

INSTALLATION GUIDELINES

IKO METATECH BALCONY

These installation instructions have been produced according to the current technical standards. Any directives, standards, rules or national regulations, which are stricter than these installation instructions, must be respected.

In circumstances that defer from the above, please contact IKO.

DESCRIPTION

IKO metatech Balcony is a fast-drying two-component liquid waterproofing system based on PMMA polymers. It is used for waterproofing balconies, terraces, stairs and walkways both on new buildings and for renovation work.

ADVANTAGES

IKO metatech Balcony has the following advantages:

- Seamless membrane
- Very limited construction height
- Choice of decorative finishes
- Concentrated load resistance
- Rapid, flame-free application
- Can be applied under poor weather conditions
- Easy to use for precision work in difficult areas
- Compatible with IKO enertherm and other insulation materials

TECHNICAL SUPPORT

IKO assists its construction partners during all stages of the construction process, from the specifications, through the installation to the delivery of the project and after-care.

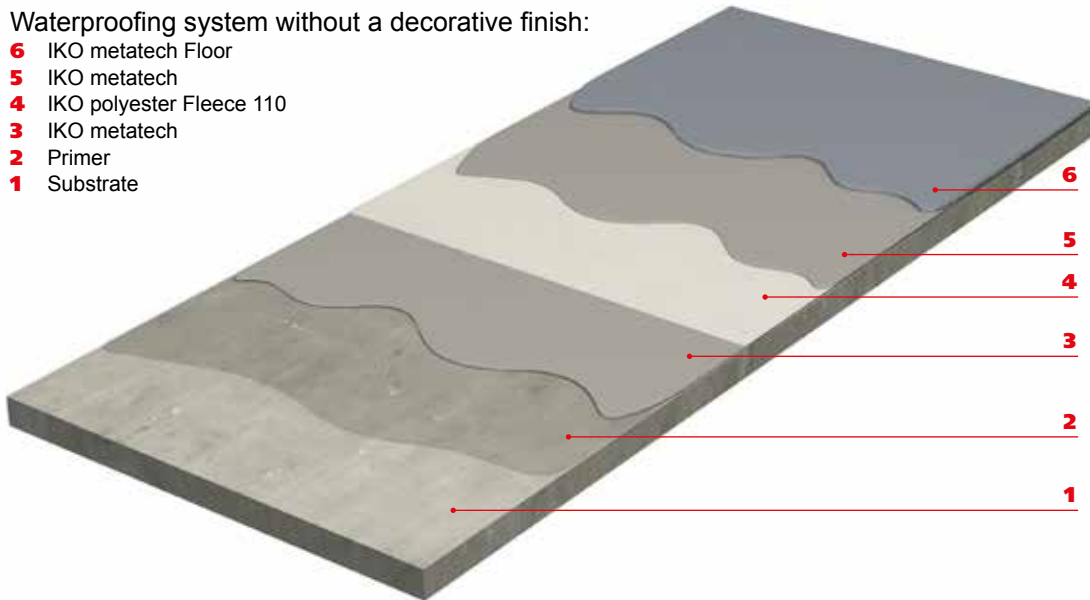
In terms of project follow-up, IKO provides technical expertise and advice, in the form of measurements, inspections and presence on site while work is conducted.

For technical assistance before, during or after your project, please contact the IKO project manager or technical support.

SYSTEM BUILD UP

Waterproofing system without a decorative finish:

- 6** IKO metatech Floor
- 5** IKO metatech
- 4** IKO polyester Fleece 110
- 3** IKO metatech
- 2** Primer
- 1** Substrate



PREPARATION

1 - Working with IKO metatech Balcony

IKO metatech products are fast-drying two-component resins based on PMMA. The first component is a liquid resin and the second (IKO perkadox) is a powder, which acts as a catalyst and causes a chemical reaction. The drying time of the resin depends on the catalyst dosage.

The catalyst dosage indicated in this document has been determined so that after 45 minutes you can walk over the applied layer. See Tables 1 and 2.

