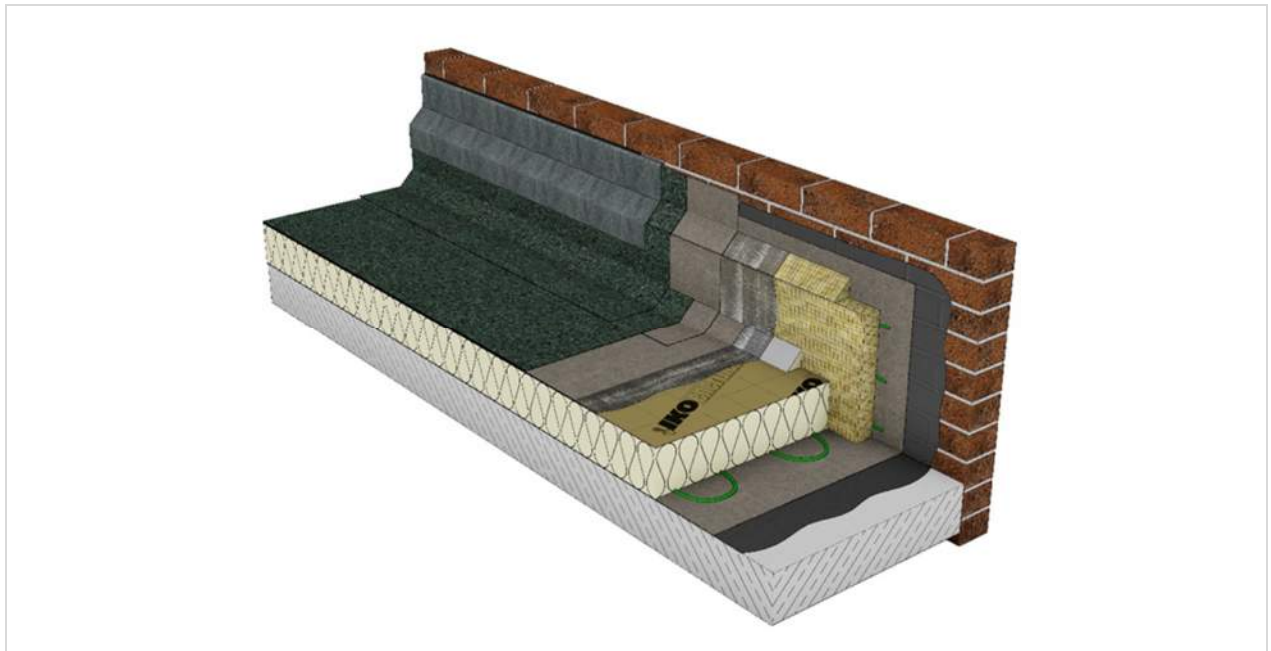




IKO Waterproofing Specification Proposal - IKO Ultra Gold



Project Name: Brunswick Mill

Address:
Brunswick Mill
Bradford Road
Manchester
M40 7EZ

IKO Specification Reference Number:
0065646

Date of issue: 18/06/2025

This proposal specification is valid for 12 months from the date of issue. If the project is not completed during this period, contact should be made with IKO Technical Services Department prior to the commencement of the works.

CONTENTS

IKO CONTACTS

IKO Area Business Manager
IKO Technical Department

IKO PROJECT SUMMARY

Client Brief

IKO WATERPROOFING PROPOSAL INFORMATION SUMMARY

IKO Waterproofing System Criteria and Guarantee Offer
Project Information Summary Table

IKO WATERPROOFING SPECIFICATION PROPOSAL

Preliminary Notes and Enabling Works
Schedule of IKO Waterproofing Materials and Ancillary Components
Schedule of IKO Waterproofing Installation

GENERAL CONDITIONS

Client and Contractor notes

APPENDIX

Register of Issue
Supplementary Documents

NOTES:

IKO CONTACTS

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IKO Technical Department

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IKO PROJECT SUMMARY

IKO Condition survey

- IKO have undertaken a condition survey of the area(s) listed within this proposal specification to highlight the condition of the existing waterproofing and to provide recommendations for the provision of meeting the design brief as defined by the building owner's representative.
- **This proposal must be read in conjunction with the latest version of the IKO Roof Condition Survey Report for this project, which can be found within the appendices of this specification proposal, or from the IKO Area Business Manager.**
- During this survey, IKO Technical representatives carried out core sampling to ascertain the existing waterproofing build-up. In consideration for the need to maintain the waterproofing integrity, sampling was kept to a minimum and IKO can accept no liability for any area not tested. The core sample analysis is only valid for the locations undertaken.
- IKO's condition survey may provide an overview impression of the overall condition of the waterproofing. It may also highlight the main areas of concern that will need to be addressed as part of any re waterproofing and associated works, these may be highlighted within the preliminary and enabling works listing within this proposal.
- ***When pricing this contract, the Installing Contractor should conduct their own tests, including core samples and adhesion tests; and review the contract documentation and this proposal specification to confirm these findings are an accurate reflection of the condition and notify IKO Technical Services of any such variance as described within this proposal specification. This must be undertaken prior to any works being undertaken and once the project has started. IKO will not be held liable for any variation or change once it has been accepted by all parties.***
- Where this document is to be included within the client/client's representative's own specification documentation, a copy of this document must be forwarded to IKO Technical Services Department for final approval before commencement of the works.
- Any discrepancies between any specification and tender document should be highlighted to all parties for final approval prior to any works being undertaken.
- IKO will not be held liable for any variation or change once it has been accepted by all parties.
- N.B: This specification is subject to amendment/revision following the receipt of satisfactory adhesion test results; and where applicable (for mechanically fixed installations) subject to amendment/revision following the receipt of satisfactory pull-out test results.

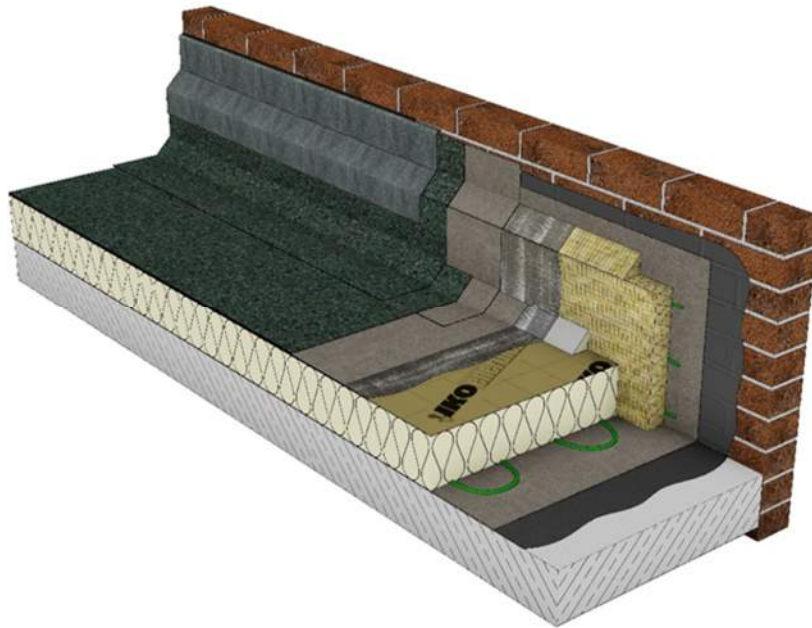
IKO SYSTEM CRITERIA

WATERPROOFING

IKO Ultra Gold is a high performance torch applied cap sheet used within an IKO built up flat roofing system with both hybrid and torch-on system options.

