mechanically and chemically bonded together to form a single stable structure. The reinforcement is covered with a bitumen coating that does not contain any harmful fire retardant additives.

In case of fire, the natural expandable graphite crystals increase up to 250 times in volume, producing a heat-insulating layer. In combination with the endothermic combustion reaction, a fire retardant effect is achieved. Flame spread is reduced and thermal radiation is low. The expandable graphite also ensures low smoke density. The expansion effect of the expandable graphite reduces dripping of the bitumen coating.

The fire resistant roof waterproofing membrane is halogen free and no toxic gases are released in case of fire.

The expandable graphite crystals are factory fitted on the polyester composite support, so that neither the polyester support nor the bitumen coating are subject to modification and both retain their performance characteristics. The fire behaviour properties remain intact throughout the lifespan of the membrane.

Optimum weldability is ensured by a thermofusible film on the weld seam. The lower surface is finished with a thermofusible film that melts away upon flame contact and promotes adhesion. The thermofusible film is accurately aligned with the edges of the membrane.

The upper surface of the membrane is finished with white heat reflective granulate. The mineral finish (SRI 82) is coated with anatase titanium oxide (TiO2). Under the influence of UV rays, it acts as a catalyst and converts the nitrogen oxides (NOx) and sulphur oxides (SOx), which are contributory factors in the acidification of the environment and the greenhouse effect, into harmless and environmentally-neutral substances. This results in a reduced emission of secondary airborne particulate matter.

**Technical features** (declared values as per EN 13707) Longitudinal tensile strength: 1000 N/50 mm

Transverse tensile strength: 750 N/50 mm

Elongation at break: 40%/45%

Cold bend self-adhesive layer: ≤ -25°C

Nail tear resistance: ≥ 100 N

Fire spread resistant as per prEN 13501: Broof(t1) after test as per ENV 1187

## Technical certificates:

* CTG 500

- TA 0360/97

* SINTEF TA 20385

Covered by a DUBOkeur certificate.

These waterproofing membranes are produced in accordance with the quality system for production and sales, ISO 9001 and ISO 14001, which are audited at regular intervals by independent inspection bodies of international renown.

## Installation

The membrane is installed in stretcher bond in the direction of the drainage with a minimum distance between the transverse overlaps of ≥ 2m on PIR ALU insulation with welded overlaps of 12 cm in the longitudinal direction and 15 cm in the transverse direction. All details are executed in accordance with Technical Information Sheet No. 244 of the BBRI.

To ensure a good seam joint, a 5 mm bead of bitumen must extrude from the overlap.

## End joints:

* To be torched separately using a small torch
* Remove tapes of the roll to be installed
* Cut off corners at T-joints to prevent capillary moisture
* Check water tightness at T-joints
* Check adhesion on rainwater drains and overflow pipes

In the overlaps, the membrane is mechanically fastened into the substrate using compatible screws (type Eurofast TLK 45 or equivalent) that are suitable for the mechanical fastening of bituminous membranes and can be integrated into the recycling process of the bituminous membranes.

Fixation must also be applied using the correct type of mechanical fastener compatible with the substrate.

The number of screws in the centre, corner and edge areas is determined by the wind load on the roof (see Technical Information Sheet No. 239 of the BBRI (Belgian Building Research Institute) and the net wind resistance of the screws.

## Additional note:

All details, edge finishes, expansion joints, downpipes, skylight upstands, drains, etc. must 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 Tecno SN 7.5) is fully torch welded on top.

In addition, upstands are provided with a two-layer waterproofing consisting of 1 m wide vertical edge strips. The sealing at the upstand is staggered with respect to the sealing in the roof surface.

The underlay is fastened using the method suitable for the substrate in question but must be sufficiently wind stable in accordance with the wind resistance requirements of Technical Information Sheet Nos. 215 and 239 of the BBRI.


# 10 year waterproof insured warranty

Upon completion of the roof waterproofing works, the roof contractor hands over a premium-free insured application warranty without step-down clause from the manufacturer of the waterproofing products (IKO), taken out in favour of the principal.

This 10-year insurance covers compensation for damage caused by a defective roof waterproofing system as a result of a manufacturing defect in the Insured Products of the IKO Group and/or a non-systematic execution error by a roof contractor approved by the IKO Group, and/or a design error.

The insurance includes a documented annual maintenance of the roof covering system (see terms of the premium-free insured application warranty).

The compensation covers the free removal, replacement and re-installation of faulty waterproofing prod- ucts that exhibit one of the aforementioned defects, as well as compensation of bodily injury, material and/or immaterial consequential damage caused by waterproofing defects arising from product faults.

The insurance must be taken out with an officially recognised insurance company and documented by a “Warranty Certificate” bearing a unique reference number and signed by the roofing contractor and the manufacturer.

# Return certificate

The manufacturer of the waterproofing system warrants that used roofing membranes are taken back after an economic lifetime of approx. 35 years upon presentation of the return certificate.

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

# Products and system certificates:

This waterproofing system must be accompanied by the following certificates issued by the manufacturer:

* A life expectancy certificate
* A rainwater harvesting certificate
* A certificate documenting the proportion of secondary raw materials

**ROOFING I WATERPROOFING I INSULATION**

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