Table 1: IKO perkadox dosage for different PMMA IKO metatech products

Product	Substrate temperature in °C, IKO perkadox dosage as a mass %								
	+3	5	10	15	20	25	30	35	40
IKO metatech Bitumen Primer	5%	5%	5%	4%	3%	2%	2%	1%	1%
IKO metatech Porous Primer	6%	6%	6%	5%	5%	3%	3%	1%	1%
IKO metatech	3%	3%	2%	2%	1%	1%	1%	1%	1%
IKO metatech Detail	3%	3%	2%	2%	1%	1%	1%	1%	1%
IKO metatech Floor L	5%	5%	5%	4%	4%	2%	2%	1%	1%
IKO metatech Finish	3,5%	3,5%	3,5%	2,5%	2,5%	1,5%	1,5%	1%	1%
IKO metatech Surfacer	4%	4%	4%	2%	2%	2%	2%	2%	1%

Table 2: **Drying time for different PMMA IKO metatech products**

Product	IKO perkadox dosage recommended at 20°C			
	Pot life	Resistance to rain	Can be walked upon	Curing
IKO metatech Bitumen Primer	± 10 min	± 20 min	± 30 min	± 1 h
IKO metatech Porous Primer	± 10 min	± 20 min	± 30 min	± 1 h
IKO metatech	± 15 min	± 30 min	± 45 min	± 2 h
IKO metatech Detail	± 15 min	± 30 min	± 45 min	± 2 h
IKO metatech Floor L	± 20 min	± 30 min	± 45 min	± 1 h
IKO metatech Finish	± 15 min	± 30 min	± 45 min	± 3 h
IKO metatech Surfacer	± 15 min	± 30 min	± 45 min	± 3 h

IKO perkadox should always be mixed with the resin in the same way:

- Before the use, first mix the resin using a double helix mixer at low speed.
- If desired, pour the required resin quantity into a clean bucket.
- Add the required quantity of IKO perkadox, while stirring and mixing the resin using a double helix mixer at low speed for 2 minutes.
- Make sure that everything is thoroughly mixed down to the bottom and sides of the bucket.

It is important to clean tools immediately after use with IKO metatech Cleaner.

IKO metatech products can be used:

- If the air, substrate temperature and resin temperatures are between the minimum and maximum level, as defined in Table 3.
- If the relative humidity level is lower than 85%.
- If it is not raining or foggy.
- On a dry substrate, which is not frozen.
- On a substrate that is not affected by rising damp (for example, water vapour from inside the building due to the absence of a vapour barrier or rising damp on a ground floor terrace due to the absence of a moisture barrier under the concrete).

Table 3: Acceptable temperatures when using PMMA IKO metatech products

Product	Temperature in °C		
	Ambient	Substrate	Product
IKO metatech Bitumen Primer	+5°C - +35°C	+5°C - +40°C	+5°C - +30°C
IKO metatech Porous Primer	+5°C - +35°C	+5°C - +40°C	+5°C - +30°C
IKO metatech	+5°C - +35°C	+5°C - +40°C	+5°C - +30°C
IKO metatech Detail	+5°C - +35°C	+5°C - +40°C	+5°C - +30°C
IKO metatech Floor L	+5°C - +35°C	+5°C - +40°C	+5°C - +30°C
IKO metatech Finish	+5°C - +35°C	+5°C - +40°C	+5°C - +30°C
IKO metatech Surfacer	+5°C - +35°C	+5°C - +40°C	+5°C - +30°C

The temperature of the substrate must be at least 3°C above the dew point during application and curing.

2 - Checking and preparing the substrate

IKO metatech Balcony can only be applied to a substrate that is clean, dry and free of dust, as well as loose particles. The maximum moisture content of the substrate must measure 18% on the wood scale using a Protimeter or a maximum of 6% measured using a Tramex / Doser. IKO metatech Balcony can be applied on zero falls substrates. Cracks, blisters, expansion joints and finishes on existing substrate edges must be checked and, if necessary, repaired or replaced.

Table 4 shows the compatibility of IKO metatech Balcony with various substrates, as well as the necessary preparation of these substrates.

Please contact IKO for information about any substrates that are not mentioned in this table.