The waterproofing system specified meets the minimum performance criteria as listed below:

- **Independent approval:** BBA certificate number 91/2671
- **Durability statement:** In excess of 25 years
- **Fire performance:** Broof (t4) tested system build ups are available (system dependant), enabling unrestricted use within Part B of the Approved Documents of the Building Regulations.
- **NHBC standards:** Installed, used and maintained in accordance with IKO recommendations and to NHBC Standards Chapter 7.1 Flat Roofs and Balconies
- **CE and UKCA marked membranes:** In accordance with harmonised European Standard BS EN 13707: 2013
- **Manufactured:** All components manufactured within the UK
- **IKO Systems build up:**



- **System components:** *Where required, must be sourced through IKO, including -*
 - IKO enertherm insulation
 - IKO Adhesives & primers
 - IKO Internal rainwater outlets
 - IKO Rooflights
 - IKO Trims
 - IKO Roofbox and IKO Roofport
 - IKO Soil Vent Pipe
 - IKO Lightning conductor clips
 - IKO Paving support systems
- All IKO system components are covered as part of the IKO guarantee offer.
- Technical resources are available to view and download using the following link, or by scanning the QR code.
<https://www.ikogroup.co.uk/resources/download/>



INSTALLING CONTRACTOR

- The Installing contractor must be **IKO Approved/Registered** for the specified IKO system.
 - They must employ persons familiar with the application and installation requirements of the specified waterproofing system and its components.
 - Must employ **IKO Approved Installers** whom have undertaken and passed the IKO specified system induction programme.
 - IKO Approved Installers must carry a current and valid **IKO Approved installer card** for the IKO Specified waterproofing system that should be less than 3 years old.
 - The names of the IKO Approved installers must be provided to IKO guarantees.uk@iko.com to ensure they are current and valid prior to any works being undertaken.

PROJECT STARTS

- As part of the guarantee requirements, all project starts and/or pre-start meetings must be notified by the installing contractor a minimum of 10 working days before the project starts to guarantees.uk@iko.com. Failure to notify IKO may invalidate any guarantee offer.
- **The Appointed Installing Contractor MUST notify IKO by emailing guarantees.uk@iko.com of the START DATE and their POINT OF CONTACT for this project prior to any works being undertaken.** Failure to notify IKO as above that does not allow IKO to undertake its inspection regime may invalidate or compromise the guarantee proposed.

GUARANTEE

An IKO guarantee is available on this project and includes the following and is subject to:

- **Inspection and Sign Off:** A designated member of the IKO Technical Services team may, at the discretion of the Technical Services Department, visit site to carry out a final site inspection of the installation, to monitor the workmanship and correct use of materials with specification compliance.
 - the installing contractor may be requested to provide a photographic record of the installation to demonstrate compliance with the IKO specification prior to the release of any IKO guarantee.
- **Guarantee: 20 year Materials and Workmanship** covering:
 - IKO Waterproofing material failure
 - Workmanship underwritten by the installing contractor.

IKO SPECIFICATION PROPOSAL SUMMARY

Note: This table provides an outline summary of the proposed specification for this project. It is not intended to be fully comprehensive and must be read in conjunction with the relevant clauses within the preliminary notes and enabling works.

Table 1 - Roof Areas and Preparation Requirement

ROOF AREAS AND PREPARATION REQUIREMENT			
ROOF AREAS/LOCATION	Brunswick Mill	Approx. m ²	2200
Substrate Preparation	Overlay existing waterproofing, making good defective areas as required – Remove all associated waterproofing detailing and prepare the existing field area for overlay		
Finished falls	Existing falls - To be enhanced		
Substrates note	All substrates are to conform to the requirements highlighted within the preliminary and enabling section within this specification proposal. All substrates must have both an adhesion test and moisture content validated by the installing contractor prior to installing any components of the waterproofing.		
Preliminary and Enabling works	For the outline recommendations and guidance on the requirements of this project, please refer to the preliminary and enabling works section of the specification. Noting that all waterproofing upstands, window and glazing sills, door thresholds must be a minimum of 150mm above the new finished roof level. Those details that cannot be raised must be highlighted to IKO technical department prior to undertaking any works. Details that are not raised to accommodate this requirement will not be covered by the IKO guarantee and will be specifically excluded. Backfalls and areas of deflection must also be rectified prior to laying the waterproofing layers.		

Table 2 - IKO Waterproofing Components

IKO WATERPROOFING COMPONENTS	
Priming	IKOpro Sprayfast MPP
Air and Vapour Control layer	IKO Ultra T-O Air & Vapour Control Layer - to non-combustible substrates only IKO Ultra S-A Air & Vapour Control Layer - to timber and other combustible substrates
Insulation	IKO enertherm TAP
Thickness	Tapered
IKO Tapered Scheme ref	Scheme to follow
Bonding	IKOpro Sprayfast IBA <i>Note: Where two boards with gastight facings are being bonded on site the boards must be bonded together using the IKOpro PUMA 2 part PU adhesive.</i>
Insulation facing preparation	Primed with IKOpro Sprayfast MPP
Insulated upstands	Not applicable
Internal gutter	Refer to IKO tapered scheme

Angle Fillets	IKO ALU Angle Fillets
Underlay	IKO Ultra H-A Underlay
Cap Sheet	IKO Ultra Gold Cap Sheet
Cap sheet bonding	Torch applied

Table 3 – Finishes

FINISHES	
Roof Finishes	None known
ELD required	Not required - No roof finishes

Table 4 – Detailing works

WATERPROOFING DETAILING	TORCH FREE LOCATIONS	SAFE2TORCH ZONES
Application	FLAME FREE DETAILING	HYBRID DETAILING
Primers	IKOpro Sprayfast MPP	IKOpro Sprayfast MPP
Detailing Underlay	IKO Ultra T-F Detailing Underlay	IKO Ultra H-A Detailing Underlay
Detailing Cap Sheet	IKO Ultra Stick Cap Sheet	IKO Ultra Gold Cap Sheet

All waterproofing detailing works, including upstands, kerbs, penetrations, and internal gutters etc. must be formed using 2 layers of waterproofing as specified above.

Flame free zones must be a minimum 900mm from any identified areas of risk in accordance with the guidance set within the NFRC – Safe2torch guidance document. Within these zones no torches should be allowed (including drying the roof). **IKO Ultra S-A and T-F membranes** must be used in any areas outside of the safe2torch zones, these membranes are cold applied with hot air welded laps.

Where present any existing waterproofing detailing must be removed, and the substrate made good prior to the installation of the new waterproofing build up.

Table 5 – Additional Information

ANCILLARY ITEMS
<i>Refer to ancillary components section for full list of IKO ancillary items</i>
FURTHER NOTES
Preformed metal angles may be used as an alternative to insulated hard edges in line with the relevant IKO design detail; whereby the metal angle is formed using a 0.9mm once bent galvanized metal angle (size to be 90mm x 40mm less the insulation thickness). All metal angles are to be fully bonded to the insulation using IKOpro PU adhesives.

PRELIMINARY NOTES AND ENABLING WORKS

All reasonable care has been exercised in the undertaking of this specification to make it as comprehensive as possible. However it is not uncommon for situations on site to arise that may not have been immediately apparent and/or have been unforeseen during any survey. Such situations should normally be covered by way of a contract contingency sum allowance to provide protection to all contract parties against what may be termed a risk item. In the event such a 'risk' occurs on this project, it should be treated as a contract variation and be valued in accordance with the stipulated contract terms.

CONTRACT DOCUMENTATION

Where this document is to be included within the clients/client's representative's own specification documentation, a copy of such document must be forwarded to IKO Technical Services Department for final approval before commencement of the works.

Any discrepancies between any specification or tender document should be highlighted to all parties for final approval prior to any works being undertaken

BUILDING REGULATIONS

It is the responsibility of the client or their representative to ensure compliance of the proposed specification with all relevant Building Regulations by consultation with Building Control. In the event of any doubt about the interpretation or application of the Building Regulations in relation to any particular new build or refurbishment works, clarification must be sought directly from Building Control.

The Approved Documents of the Building Regulations (England and Wales) that may be applicable for this project are:

- Part B: Fire Safety
- Part E: Resistance to the passage of sound
- Part F: Ventilation
- Part H: Drainage disposal
- Part L: Conservation of fuel and power.
- Part M: Access to and use of building
- The Building (Scotland) Regulations – Building Standards Technical Handbook

IKO waterproofing specifications has been prepared on the basis of that to meet the current Approved Documents of the Building Regulations. Where it has been specified a thermal insulation thickness or design to which will not comply with these current standards, it should be assumed that IKO have acted on the instruction of the client or their representative in this regard. As such IKO cannot be held liable for any proposal non-compliant with any element of the approved documents of the building regulations.

INSTALLATION

All works must be undertaken in accordance with the IKO Specification, current Building Regulations, British Standards Code of Practice and NHBC standards to provide a sound and secure, free draining and completely watertight waterproofing system. These include, but are not limited to:

- BS 6229 - Flat roofs with continuously supported coverings.
- BS 8217 - Code of practice for reinforced bitumen membranes for roofing -.
- BS 5250 - Code of practice for control of condensation in buildings.
- BS EN 1991-1-4 Euro code 1 - Actions on structures. General actions. Wind actions.
- BS EN 12056-3 - Gravity drainage systems inside buildings. Roof drainage, layout and calculation.

It is the installing contractor's responsibility to ensure they employ operatives that are familiar with the application requirements of the specified waterproofing components and have undertaken and passed any relevant IKO product induction. Any installation not undertaken in accordance with IKO recommendations using operatives competent with its installation may result in the withdrawal of the IKO guarantee offer.

NFRC SAFE2TORCH GUIDANCE & USE OF GAS TORCHES

The installing contractor is responsible for carrying out their own risk assessment of the proposed works and pre-hot works checks as outlined in the NFRC Safe2Torch guidance.

The risk assessment must consider both site preparation works such as drying substrates alongside the proposed installation methods and safe working practices must be introduced to minimise identified risks.

The full extent of any Flame Free Zones must be identified and confirmed by the installing contractor according to the NFRC Safe2Torch guidance. A flame free zone is defined as being within 900mm of a combustible material or substrate. This will include the extremities of any eaves or roof overhangs.

A hot works permit must also be in place where the use of gas torches has been allowed for; this should only be undertaken by persons considered competent and familiar with the use of a gas torch.

SITE STORAGE

Insulation boards must be stored under cover in dry conditions, off the ground and covered by a tarpaulin; insulation boards must not be installed if wet or damaged. Foil faced Insulation boards will require the surface to be wiped with a cloth prior to their installation to remove any surface contaminant.

Self-adhesive membranes must be stored above 5°C for 24 hours prior to use. Self-adhesive membranes must not be stored on the roof overnight or during hot sunny weather conditions.

Adhesives and liquid products must be stored between 5 and 30°C and out of direct sunlight. Application performance will be improved if stored above 10°C and below 30°C before use. Please refer to the technical datasheet for further guidance.

TEMPORARY WEATHERING

Day/night joints must be applied to all details and waterproofing areas, to ensure the building is kept watertight at all times and where the waterproofing integrity may be compromised due to the progress of the works or inclement weather.

This temporary waterproofing seal should be provided to protect the building and any insulation from water ingress. An underlay or equivalent should be lapped and sealed by linking the vapour control layer to the waterproofing layers.

WEATHER CONDITIONS

Do not undertake the works in poor weather conditions, or where the wind speeds are in excess of 7m/s or temperatures are below 5°C.

Works in severe or continuously wet weather conditions should be suspended unless an effective temporary roof is provided over the working area.

Progress of the works is to be organised to maintain the waterproofing integrity of the new system.

WATERPROOFING PROTECTION

No solvents or other chemicals which could damage the waterproofing should be allowed to come into contact with the waterproofing system.

Ensure that finished areas of waterproofing are adequately protected from damage by subsequent building operations and other trades. Prevent access to or onto the finished waterproofing by other trades, unless the areas have been adequately protected from any potential damage or misuse. Where the waterproofing has been completed, it would be recommended an ELD (Electronic leak detection test) is undertaken to satisfy the installing contractor that the works were, at the time of their installation, watertight and undamaged.

Failure to provide sufficient protection may result in additional works being necessary before any guarantee is issued.

Where access is required for the maintenance of plant items etc. additional protection must be provided in the form of maintenance walkways.

Where the area to be waterproofed is to be regularly accessed e.g. On a balcony or terrace, the new waterproofing must be adequately protected by the provision of paving slabs, promenade tiles etc. or other wearing surface.

UPGRADING COLD ROOF CONSTRUCTIONS TO A WARM ROOF

Where upgrading an existing cold roof construction to include insulation as a warm roof construction, then it will be required to remove any existing insulation from within the roof void and seal/blank off any associated ventilation.

WIND UPLIFT

The potential wind loads on a roof are higher at the perimeter edges and corners and as such it is important that the perimeters are fixed correctly according to this specification.

The installing contractor must ensure all perimeter edges including trims, capping's and timbers are securely mechanically fastened to the construction with appropriate fixings. Nails must not be used in areas of high wind loads.

The coverage rate of the adhesive for both the insulation boards and membrane must be doubled up at perimeter edges and around openings such as rooflights, referring to any enclosed wind uplift calculation for details on the perimeter zones.

Fixing of perimeter timbers and GRP trims must be with suitable fixings into a sound substrate. The fixings must be spaced a maximum of 150mm centres and be min 30mm in length.

FALLS

Falls should be in accordance with BS6229 where the **minimum finished falls including internal gutters are 1:80.**

To ensure a minimum finished fall of 1:80 is achieved, allowing for construction tolerances, and deflection under load new substrates should be designed to 1:40.

Falls may be created in various forms, including within the deck or structural support, or from a levelling screed such as IKO Permascreed or within the use of tapered insulation within a warm roof application.

Allowance should be made by the installing contractor to remove any back falls, hollows, depression or deflections prior to the application of the first layer of waterproofing.

Any arising defect associated with non-rectification of poor drainage falls resulting in ponding water upon the roof will not be covered by the IKO guarantee.

IKO will not be held liable for any resulting ponding water once the works have started.

Ponding Water

Where ponding water is present and the allowance of tapered insulation is not viable, then consideration to improving falls by the use of levelling screeds, fillers or sacrificial layers of the waterproofing must be allowed for by the installing contractor. It is the contractor's obligations to ensure all reasonable measure have been allowed for the rectification of poor drainage/falls prior to the installation of the waterproofing.

Constant standing water on a roof waterproofing in excess of 10mm may affect the long term performance of the waterproofing, as well as adding weight (25mm of standing water over 20m² would equate to 500Kg), lead to progressive deck deflection, thermal stress, slip hazard and buildup of debris and algae. IKO will not be liable for standing water in excess of 10mm once the works have been started. 10mm of standing water should either free drain or evaporate within a 48hour period after the cessation of any heavy rainfall.

DRAINAGE AND RAINWATER OUTLETS

Flat roofs falls and drainage should be designed in accordance with BS6229: 2018

Drainage of flat roof areas should be design in accordance with BS EN 12056: part 3 – Gravity drainage systems inside buildings – roof drainage, layout and calculation. Drainage rainwater outlet must be installed at the low point on the roof, and or defined within a tapered insulation scheme design.

Drainage rainwater outlets must be fully compatible with the specified waterproofing system, only those approved by the waterproofing system supplier are to be used. Only IKO rainwater outlets will be covered by the IKO guarantee.

External Drip Edges

Where external drip edges are present, drip edges should be min 75mm deep and formed with a 6mm plywood former, dressed as a separate item prior to the application of the waterproofing field area cap sheet, in accordance with IKO standard details. Alternatively a new preformed drip edge detail may be utilised.

External Drainage Chutes

Where external drainage chutes are present, chutes to external hoppers must be of adequate size (min 300mm wide and 75mm high) and be pre-formed from code 4 or 5 lead, unless a preformed proprietary unit is utilised. The chute must be primed and dressed between the waterproofing layers.

Internal Rainwater outlets

Where internal rainwater outlets are present, drainage must be secure, free draining and weather tight at all times.

Clean and prepare all rainwater outlets of any grease, debris to ensure a secure bond with the waterproofing can be achieved. Prime all rainwater outlet flanges with the specified IKO Primer.

Protect outlets and apertures from ingress of debris and remove protection to outlets during non-operating periods.

Ensure rainwater outlets are adequately sealed and connected to the internal/external pipework to prevent any water backing up the pipework.

All rainwater outlets and drainage should be checked upon completion of the works to ensure that they are free flowing.

An internal sump approx. 500mm x 500mm or as specified on any tapered scheme should be installed around each existing internal rainwater outlet to assist with drainage. Each sump should be installed in accordance with IKO detail. Contractor note: provide hard edge 10mm thinner than the insulation to prevent lap build up and water check.

Grind or abrade and prepare all metal surfaces and remove any grease, oils or dust and clean and prepare with acetone cleaner.

Where an internal rainwater outlet is to be installed at substrate/deck level, it will be required to rebate the substrate/deck to accommodate the flange of the rainwater outlet and prevent a water check around the outlet.

Refurbishment Outlets

In refurbishment projects where refurbishment outlets are specified, the existing rainwater outlets are to be enlarged to accommodate the new refurbishment rainwater outlet, allowance must be made to all outlet connections are adequately sealed and connected to the internal pipework. The minimum internal rainwater outlet spigot opening must be a min 75mm diameter.

Where existing rainwater outlets sleeves are to propose the inclusion of a refurbishment type rainwater outlet that would result in the reduction to effective flow capacity due to the reduction in the rainwater outlet diameter. It is recommended that a rainwater calculation is undertaken in accordance with BS EN 12056-3 to determine if the existing rainwater outlets are sufficient to cope with any increased drainage flow.

Additional Outlet(s)

Install additional rainwater outlets as required to provide a free draining roof.

UPSTANDS, SILLS AND THRESHOLDS

All waterproofing to upstands, sills and thresholds must achieve a **minimum height of 150mm above the finished roof level**. The finished roof level is the top surface of any additional finishes such as tiles, paving slabs, decking etc.

Attention should be paid to window sills and door thresholds, brick and rendered upstands, cladding and tile abutments, plant and rooflight kerbs, pipes, retained fixed guardrails etc.

Where any low thresholds, sills and upstands existing, that cannot be raised as a requirement to this proposal specification, then IKO technical department must be notified prior to any works being undertaken. Details formed outside the design requirement defined within Codes of Practice, technical guidance documents and this specification, these details will not be covered by the IKO guarantee. IKO Technical department must be notified to provide guidance on any compromised detail to minimise any future defect arising.

All existing waterproofing detailing to all upstands including kerbs, perimeter edges and internal gutter and the like. These must be stripped and removed with all substrates and surfaces made good prior to the application of the new waterproofing.

Allowance should be made during this work for the inclusion of a new IKOFlash or code 4 lead cover flashing, to be dressed over the new waterproofing upstand.

IKO cannot take responsibility for water ingress over waterproofing details below the minimum height.

Tapered Scheme

Where the new roofing system includes tapered insulation or an increase in insulation thickness, Any scheme and design must be checked by the installing contractor, and allowances made for adjustments of all associated waterproofing detailing works, including perimeter edges, abutments, cavity trays/DPCs and upstands sills and thresholds to accommodate the insulation thicknesses proposed according to this specification and any tapered scheme design, so as to achieve a minimum height of 150mm above the finished roof level.

Windows, glazing, sills and thresholds

Where windows, glazing, cills and/or thresholds are present, if the upstand height to the existing sills will be compromised by the installation of the new waterproofing system, it will be necessary to raise the window sill level by replacing the window frames at these locations to accommodate the required roof covering thickness and minimum waterproofing upstand height of 150mm above the finished roof level. Refer to separate client's instructions for further details of this installation.

Waterproofing upstands to glazing kerbs must achieve a minimum height of 150mm above the finished roof level. The waterproofing must be dressed behind the glazing. Remove glazing as necessary to allow detailing works. On completion of the detailing works apply the specified glazing ensuring a minimum cover of 75mm to the upstand/detail. Wherever this is not the case an additional flashing piece must be provided.

Where glazing cannot be raised/ removed, IKO Technical department must be notified immediately, and should the formation of the waterproofing not achieve the minimum 150mm upstand from the finished roof level, then this detail will not be covered by the IKO guarantee.

Masonry walls

Where present, all brickwork and blockwork jointing and pointing is to be made flush to allow a full bond of the waterproofing.

Irregular walling such as stone walls will need to be addressed prior to the application of the waterproofing, stone walls will need to be cut back or rendered to provide a smooth even finish substrate for the application of the waterproofing layer. Dressing the waterproofing to the render is not acceptable and any arising defect is not covered by IKO.

Rendered wall upstands

Where rendered wall upstands are present, it may be necessary for the render to be cut back to allow the waterproofing to be dressed in accordance with IKO standard detail. Cut back the render to allow for the inclusion of a render stop and cover flashing. Redress the render to match the existing. Dressing the waterproofing to the render is not acceptable and any arising defect is not covered by IKO.

Cladding

Waterproofing upstands to cladding must achieve a **minimum height of 150mm above the finished roof level**. The waterproofing must be dressed behind the cladding.

Where applicable, remove cladding panels as necessary to allow detailing works. Where cladding panels cannot be removed it will be necessary to cut back the panels to allow for a minimum skirting of 150mm above the height of the finished roof level.

On completion of the detailing works re-fix/apply the specified cladding system ensuring a minimum cover of 75mm to the upstand/detail. Wherever this is not the case an additional flashing piece must be provided.

Where cladding cannot be raised, IKO technical department must be notified prior to undertaking any works. Areas that cannot be raised to accommodate the required waterproofing upstand detailing, will not be covered by the IKO guarantee. Dressing the waterproofing to the cladding sheet is not deemed acceptable and must be avoided.

Level threshold access balconies

On balconies and terraces with designed accessible level thresholds a 75mm waterproofing upstand to a threshold is acceptable where the design meets NHBC standards and IKO requirements.

COVER FLASHINGS

All waterproofing upstands to brick/block/concrete etc. are to be terminated with the use of IKOFlash cover flashing and sealed with IKOpro Stickall mastic dressed to provide a minimum 75mm cover to the waterproofing. Alternative cover flashings, such as non-ferrous type e.g. lead, can be used as an alternative; however they must be installed in accordance with the LSA (Lead sheet association) guidelines being a maximum of 1.5m long being secured and clipped, and to provide a minimum 75mm cover to the waterproofing upstand. Cover flashings are to be sealed using a polysulphide mastic sealant or IKOpro Stickall. Alternatives such as sand cement mortar are not deemed acceptable by IKO and will not be covered by the IKO guarantee.

The use of termination bars to brickwork/masonry is not acceptable. They may only be used on reinforced concrete upstands.

For balconies and terrace areas where a PMMA liquid has been specified, and the use of cover flashings is restricted due to site conditions, the liquid detailing and its reinforcement may be terminated by being dressed into a pre-cut 25mm min deep chase into the wall abutment at the top of the waterproofing. The chase is then to be filled with the relevant liquid reinforcing filler being dressed to provide an even jointing to the chase.

DPCS AND CAVITY TRAYS

All DPC/cavity trays must be a minimum 150mm above the finished roof level and above the termination of the waterproofing detailing; the guarantee offered for this project will be compromised if minimum waterproofing upstand heights cannot be achieved.

All brick and blockwork pointing and joints within the structure are to be made flush prior to the application of the waterproofing components.

Where the upstand height of the finished roof covering will be compromised by the level of the existing D.P.C./Cavity tray, it will be necessary to insert a new D.P.C./Cavity tray into the wall abutment at a level above the top of the proposed new upstand flashing to accommodate the required roof covering thickness and minimum waterproofing upstand height of 150mm above the finished roof level. Proprietary cavity tray units or IKO Hyload Original D.P.C. may be utilised for this application. The client should issue further instructions regarding this installation if applicable.

Further investigation may be required to determine whether a D.P.C. or cavity tray exists in the wall abutments to the roof.

PARAPETS AND DWARF PARAPETS

Parapet waterproofing details that encapsulate the full height of the parapet must be formed in accordance with IKO Detail drawings. IKO do not recommend the use of termination bar beneath a coping or capping and should be prohibited.

Any DPC/Cavity trays should be removed prior to encapsulating the parapet upstand.

Parapets and upstand above 300mm must be mechanically restrained against slippage in accordance with this specification proposal (see additional mechanical restraint of the waterproofing)

Install new waterproofing system as specified within the IKO detail drawings. Should the detail be unable to be formed, then IKO technical must be notified immediately.

If due to current site constructions or design limitations, it is not possible to form the parapet in accordance with IKOs recommendations, whereby the waterproofing should be dressed across the parapet wall. Then the waterproofing is to be terminated to the underside of the parapet coping/capping and secured using a suitable flashing or termination bar. All copings/capping should be checked to confirm their integrity and any necessary repairs undertaken to all joints and fixings. IKOs guarantee will terminate at the extent of the waterproofing; any water ingress through the parapet coping/capping will not be covered by IKOs guarantee.

USE OF BUILDING BOARDS WITH A1 OR A2 FIRE CLASSIFICATION IN FLAT ROOF APPLICATIONS

The NFRC, SPRA and LRWA have worked with relevant manufacturers to produce a guidance document about the use of building boards with A1 or A2 reaction to fire classifications (formerly referred to as non-combustible and of limited combustibility, respectively) as structural flat roof decks; structural abutment wall upstands (including parapets); and acoustic mass layers, thermal barriers, cover boards and/or recovery boards in flat roof overlays. Some of the materials being considered do not have third-party approvals for their proposed flat roofing application(s) and, in some cases, LABC Warranty, NHBC Warranty, Premier Guarantee and Zurich Municipal projects have advised against the use of such materials completely. The aim is to ensure that the correct guidance is available to respective members and specifiers, thereby preventing misleading and inappropriate product claims.

By changing a material specification to include alternative components, the authorising party assumes design liability for the construction. There is a duty of care on the part of the designer* to ensure that any alternative components are fit for purpose; compatible with other components; and approved for use by all manufacturers and suppliers who would issue a warranty for the flat roofing system and/or its components, which otherwise may become invalid.

Based upon the literature and test reports supplied by relevant manufacturers of building boards with A1 or A2 reaction to fire classifications, the following table's traffic light system indicates the flat roofing applications in which such products should not be used; may be used; or where caution should be exercised. The traffic light system and subsequent explanatory text are for guidance only. Designers, specifiers and contractors should request third-party approvals and/or written clarification from a manufacturer or supplier to confirm their products' suitability for use in a given flat roofing application prior to writing or changing a material specification. A detailed questionnaire is available in Annex 1. NB. At the date of publication, no contribution to this guidance document has been made by any manufacturers or suppliers of Calcium Silicate building boards.

Application	Calcium silicate	Cement bonded particleboard	Fibre cement	Gypsum (mat reinforced)	Magnesium oxide
Structural flat roof deck	●	●	●	●	●
Structural abutment/parapet	●	●	●	●	●
Acoustic mass layer	●	●	●	●	●
Thermal barrier	●	●	●	●	●
Cover board	●	●	●	●	●
Recovery board	●	●	●	●	●
	● should not be used. ● caution should be exercised. ● may be used				

While researching the guidance document, it became apparent that the names of the different types of building boards with A1 or A2 reaction to fire classifications are often abbreviated, used interchangeably and/or used

incorrectly. For example, one may refer to a 'Cement' board, which creates confusion as to whether they are referring to a Cement-Bonded Particleboard or Fibre Cement board. When working with such building boards, the reader is advised to clarify the exact type to avoid confusion and potentially incorrect specification.

HARD EDGES, GRP TRIMS AND DRIP EDGES

The installing contractor must ensure that all timber and associated hard edges and trims must be securely fixed to the external perimeter.

Any retained timbers and components must be structurally sound and capable of accepting the new waterproofing system.

All perimeter edges must be raised to accept the new waterproofing system build up. Allowance must be made for replacement external fascia or capping.

Existing edge trims must be removed and replaced with new GRP (Aluminium trims are not acceptable).

Fixings: suitable for the substrate being fixed into and of an appropriate length (min 20mm). Clout nails must not be used to secure perimeter edge trims; these should be secured using screw and threaded countersunk fixings securely mechanically fastened into a structurally sound substrate 30mm from ends and at 300mm maximum centres (150mm maximum for areas of high wind uplift).

Any weltd drips are to be formed as separate items, whereby the weltd drip is formed using a 6mm former at a minimum depth of 75mm, being dressed to the external gutter or perimeter edge.

CHECK KERBS

Check kerbs are to be formed a min 50mm above the finished roof level; all detailing is to be formed as separate items whereby the detailing is to be lapped onto the main roof area by 150mm.

Check kerbs and upstands above 300mm must be mechanically restrained against slippage in accordance with this specification proposal (see additional mechanical restraint of the waterproofing)

Install new waterproofing system as specified within the IKO detail drawings. Should the detail be unable to be formed, then IKO technical must be notified immediately.

ROOFLIGHTS AND ROOF VENTILATORS

Only Rooflights and roof ventilators manufactured, marketed and supplied by IKO will be covered within the IKO guarantee.

Waterproofing upstands to glazing and rooflight kerbs must achieve a **minimum height of 150mm above the finished roof level.**

Any internal linings must be renewed and decorated in accordance with the client's representative's instructions.

MAN SAFE, HANDRAILS AND EDGE PROTECTION AND BALUSTRADES

Handrails and permanent edge protection and balustrades should be free standing and not penetrate through the waterproofing.

Any penetration or fixture for any handrail or balustrade must not be within the main falls of the waterproofing. Where the handrail or balustrade is being fixed through the waterproofing, then IKO must either approve the detailing in writing, or it will be excluded from the IKO guarantee.

The handrail must be checked on completion by the CDM Coordinator for the project or other competent personnel, in conjunction with the client's instruction.

Free-standing

Where applicable remove or reposition existing free-standing handrails to allow necessary roofing works

On completion of the waterproofing works, install and adjust as necessary the specified free-standing handrails accordance with the manufactures/suppliers' recommendations and instructions. Provide a sacrificial layer of cap sheet or support pad under each support leg.

Fixed

Existing handrails or metal posts that have been coated will require the removal of any existing coating abraded back to the bare metal and degreased to ensure a full bond can be achieved with the application of the proposed waterproofing. The bare metal surfaces must be primed with the specified primer prior to the application of any waterproofing. Undertake an adhesion test to ensure a satisfactory bond can be achieved.

Man Safe

Where a man safe anchor system is to be adopted, installation and testing of the man safe anchor system must be carried out by trained and qualified personnel, in strict accordance with the manufacturer's installation instructions. Application of the waterproofing detail must be carried out by the IKO approved contractor, by appropriately trained operatives.

PLANT, MACHINERY AND ROOF MOUNTED EQUIPMENT

Provide kerbs of sufficient height allowing for the proposed insulation thickness and a waterproofing upstand which must achieve a minimum height of 150mm above the finished roof level.

Where plant items are being placed directly onto the new waterproofing a proprietary plant support system should be utilised ensuring the new waterproofing is adequately protected and the weight distributed sufficiently so as to not be detrimental to the waterproofing. Sacrificial support pads or a loose laid section of mineral cap sheet could be used beneath each support pad.

Where plant and/or associated roof mounted equipment cannot be removed to allow the necessary detailing, IKO Technical services department must be contacted immediately for a revised detail to be agreed. Areas where plant cannot be removed to allow satisfactory waterproofing to be installed, these areas or any resulting defect or breach will not be covered by the IKO guarantee.

Heavy plant items must not be loaded directly to the roof waterproofing finish.

Redundant plant items being removed

Where applicable, remove redundant plant items and dispose of off-site. Any openings must be made good using 18mm Plywood or OSB/3 (or other suitable structural deck), and adequately supported.

Plant items temporary removal and reinstatement

Existing plant items must be removed to allow the waterproofing works, being reinstated upon completion of the waterproofing works. Raise existing kerbs as required to allow for any additional insulation thickness and a waterproofing upstand which must achieve a minimum height of 150mm above the finished roof level.

SERVICES, PIPES, CABLES, DUCTING & LIGHTNING CONDUCTORS

All services, pipes, cables, lightning conductors and associated fixtures must be temporarily removed or diverted to allow the waterproofing works. Redundant items should be removed. Works should be carried out in conjunction with the building owner by a qualified engineer.

Any redundant cables/services and ducting is to be removed from the roof.

Cables, services, pipework and the like should be secured with a proprietary cable fixing or cable tray system. Cables, wires, services and pipes must not be left or supported from the roof finish, to which would inhibit and restrict the drainage from the roof.

Pipe and cables that penetrate the waterproofing system must be undertaken by the use of a proprietary pipe and cable entry unit such as **IKO Roofport** or **IKO Roofbox**. Pipe or cable penetrations that penetrate through the waterproofing layers that are not detailed correctly will not be covered by IKO.

Any retained PVCu pipework must be details in accordance with IKO standard details, and adequately prepared by lightly abrading the surface to provide a key.

Lightning conductors should be secured using IKO Lightning Conductor Clips at 1m centres.

PRIOR TO THE APPLICATION OF THE WATERPROOFING

Any hollows, depressions, deflections, back falls etc. found in the substrate must be rectified prior to installation of the waterproofing system.

Areas of evidenced standing water must be rectified prior to the application of the waterproofing, refer to the section on falls and drainage for further guidance. Standing water on the finished roof will not be the liability of IKO.

Thoroughly clean surfaces, remove all debris and sharp objects likely to damage the waterproofing membrane, and ensure the substrate is even and dry.

APPLICATION OF THE WATERPROOFING

The installing contractor must use installing operatives that are competent with the use and installation requirement of the waterproofing components listed within the specification.

Only installers who have undertaken and passed the IKO product induction programme should be undertaking the installation of the waterproofing components.

ADDITIONAL MECHANICAL RESTRAINT OF THE WATERPROOFING

At slopes greater than 5° reinforced bitumen felt membranes will require additional mechanical fixings according to BS8217. Fixings should be at the head of each length of cap sheet, fixing through all layers at 75mm centres in two rows 50mm apart into timber battens/deck below. The heads of the fixings must be covered by the end laps of the cap sheets above. In warm roof build ups additional timber battens will be required for anchoring the waterproofing system.

- Roof pitch 5° to 25° - laid in maximum 8m lengths with fixings at the head of the sheet. Where the roof run is less than 8m, the sheets should be single runs without broken head laps. For runs over 8m, broken head laps should be provided midway or at max 4m centres, with additional battens as required.
- Roof pitch 25° to 60° - laid in maximum 4m lengths with support battens at ridges, eaves and 2m centres
- Roof pitch 60° to vertical – laid in maximum 1.5m lengths with support battens at ridges, eaves and 750mm centres

Additional mechanical fixings will also be required on all vertical details more than 250mm high, with additional fixings as required according to the vertical height. Where fixing through insulation on a vertical detail a minimum of 4 membrane fixing plates and suitable fixing screws can be used to fix through each head lap, positioned so as to allow side laps to be fully sealed.

WATERPROOFING DETAILS

All waterproofing details are to be formed in accordance and agreement with IKO installation recommendations. All waterproofing details should be detailed in accordance with IKO standard details or those issued by IKO as part of this specification.

IKO will not be responsible for any details not formed in accordance with IKO recommendations, and such details may result in these being either excluded from the IKO guarantee or no IKO guarantee being offered. Where such details cannot be formed in accordance with IKO recommendations defined within this proposal specification, then IKO Technical department must be notified before any works are undertaken.

Where an increased thickness of insulation or where tapered insulation has been proposed, allowance must be made for adjustment, renewal, or replacement of details as necessary such as:

- Perimeter edges - (Kerbs and drip edges/External gutters/Fascia/Cladding or Parapets etc.)
- Upstands - (Brick, block and rendered abutments/DPCs/cavity trays/sills and thresholds/rooflights and glazing/tiled abutments/Cladding etc.)

ISOLATION KERBS AND ADJOINING PROPERTIES

An Isolation kerb is to be formed at the junction with the adjacent roof where the new roofing system is to be terminated. The contractor must confirm that the proposed isolation kerb will not impact the drainage of either roof area prior to works commencing.

Strip existing waterproofing back to the structural deck. Supply and mechanically fix timber kerb directly to the deck to create separation between the existing adjacent roof and the proposed new roof system.

All junctions of the new roofing system with the adjoining roof are excluded from the IKO guarantee from any ingress directly attributable to the adjoining roof area or the junction with the new roofing system.

MOVEMENT JOINTS AND EXPANSION JOINTS

Movement and expansion joints should be located so not to affect the drainage and falls of the roof. Expansion joints must be formed in accordance with the manufacturer's recommendations.

Proprietary expansion joint systems supplied and installed by third parties must be suitable for the application they are being used in. These items are not covered by the IKO guarantee but must be installed in strict accordance with the suppliers and IKOs recommendations.

Movement joints must be prepared down to the substrate and primed with the specified IKO primer and installed in accordance with the IKO detail drawing.

TV AERIALS AND SATELLITE DISHES

Any TV aerials and or satellite dishes upon or may impede the installation of the waterproofing is to be temporarily removed to allow for the installation of the waterproofing works.

The installing contractor and client's representative must liaise with the property owners to minimise any inconvenience.

CONSTRUCTION AND WEIGHT LOADING

Any retained components from the existing structure must be sound and capable of accepting the imposed loading of the new waterproofing system and associated installation procedures. This should be confirmed by a suitably qualified person or structural engineer.

MOISTURE CONTENT AND SUITABILITY OF SUBSTRATE

Must not impair waterproofing integrity.

Moisture readings and adhesion tests should be undertaken by the installing contractor at locations over the whole area to ensure all areas are suitable for the application

For certain substrates it may be necessary to abrade the surface to provide a key or allow for additional preparation of certain substrates.

The moisture content of the substrate must not inhibit the bond and adhesion of the waterproofing, nor the long term performance of the waterproofing. Any entrapped moisture may result in water ingress internally that may disappate over time. IKO will not be held liable for any levels of mositure that may compromise the integrity of the new waterproofing.

An adhesion test must be undertaken to determine if suitable adhesion can be obtained to the prepared substrate. Test areas should be a minimum 300mm x 300mm, carried out at locations over the whole area and allowed to cure prior to the adhesion test being undertaken. The substrate must be prepared as required to provide adhesion of the system to the substrate with a minimum bond strength of 116 psi (0.8 N/mm²).

The substrate moisture is to be determined by the installing contractor prior to the installation of the waterproofing. The moisture content of timber based substrates should not exceed 18% using a protimeter or 6% using a Tramex CME4 for concrete substrates or a Delmhorst BD-10 or similar for other substrates and material components.

Determinations of adhesion, bond strength and moisture content shall be performed periodically by the installing contractor throughout the course of work at locations over the whole area, at max 50m² centres and must be undertaken at all locations where the substrate is different, or has undertaken any form of mechanical abrasion and preparation, this is to ensure all areas are suitable for the application.

Each area must be suitably prepared, clean, and dry before any adhesion test is undertaken. The findings must be recorded by the installing contractor. Where adhesion is not achieved, IKO must be contacted immediately. Substrates with high levels of moisture content will prevent a satisfactory bond of the new waterproofing components, such levels must be reduced to allow the waterproofing to be installed without compromising the long-term performance of the waterproofing or its supporting structure.

A record of all test samples should be logged throughout the application process by the installing contractor.

SPECIFICATION DESIGN CHANGES AND VARIATIONS

Where design changes are undertaken by the contractor, or instructed by the client's representative, that are not in accordance with those defined within the IKO preliminary notes and enabling works, the design changes will not be covered by the IKO guarantee. The designer of such changes must ensure compliance with the Building Regulations and have obtained approval from the relevant Local Authority Building Control prior to undertaking any works.

Changes in the design requirements such as raising sills, thresholds, cladding and glazing, must be notified to the IKO technical department prior to any works being undertaken, as they may compromise the terms and conditions of the IKO guarantee offer. The installing contractor is to ensure prior written approval from IKO technical department prior to undertaking such works.

Where the design of any tapered insulation scheme proposal has been undertaken by the contractor or third party, such design should be undertaken in accordance with BS6229. Any such scheme that does not meet these requirements will not be covered by the IKO guarantee.

It is the responsibility of the client's representative to ensure that all design requirements are compliant with the points highlighted with the IKO preliminary notes and enabling works.

Water ingress or premature failure of the waterproofing as a direct result of the design requirements not being undertaken in accordance with the IKO specification document will not be covered by the IKO guarantee.

Any such design details that cannot be achieved in accordance with this specification must be notified to IKO technical department prior to any works being undertaken. Whereby IKO may provide further design guidance so not to compromise the IKO guarantee. Where such designs cannot be achieved, please email IKO Technical Services at technical.ab@iko.com.

ENABLING WORKS

STRIP TO ASPHALT LAYER

- Remove existing waterproofing system and all associated waterproofing details down to the asphalt layer and remove from site.
- Associated waterproofing details are all details with waterproofing finishes, such as upstands, kerbs, internal gutters and the like. Any existing associated waterproofing details must be removed and replaced with new waterproofing in accordance with this specification proposal. Any retained components will not be covered by the IKO guarantee and may result in any IKO guarantee being made null and void. It is therefore the installing contractor obligation to ensure full compliance.
- On exposing the asphalt, if the contractor is dissatisfied with the condition of the existing layer, and considers this will have a detrimental effect on the finished waterproofing system, this must be brought to the attention of IKO and the client immediately.
- The installing contractor must confirm that the existing asphalt is suitable to overlay including where appropriate taking core samples at regular intervals over the whole roof area. Wet or defective areas must be cut out and replaced with new to match existing.
- Should the existing asphalt be deemed unsuitable to be overlaid with a new waterproofing system, it will be necessary to strip and remove the defective materials.
- The client and installing contractor should satisfy themselves that the existing deck and supporting structure is capable of accepting the imposed additional loading of the waterproofing system and associated installation procedures.

Note: Existing Concrete Decks - RAAC – Reinforced Aerated Autoclave Concrete

- It has not been determined if the existing roof structural deck is constructed using RAAC and as such a structural engineer should be appointed by the clients representative to assess the structural deck and confirm. If it is noticed during any works, the works must be stopped and raised to the client.
- IKOs recommendation will be to remove this type of deck and replace it with an alternative structural deck and supports.
- Reinforced Aerated Autoclaved Concrete (RAAC) can have the appearance of reinforced or precast concrete units. However, this material is fragile, and suitable precautions should be undertaken.
- Attention is drawn to Health and Safety Executive publications HSG33 and Health and Safety in roofing and the report issued by SCOSS (Standard Committee on Structural Safety) in May 2019, raising concerns regarding a roof collapse on a school in 2018. In 2021 the department of Education issued a guidance for identification and initial action that should be referred to when encountering Reinforced Autoclave aerated concrete.
- All hollows, back falls and deflections and defective areas are to be rectified prior to laying any elements of the new waterproofing system as proposed.
- Thoroughly sweep all surfaces to be coated with a firm broom or wire brush as necessary to remove any loose deposits of dirt, silt, algae growth and other contaminations.
- Remove all stubborn deposits, oil and grease contamination by high pressure washing.
- Prepare the existing asphalt for overlay by removing asphalt upstand skirting and all associated details, to form a neat clean edge, including for cutting, drying and re sealing blisters.
- The building must remain weatherproof at all times, with areas of existing waterproofing only being removed that can be made watertight in the same day, including the provision of day joints.
- Make good any defective areas of the existing asphalt to achieve a smooth level surface.
- Prime all prepared asphalt surfaces with the specified IKO Primer
- Install new waterproofing system in accordance with this specification proposal

IKO WATERPROOFING SPECIFICATION PROPOSAL

MATERIALS

SCHEDULE OF IKO WATERPROOFING MATERIALS

PRIMER

- Product reference: **IKOpro Sprayfast MPP**
- Type: A specially formulated spray applied primer used to prepare and seal the substrate prior to the application of the waterproofing system. Suitable for use in conjunction with IKO self-adhesive and torch-applied membranes. Spray application enables rapid coverage and quick drying.
- Application:
 - Spray tip
 - Canister: 26Kg
 - Coverage: Up to 150m²/canister/coat, depending on surface porosity. Porous surfaces may require a second coat.
 - Application temperature: +5°C to 30°C
 - Drying time: (@5°C) approx. 5 to 10 mins
 - Tack time: Up to 4 hours at 20°C
 - Product code: 58800115 (20kg canister)
- Canister must be used in conjunction with separate lance, spray tip and hose (sold as separate items).
- Note: Do not use in temperatures below 5 °C

AIR & VAPOUR CONTROL LAYER – to non-combustible substrates only

- Product reference: **IKO Ultra T-O Air & Vapour Control Layer**
- Type: A high performance, SBS modified, polyester reinforced bitumen membrane (RBM) with an aluminium foil laminate core, sanded upper surface, and torch dispersible film backing to the underside.
- Laps: All side laps (80mm min) and end laps (100mm min) are fully bonded to facilitate a 5mm -15mm bead of bitumen exuded from the lap.
- Use: Suitable as a high-performance Air and Vapour control layer within a warm roof built up roofing system to prevent penetration of water vapour into the roof build up and minimise the risk of interstitial condensation.
 - Vapour resistance: 2436Sd (m) (≥10,000MNsg)
 - Thickness: 2.5mm
 - Roll size: 12m x 1m
 - Roll weight: 37kg
 - Carrier: Polyester
 - Surfacing: Sand
 - Product code: 62120000
- Primer required: All surfaces and substrates to receive the specified membrane are to be primed with IKOpro Quick Dry Primer or IKOpro Sprayfast MPP

AIR & VAPOUR CONTROL LAYER - to timber and other combustible substrates

- Product reference: **IKO Ultra S-A Air & Vapour Control Layer**
- Type: A high performance, SBS modified, polyester reinforced bitumen membrane (RBM) with an aluminium foil laminate core, fine granule upper surface and release film backing to the underside, with a selvedge that is removed during the installation process.
- