

IKO Shingles Thermo System

COMPLETE ROOF SYSTEM with excellent guarantee conditions



IKO Primer AD



IKO Armourbase Thermo AD



IKO Shingles

NEW
aesthetical
roof concept
for **concrete**
and low slope
OSB roof decks



Are you looking for a nice finishing touch to your concrete roof?

Does your roof has a very low slope between 4° and 15°, but despite that fact, you want to have a wonderful roofing material?

You might say that installing IKO Shingles on those roofs are not possible.

Well, think again!

With the IKO Shingles Thermo System you can overcome the technical challenges and finish your roof with professional IKO Shingles!

IKO Armourbase Thermo AD membrane, in combination with IKO Shingles is an aesthetical solution for low sloped OSB roofs (min. 4° – max. 15°) or concrete roofs (min. 4° – max. 45°) with a secure concept system, finished with IKO shingles.

The concept consists of a primer (**Primer AD**), a thermo-adhesive and heat activated waterproofing membrane (**IKO Armourbase Thermo AD**), where all residential **IKO shingles** can be adhered to the membrane (no nailing required).

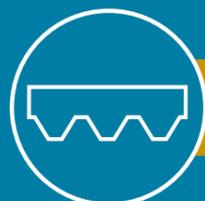
Only for concrete deck (15-45°) and for renovation of bitumen low sloped roofs (4°-15°) you would need mechanical fixing to install the membrane.



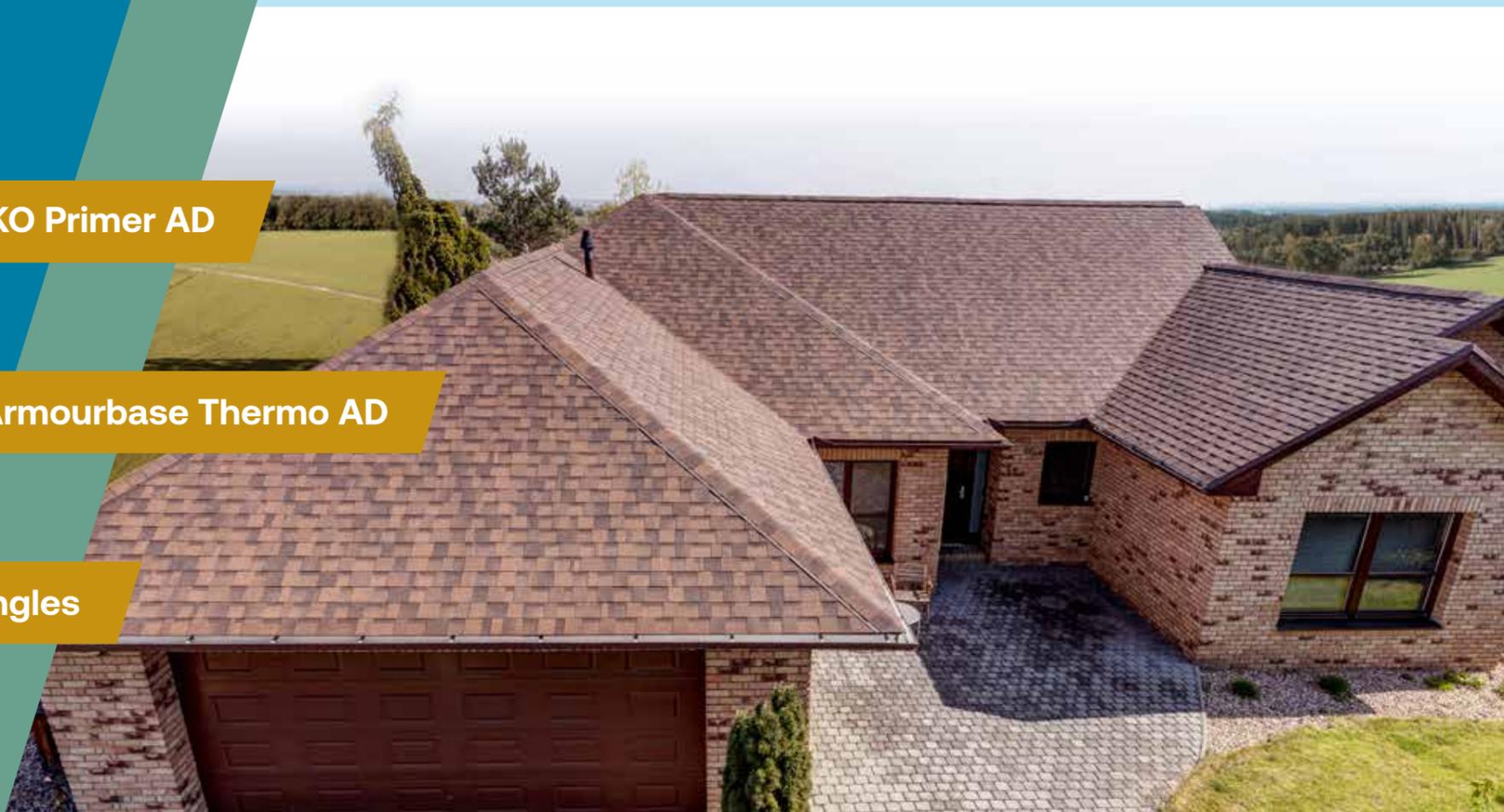
IKO Primer AD



IKO Armourbase Thermo AD



IKO Shingles



Aesthetical solution for visible low slope roof.

E.g. if your window is looking out on a low slope roof, than this concept is the ideal solution for you!

Prefab concrete housing

“Upgrade your roof”:
renovation solution for low sloped roofs (4° to 15°)



- For **new roofs** and **renovation projects**
- **Closed** and **fire resistant** roof system
- **Waterproof** and **weather resistant**
- Exceptional **wind resistance**
- Strong and **secure adherence** to the construction thanks to the thermo-adhesiveness of the membrane.
- Easy to install: **peel, stick, heat, stuck** and done
- Less noise during application – **silent application**
- Application **time reduced** by approx. 50% (wooden application)
- The **non-slip surface** guarantees a totally safe work environment, especially on steeper slopes
- There are **no lines** on the membrane surface, only a bituminous strip positioned lengthwise highlighting the overlapping area
- **High dimensional stability** thanks to Armourbase Thermo AD membrane

Choose
your favorite
shingle **shape**
and **colour**
from our large range
of IKO Shingles



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IKO Primer AD



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Ideal solution for...

Low slope wooden decks:

for slopes between min. 4° and max. 15°, **Armourbase Thermo AD** needs to be applied horizontally without the being affixed mechanically on the overlaps.

Concrete decks:

for horizontal application of **Armourbase Thermo AD**, membrane should be completed without mechanical fixing on slopes between min. 4° and max. 15°. For steeper slopes (max. 45°), vertical application with mechanical fixing of the membrane with screws (+ metal pressure plate) on the overlaps is mandatory.

Renovation existing flat roofs (> 4°):

Primer AD needs to be applied on the surface of the old deck cover (existing of bitumen, not PVC or other), install **Armourbase Thermo AD** membrane with mechanical fixation and on top you install IKO Shingles of your choice.



IKO Primer AD

IKO Primer AD is a bituminous water based primer which helps block dust and reduces concrete porosity.

The product provides good adhesion, penetration of the substrate and above all that it is formulated with water, therefore it is not flammable and is not dangerous to use. This product is odorless.



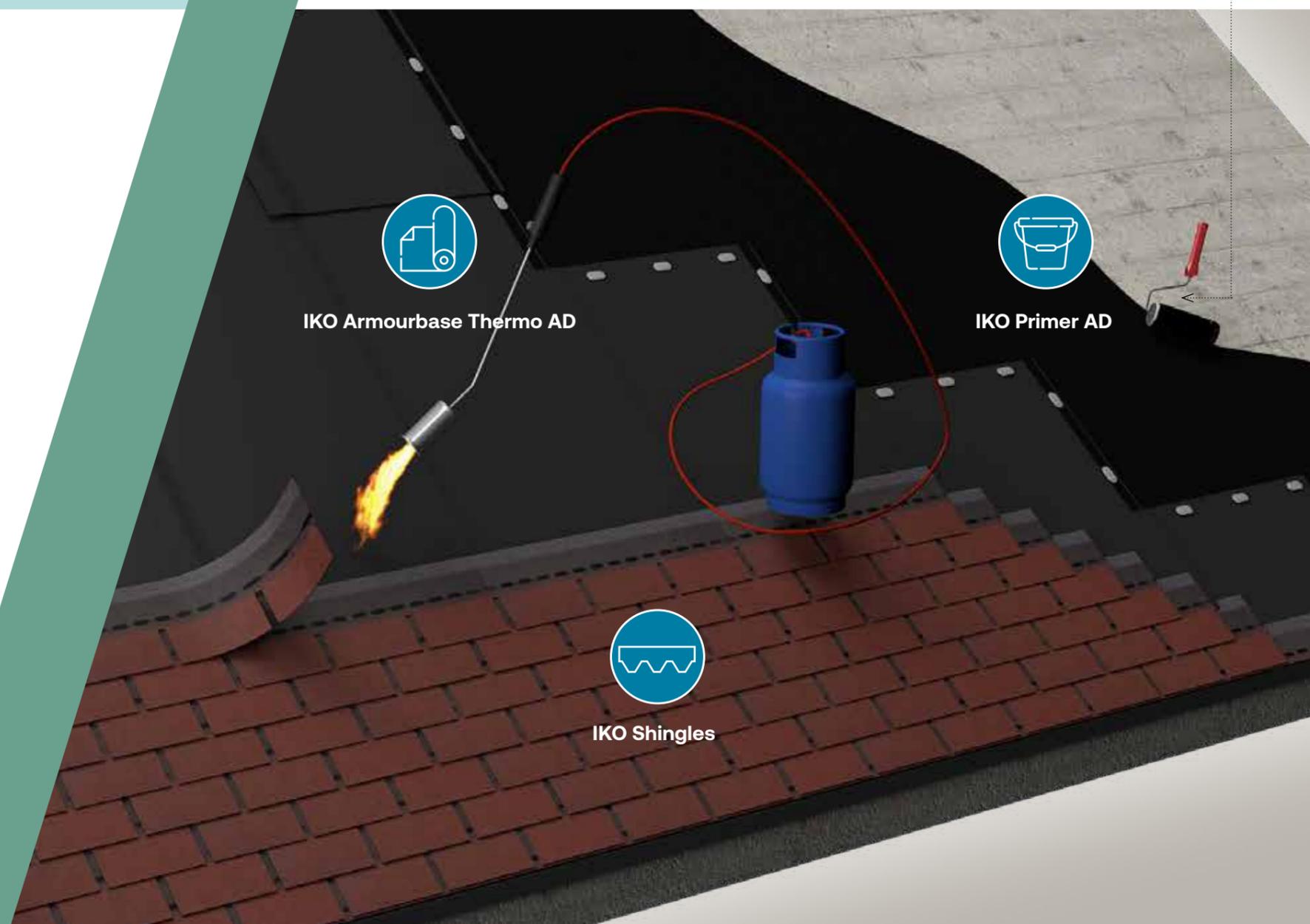
IKO Armourbase Thermo AD



IKO Primer AD



IKO Shingles



Roof preparation

Climate conditions for an application

Only apply when the temperature is above + 5 °C. Below + 5 °C there may be a risk of ice on the deck. This can result in moisture being trapped between the underlayment and the deck, which can result in the formation of blisters. In summer, in hot countries it is advisable to apply the underlayment in the coolest part of the day, avoiding hours in the middle of the day when the sun is at its hottest.

Roof deck

The roof deck can be made out of **OSB** or **concrete**.

The OSB wooden deck must be smooth, firm, dry and securely fastened. The deck should be made out of OSB with a tooth and groove locking system. That is to say without gaps between the boards. All wooden products must be properly conditioned to be at moisture equilibrium. Decking should be installed in a staggered manner and sufficiently supported.

Failure to use proper decking material, which can provide a rigid deck surface, may result in deck movement which can damage the shingles. In case of concrete, it must be smooth, flat and free from any cracks. The surface must be smoothed with a trowel and any cracks or dips must be filled with mortar.

With new concrete or hollow-core substrates, it is advisable to allow a curing period of 8 days to 3 weeks, depending on the season, before installing layers. After carrying out the operations specified above, use a roller or a brush to spread the **IKO Primer AD** (bituminous primer) in the areas where the membrane will be placed. The primer has the important function of increasing the underlayment's adhesion. The primer has to dry for a least 1 hour.

Roof slope

The minimum slope for torch-on applications is 4°. Below this slope there is the risk of ponding water and this system is not recommended. The maximum slope

for wooden decks is recommended for 15° as shingles can be applied regularly from this slope. For concrete decks, the maximum slope is set for 45°. For concrete decks and slopes between 15° and 45°, the mechanical fixing of **Armourbase Thermo AD** is mandatory.

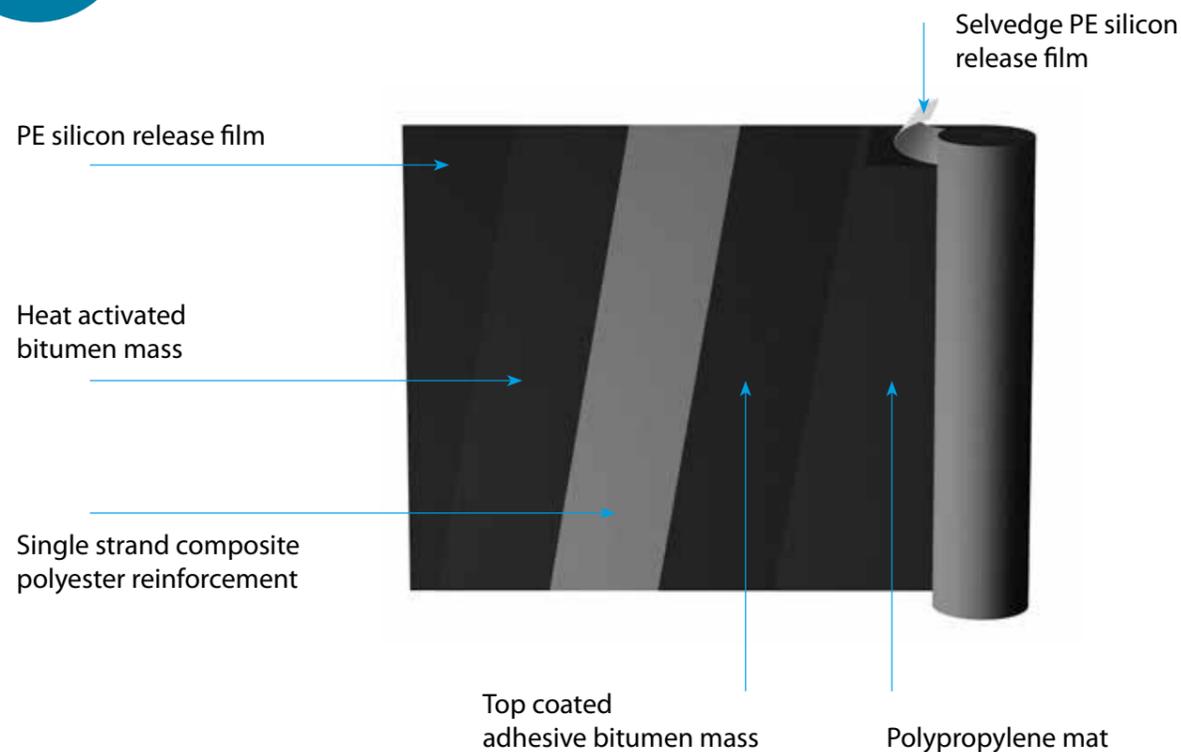
Types of shingles

All types of **IKO shingles** can be used in the **IKO Shingles Thermo System**.



IKO Armourbase Thermo AD

IKO Armourbase Thermo AD is a thermo-adhesive and heat activated waterproofing membrane.



Technical characteristics	Unit	Reference norm	Product description/Performance	Tolerance
Type of reinforcement			Reinforced polyester	
Upper face finish			Polypropylene mat / Selvage PE silicon release film	
Lower face finish			PE silicon release film	
Length	m	EN 1848-1	7,5	± 1 %
Width	m	EN 1848-1	1,0	± 1 %
Thickness	mm	EN 1849-1	2,5	± 5 %
Flexibility at low temperature	°C	EN 1109	NPD	
Tensile strength L/T	N/50 mm	EN 12311-1	400/300	± 20 %
Elongation at break L/T	%	EN 12311-1	35/35	± 15
Nail shank tear resistance L/T	N	EN 12310-1	120/120	± 30 %
Dimensional stability	%	EN 1107-1	0,3	≤
External fire performance		EN 13501-5	Class F _{ROOF}	
Reaction to fire		EN 13501-1	Class F	
Watertightness	kPa	EN 1928	60	≥
Water vapour transmission	μ	EN 1931	100.000	≥
Peel resistance at 180° on APP shingle	N	EN 12316-1	50	-20 N
Peel resistance at 90° on wood support	N	EN 12316-1	70	-20 N

Application of the underlayment



Wooden deck (OSB)
slope from 4° to 15° – horizontal application of Armourbase Thermo AD without fixing



Concrete deck
slope from 4° to 15° – horizontal application of Armourbase Thermo AD without fixing



Concrete deck
slope from 15° to 45° – vertical application of Armourbase Thermo AD with fixing



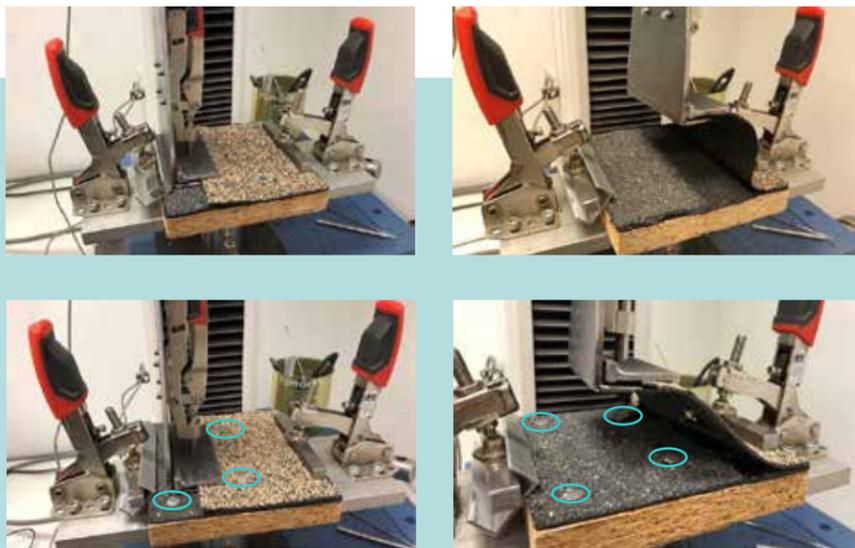
Apply the membrane parallel with the eaves – vertical and horizontal overlaps should be min. 10 cm. The position of **Armourbase Thermo AD** on the concrete deck with slopes higher than 15° should be perpendicular to the eaves. The concrete deck must be primed with the **Primer AD** (bituminous primer) before the application.

Set the Armourbase Thermo AD roll and remove the release film from the back. In warm, sunny weather the underlayment will stick with the wooden or primed concrete deck in a short time. In cold weather you can help to set the **Armourbase Thermo AD** underlayment with a hot air gun or a torch..

For slopes between 4° and 15°, it is not necessary to fix the underlayment on overlaps. For concrete decks with slopes between 15° and 45°, fixation is mandatory. This can be ensured with screws and metal pressure plates for concrete. There is a need to pre-drill holes every 30 cm on overlaps. It is advisable to go with proper metal flashings at the

eaves and rakes. Provide horizontal and vertical overlaps 10 cm between the sheets and make sure to remove the side selvedge release foil. After application, use a suitable roller and apply pressure over all overlaps. The **Armourbase Thermo AD** adhesion will start with the application of bituminous shingles by torch-on.

Up lift performance with IKO Shingles Thermo System



Exceeds all norms and all possible extreme weather conditions.

In other words even a tornado of a speed of XXX Km/H will not uplift shingles from a torched membrane.

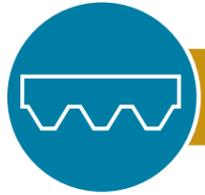


Mechanical fixing is a concrete screw with plate for fixation of Armourbase Thermo AD for slopes 15°-45°

Technical Characteristics	Screw EFHD-63045	Plate DVP-EF-8040N
Diameter	6,3 mm	80 x 40 mm
Diameter hole	-	6,5 mm
Length	45 mm	-
Thread	40 mm	-
Head type / point type	Torx T25 / Ricoh point	-
Packaging	1000 pcs	500 pcs

Recommended length into concrete min. 35 mm.
Pre-drilling is necessary. Use a drill diameter Ø 5,0, 5,2 or 5,5 mm for pre-drilling. The drill diameter is dependant on the quality of the concrete.
Drilling depth: a minimum of 10 mm deeper than the length of the screw.





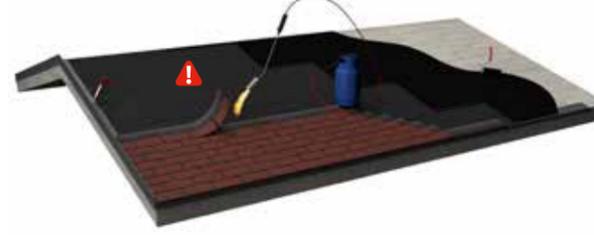
IKO Shingles

Application of bituminous roof shingles

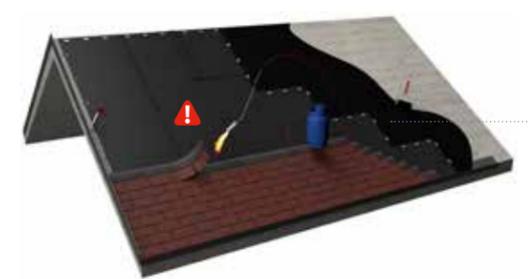
Torch-on application of shingles on **OSB wooden deck** on slope between 4° and 15°



Torch-on application of shingles on **concrete deck** on slope between 4° and 15°



Torch-on application of shingles on **concrete deck** on slope between **15° and 45°**



This shingle application is similar to the regular shingle application concept which starts with a starter strip (a shingle with tabs cut off). Apply by heating/flaming the top layer of Armourbase Thermo AD until the polypropylene mat fabric disappears and the top bitumen coating is melted.

Lay the shingle on the melted top adhesive layer of the membrane in its proper place. If necessary, lift the upper part of the shingle with a trowel. Heat up the section of the membrane just underneath the lifted shingle. The back of the shingle should be warmed in order to ensure the best possible adhesion. Continue with the

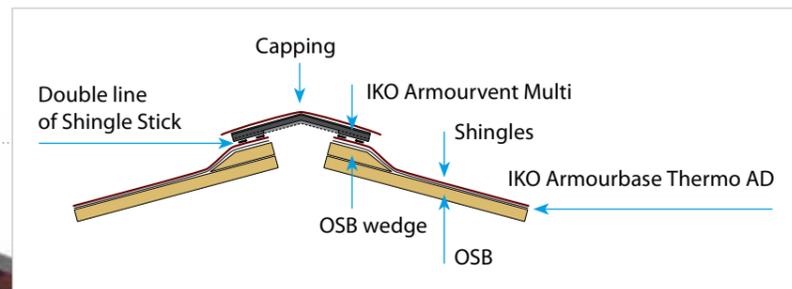
diagonal installation of shingles, without using nails. It is not necessary to torch the shingles from the top. Excessive heat can damage shingles. Essentially shingles are applied for aesthetic reasons only and the waterproofing properties derived from the roofing membrane.

For the torch-on method and slopes up to 45°, the fixation of shingles with nails is not necessary. The **Armourbase Thermo AD** membrane will bring about the total, monolithic adherence between the support and the bituminous shingles.

! Torch only on the upper face of the membrane and stick the shingles in the activated **Armourbase Thermo AD**. Do not torch the shingles!

Details with hips and ridges

Hip and ridge on **OSB wooden deck**



For slopes between 4° and 15°, IKO recommends installing an extra **OSB** or **wooden wedge** and raising the ridge with **Armourvent Multi** ventilation.

This avoids water infiltration in case of ponding water close to this ridge.

Hip and ridge on **concrete deck** by torch-on method



With hips and ridges, the underlayment is already covered with shingles. Therefore hips and ridges are installed by gluing the parts.

For the hip or ridge, the **Armourvent Multi** ventilation can be applied from a 4° slope. Armourvent Multi must be glued on both sides with the IKO Shingle Stick and then nailed to the wooden deck. Hereafter the shingle capping will be applied over it the same way as with a roof > 15°.

On a concrete deck, a piece of 30 cm is trimmed from **Armourbase Thermo AD** and torched on the top part of the roof over the last rows of shingles. Then the capping

can be torched over this membrane. Given the density and thermal mass of concrete decking, ventilation is not required in the air space beneath the deck.

In special cases, when the insulation is between the wooden deck and shingles (the warm roof) and the pitch of this roof is between 4° and 15°, a mechanical fixing is mandatory. Then the best and most recommended solution will be to torch APP shingles over this structure.

Cambridge Xtreme 9,5°



- Xtreme slope: $\geq 9,5^\circ (!) / \leq 90^\circ$
- Xtreme resistance to high wind & heavy rain
- Xtreme unique: the world's first self-adhesive laminated shingle



Cambridge Xpress



- Most efficient laminated shingle in the world: more coverage than any standard shingle
- Cambridge Xpress Lane for improved nailing performance



IKO Shingles Thermo System

is a modern solution, which is capable of responding to specific application (such as concrete roof decks or low slope roofs) and functional requirements (like applying the concept on surfaces which are not suitable for open flames), while offering a wonderful aesthetic finishing with high quality IKO Shingles.



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