Table 4: Compatibility of IKO metatech Balcony

Substrate	Preparation	Primer	Comments
1 - Waterproofing membranes			
APP bitumen	Remove all loose particles (talc, sand, chips) using a stiff brush.	IKO metatech Bitumen Primer	The membrane must adhere sufficiently to the substrate. Any cracks and blisters must first be repaired. Adhesion to a sanded APP bitumen membrane must first be checked.
SBS bitumen	Remove all loose particles (chipping, aggregate) using a stiff brush.	IKO metatech Bitumen Primer	The membrane must adhere sufficiently to the substrate. Any cracks and blisters must first be repaired.
PVC			Please contact IKO.
EPDM			Please contact IKO.
Resitrix			Please contact IKO.
TPO			Please contact IKO.
TPE			Please contact IKO.
PIB			Not compatible
ECB			Not compatible
PE			Not compatible
2 - Cured liquid waterproofing			
1K PU	Clean the membrane.	None	
1K Hybrid			Not compatible
2K PMMA	Clean the membrane.	None	
3 - Insulation panels			
PIR/ PUR/ EPS/ PF	Prepare roofs by applying a self-adhesive carrier membrane (IKO base stick T/SA). Prepare accessible substrates subject to foot traffic, by applying a load dispersing panel made from fibre-reinforced cement.		Please contact IKO.
4 - Mineral surfaces			
Concrete and mortar	First abrade the waxed concrete.	IKO metatech Porous Primer	The substrate must have been in place for at least 28 days. Remove any laitance from the cement. It must have a compressive strength of at least 25 N/mm ² and a tensile strength of at least 1.5 N/mm ² .
Sound tiling	First abrade the surface.	IKO metatech Porous Primer	Remove any loose or damaged tiling and repair in order to obtain a sound surface (resin mortar reinforced with polypropylene fibres, new tiling). First dry out any pockets of water under the tiling.
5 - Metals			
Ferrous metals (steel)	First sand the metallic surface in order to clean it. All rust must be removed from rusty surfaces. First clean using the IKO tech Cleaner solvent.		Please contact IKO.
Non-ferrous metals (aluminium, copper, lead, zinc)	First sand the metallic surface in order to clean it. All rust must be removed from rusty surfaces. First clean using the IKO tech Cleaner solvent.		Please contact IKO.

Table 4: Compatibility of IKO metatech Balcony

Substrate	Preparation	Primer	Comments
6 - Hard plastics			
PVC	First sand the surface in order to make it rough. First clean using the IKO tech Cleaner solvent.	None	
Polyester	First sand the surface in order to make it rough. First clean using the IKO tech Cleaner solvent.	None	
PE and PP			Non compatible
7 - Wood			
Treated wood		IKO metatech Porous Primer	Must first be treated for all outdoor applications. Chipboard panels must be water-resistant.
8 - Glass			
Mineral glass	Clean the surface thoroughly.	None	
Acrylic glass	Clean the surface thoroughly.	None	

2.1 - Applying the primer

Activate the primer (IKO metatech Porous Primer or IKO metatech Bitumen Primer), as described in the section “Working with PMMA IKO metatech products” with the correct dosage of IKO perkadox.

Apply the primer (IKO metatech Porous Primer or IKO metatech Bitumen Primer) with a brush or short nap roller, using 0.4 – 0.8 kg/m², depending on the nature of the substrate.

The primer must be dry before you move on to the next step.

2.2 - Repairing cracks and unevennesses in mineral surfaces

2.2.1 - 0,5 mm - 1 mm

Prepare the repair mortar: Before use, mix 10 kg of IKO metatech Floor L using a double helix mixer at low speed. Add 23 kg of IKO metatech Floor P and combine using a double helix mixer at low speed until there are no more lumps. Add 10 kg of IKO quartzsand 0.3-0.6 (0.3 - 0.6 mm) and combine using a double helix mixer at low speed until there are no more lumps. If desired, pour the required quantity of resin into a clean bucket. Add the required quantity of IKO perkadox, stir and combine using a double helix mixer at low speed for 2 minutes. Make sure that everything is thoroughly mixed down to the bottom and sides of the bucket.

Repair all cracks and unevennesses using this mixture.

2.2.2 - 1 mm - 10 mm

Prepare the repair mortar: Before use, mix 10 kg of IKO metatech Floor L using a double helix mixer at low speed. Add 23 kg of IKO metatech Floor P and combine using a double helix mixer at low speed until there are no more lumps. Add 20 kg of IKO dorsilit 1mm (0.6 – 1.2mm) and combine using a double helix mixer at low speed until there are no more lumps. If desired, pour the required quantity of

resin into a clean bucket. Add the required quantity of IKO perkadox, stir and combine using a double helix mixer at low speed for 2 minutes. Make sure that everything is thoroughly mixed down to the bottom and sides of the bucket.

Repair all cracks and unevennesses using this mixture.

2.2.3 - Over 10 mm

Any major damage should be repaired using the repair and levelling mortar IKO metatech Mortar. Before use, mix IKO metatech Mortar L using a double helix mixer at low speed. Add IKO metatech Mortar P and combine for 3 minutes using a double helix mixer at low speed until there are no more lumps. IKO metatech Mortar P already contains the required dose of IKO perkadox, so there is no need to add a catalyst. It is useful to transfer the contents to a clean bucket.

Repair all cracks and unevennesses using this mixture.

INSULATION (OPTIONAL)

Add a vapour barrier, if there is not already one present.

Fit IKO enertherm ALU TG PIR insulation panels of the required thickness using IKO pro PU Adhesive, IKO pro Fix gun or IKO pro Sprayfast adhesive or mechanical fasteners.

If necessary, saw the load dispersing panels (fibre cement construction panels with a lateral groove for mechanical loads and a minimum thickness of 18mm) to the correct dimensions and bond to the insulation panels in half-bond pattern using IKO pro PU Adhesive, IKO pro Fix gun or IKO pro Sprayfast adhesive.

Place the first construction panel in a corner. Clean the grooves in the panel that has just been laid using a wet brush. This ensures that the components adhere properly. Apply IKO pro PU Adhesive, IKO pro Fix gun or IKO pro Sprayfast to the edges of the panel, just below the groove, if possible, using a special application nozzle. The adhesive forms a wide but thin strip and therefore covers the groove. Repeat this treatment with the next panels. Slide the panels into each other, both lengthways and widthways. The pre-applied adhesive will come to the surface.

Place the last load dispersing panel, by holding it at an angle and allowing it to fall. Press this sheet onto the others until the adhesive comes to the substrate.

After the IKO pro PU Adhesive, IKO pro Fix gun or IKO pro Sprayfast has hardened, remove any excess adhesive immediately using a cutter. Sand down any bumps on the panel that are higher than 3 mm. No open panel joints should be left in the substrate. After the IKO pro PU Adhesive, IKO pro Fix gun or IKO pro Sprayfast has hardened, it will be possible to walk on the substrate and it can be treated.

As well as securing the load dispersing panels with adhesive, it is also advisable to use mechanical fasteners.

Activate IKO metatech Porous Primer as described in the section "Working with PMMA IKO metatech products" with the correct dosage of IKO perkadox.

Apply IKO metatech Concrete Primer using a brush or short nap roller, using 0.4 – 0.8 kg/m², depending on the nature of the substrate.

APPLYING THE WATERPROOFING

Movement joints / expansion joints

For balconies, allow an expansion joint every 5 m.

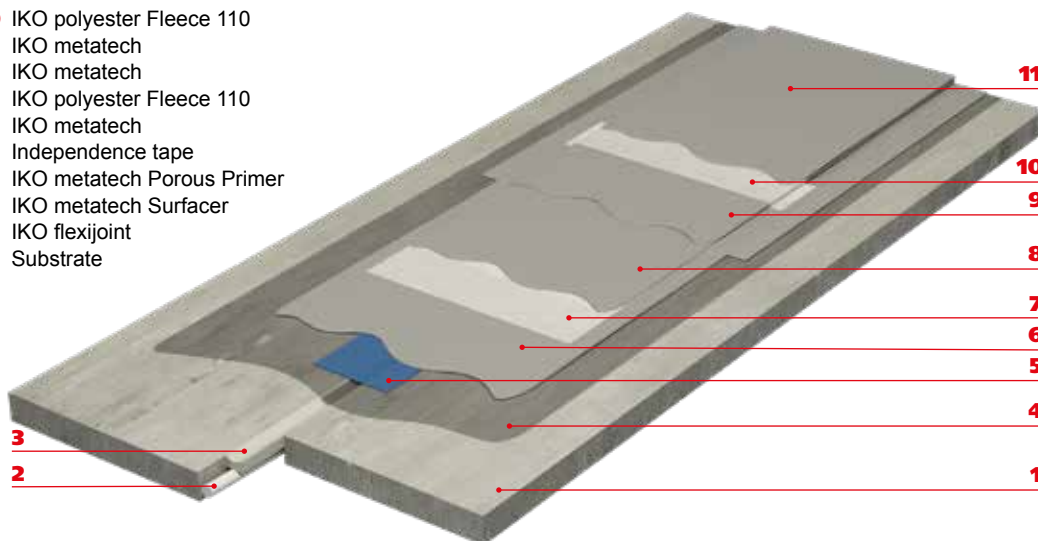
Start by filling deep and wide movement joints with IKO flexijoint, an extruded open cell polyethylene foam. Activate the IKO metatech Surfacer, as described in the section “Working with PMMA IKO metatech products“ and apply it to the joint using a trowel or brush, in order to fill and smooth it. After it has cured, apply a self-adhesive independence tape (Tesa type) so that it covers the joint. The independence tape must be at least five times wider than the joint.

Activate IKO metatech, as described in the section “Working with PMMA IKO metatech products“, and apply it as a thick and even coating, using 1.5 kg/m², with a brush or short nap roller. Place a piece of reinforcement fleece (IKO polyester Fleece 110 made from 110 g/m² polyester) on the wet coating, press the fleece into the first layer using a roller and make sure that the fleece is fully saturated with IKO metatech. There must not be any air bubbles between the first coating and the reinforcement membrane. The fleece strip must be wide enough for the fleece to extend at least 10 cm on each side of the cover strip. Immediately apply using at least 1.0 kg/m² of IKO Metatech wet on wet with a brush or short nap roller.

After it has cured, apply another coating of IKO metatech using 1.5 kg/m². This strip must be wide enough so that it extends by at least 5 cm over each side of the previous fleece strip. Place a piece of reinforcement fleece (IKO polyester Fleece 110 made from 110 g/m² polyester) on the wet coating, press the fleece into the first layer using a roller and make sure that the fleece is fully saturated with IKO metatech. There must be no air bubbles between the first coating and the reinforcement membrane. Immediately apply a second layer of IKO metatech using 1.0 kg/m² with a brush or short nap roller, using the wet on wet method. Any fleece overlaps in the second layer must be kept at least 30cm away from the fleece overlaps in the first layers.

It is vital that no wearing layer or decorative finish layer is applied over the movement joint/ expansion joint. The part that needs to be kept clear is 1 - 2 cm on each side of the joint.

- 11** IKO metatech
- 10** IKO polyester Fleece 110
- 9** IKO metatech
- 8** IKO metatech
- 7** IKO polyester Fleece 110
- 6** IKO metatech
- 5** Independence tape
- 4** IKO metatech Porous Primer
- 3** IKO metatech Surfacer
- 2** IKO flexijoint
- 1** Substrate



Detail connections

Activate IKO metatech Detail as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox. Apply a first layer of IKO metatech Detail using 1.5 kg/m² with a brush or short nap roller. Place a piece of reinforcement fleece (IKO polyester Fleece 110 made from 110 g/m² polyester) on the wet coating, press the fleece into the first layer using a roller and make sure that the fleece is fully saturated with IKO metatech Detail. There must be no air bubbles between the first layer and the reinforcement fleece. Make sure that you allow an overlap of 5 cm on the edges of the reinforcement fleece. Immediately apply a second layer of IKO metatech Detail using 1.5 kg/m² with a brush or short nap roller according to the wet on wet method.

Detail connections can be provided with mechanical and decorative protection by adding a layer of IKO metatech Finish. Activate IKO metatech Finish, as described in the section “Working with PMMA IKO metatech products” with the correct dosage of IKO perkadox and apply it, using 0.6 kg/m².

Main section

Activate IKO metatech as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox. Apply a first layer of IKO metatech using 1.5 kg/m² with a brush or short nap roller. Roll the reinforcement fleece (IKO polyester Fleece 110 made from 110 g/m² polyester) on the wet coating, press the fleece into the first coating using a roller and make sure that the fleece is fully saturated with IKO metatech. There must be no air bubbles between the first coating and the reinforcement fleece. Make sure that you leave an overlap of 5 cm on the edges of the reinforcement fleece. Immediately apply a second layer of IKO metatech using 1.5 kg/m² with a brush or short nap roller according to the wet on wet method.

For applications that require a very smooth execution of the waterproofing, it is recommended to level the fleece overlaps with IKO metatech Surfacer.

Add IKO metatech Floor P to IKO metatech Floor L and stir slowly, using a mixer. Leave this mixture to rest for 5 minutes, so that any air bubbles can escape. Activate the IKO metatech Floor mixture as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox and apply it evenly on the cured layer of IKO metatech with a toothed spatula (with 9.2mm teeth), using 4 kg/m².

DECORATIVE FINISHES

The following decorative finishes are available:

- IKO deco Chips
- IKO micro Chips
- IKO quartsand 0.3-0.6
- Design
- Tiling

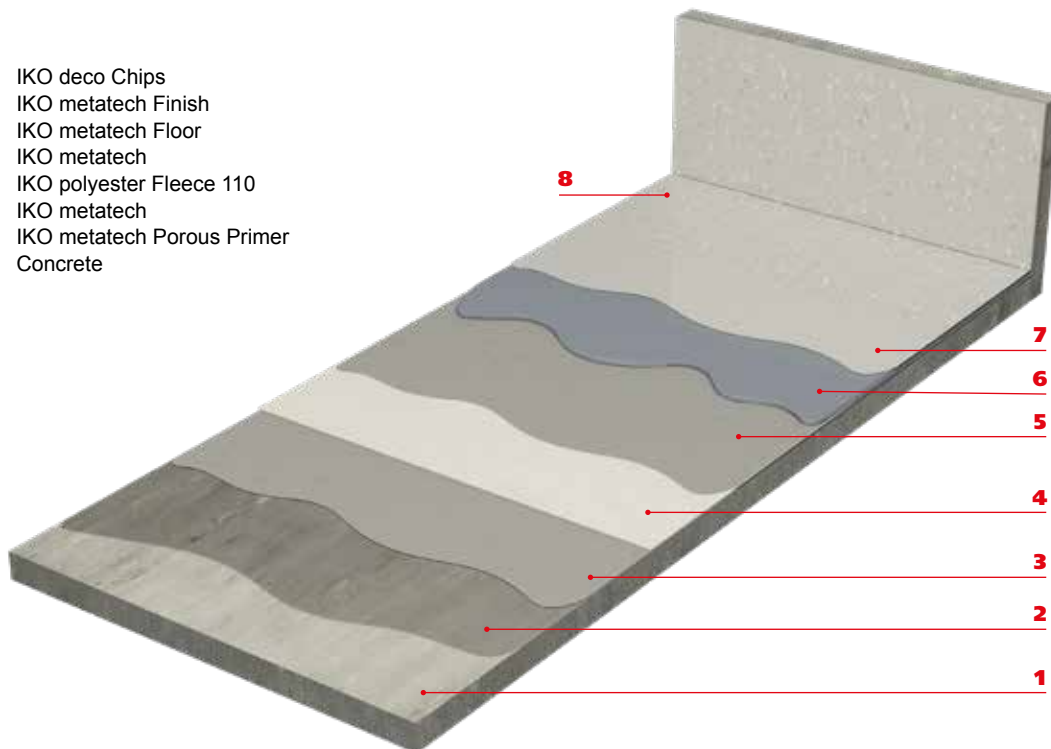
Broadcast IKO deco Chips

Activate IKO metatech Finish as described in the section “Working with PMMA IKO metatech products” with the correct dosage of IKO perkadox and apply to the cured layer of IKO metatech Floor with a long nap roller using 0.6 kg/m². Immediately sprinkle partially with IKO deco Chips (0.05 – 0.3 kg/m²). Once the resin has cured, remove any excess chips using a brush or industrial vacuum and lightly sand the resulting substrate.

In order to increase the anti-slip effect, IKO metatech Finish can first be mixed with IKO anti Slip Powder. The dosage depends on the required degree of slip resistance and should not be higher than 15% IKO anti Slip Powder. Activate this mixture as described in the section “Working with PMMA IKO metatech products” with the correct dosage of IKO perkadox and apply it with a long nap roller using 0.6 kg/m².

Note: the final colour of IKO metatech Finish will be different, depending on whether the product cures in the sun or in the shade.

- 8** IKO deco Chips
- 7** IKO metatech Finish
- 6** IKO metatech Floor
- 5** IKO metatech
- 4** IKO polyester Fleece 110
- 3** IKO metatech
- 2** IKO metatech Porous Primer
- 1** Concrete



Broadcast IKO micro Chips

Activate IKO metatech Finish as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox and apply it to the cured layer of IKO metatech Floor with a long nap roller using 0.6 kg/m². Immediately sprinkle with IKO micro Chips until saturated. Once the resin has cured, remove any excess chips with a brush or industrial vacuum and lightly sand the resulting substrate.

In order to increase the anti-slip effect, IKO metatech Finish can first be mixed with IKO anti Slip Powder. The dosage depends on the required degree of slip resistance and should not be higher than 15% IKO anti Slip Powder. Activate this mixture as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox and apply it with a long nap roller using 0.6 kg/m².

Note: the final colour of IKO metatech Finish will be different, depending on whether the product cures in the sun or in the shade.

Broadcast IKO quartzsand 0.3-0.6

Activate IKO metatech Finish as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox and apply it to the cured layer of IKO metatech Floor with a long nap roller using 0.6 kg/m². Immediately sprinkle until saturated with IKO quartzsand 0.3-0.6 using 2 kg/m². Once the resin has cured, remove any excess quartz using a brush or industrial vacuum.

Activate IKO metatech Finish as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox and apply it with a long nap roller using 0.6-0.8 kg/m²

Note: the final colour of IKO metatech Finish will be different, depending on whether the product cures in the sun or in the shade.

Design

First mix IKO metatech Finish with IKO anti Slip Powder. The dosage depends on the required degree of slip resistance and should not be higher than 15% IKO anti Slip Powder. Activate this mixture as described in the section “Working with PMMA IKO metatech products“ with the correct dosage of IKO perkadox and apply it with a long nap roller using 0.6 kg/m².

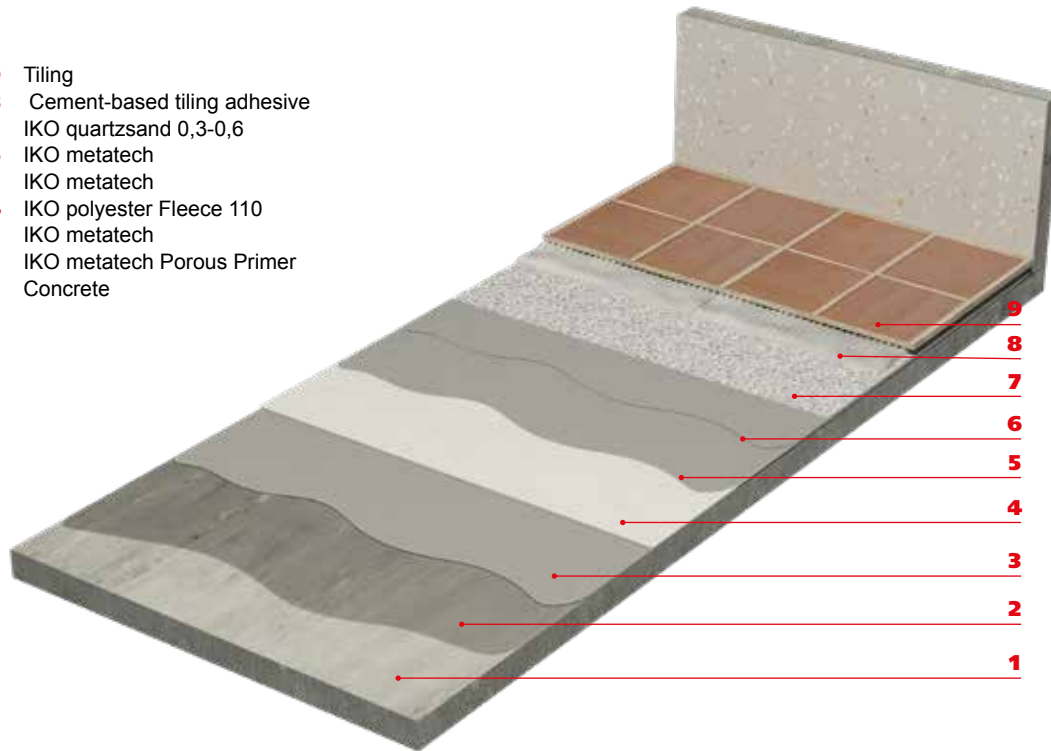
Note: the final colour of IKO metatech Finish will be different, depending on whether the product cures in the sun or in the shade.

Tiling bonded with adhesive

In this case, the layer of IKO metatech Floor is replaced by a third layer of IKO metatech using 1.2-1.5 kg/m². Immediately sprinkle until saturated with IKO quartzsand 0.3-0.6 (0.3 - 0.6 mm) using 2kg/m². Once it has cured, remove any excess quartz using a brush or industrial vacuum.

Use a cement-based tiling adhesive for outdoor use, which is compatible with PMMA. Please contact

- 9** Tiling
- 8** Cement-based tiling adhesive
- 7** IKO quartzsand 0,3-0,6
- 6** IKO metatech
- 5** IKO metatech
- 4** IKO polyester Fleece 110
- 3** IKO metatech
- 2** IKO metatech Porous Primer
- 1** Concrete



IKO for a list of suitable adhesives, class C2 according to EN12004.

DETAILED TECHNICAL DRAWINGS

Please contact IKO.

MAINTENANCE

The durability of the waterproofing can be guaranteed, provided:

- The waterproofing is not subject to stagnant water for an extended period.
- The substrates are regularly maintained according to the current regulations.
- The waterproofing is used for its initially intended purpose..

Compliance with the following maintenance instructions determines the life span of the waterproofing system.

Maintenance begins as soon as the work is accepted. It consists of regular inspections and at least one annual visit, which must be conducted before the end of autumn.

Maintenance tasks include:

- Keeping the (rain) water drainage system in a good state of repair.
- Regular removal of grass, moss and vegetation.
- Removal of fallen leaves at the end of autumn.
- Keeping the small accessories (flashings, joints) and large structures (drain profiles, plinths, gutters, etc.) in a good state.
- Repair of any cracks detected..

Advice for use:

- Do not attach anything to the treated substrate.
- Do not pour any aggressive products onto the substrate, even if they are emptied directly into the drains.
- Do not make any changes without consulting an IKO specialist.

IKO PRODUCTS USED IN THIS SYSTEM

- IKO flexia:**
- IKO antislip Powder
 - IKO deco Chips
 - IKO flexijoint
 - IKO metatech
 - IKO metatech Bitumen Primer
 - IKO metatech Cleaner
 - IKO metatech Porous Primer
 - IKO metatech Detail
 - IKO metatech Floor L
 - IKO metatech Floor P
 - IKO metatech Finish
 - IKO metatech Surfacers
 - IKO micro Chips
 - IKO perkadox
 - IKO polyester Fleece 110
 - IKO tanetech Bitumen Primer

- IKO enertherm:** - IKO enertherm ALU TG

- IKO pro:**
- IKO pro PU Adhesive
 - IKO pro Fix gun
 - IKO pro Sprayfast

The technical information regarding the application of liquid waterproofing products supplied by IKO is provided in good faith on the basis of IKO's current know-how and experience, and assumes that these products will be used in accordance with the above-mentioned recommendations, under normal circumstances, and that these products were stored and handled in the correct manner. The above-mentioned information is only intended to inform the user about the various properties and/or recommendations and can in no way be considered as a guarantee with regard to the merchantability and suitability for a specific purpose in view of the continuously changing environmental factors, including the specific conditions at the building site, the use of different materials and substrates, etc. As a result, and with the exception of binding legal stipulations to the contrary, IKO cannot be held liable on the basis of the provided information, and any other written recommendations and/or advice. Please contact IKO if you have any doubts regarding the processing, the end use or the application of these products. Users are recommended to consult the most recent edition of the technical data sheet. A copy of this will be provided upon request or can be obtained from www.ikoflexia.com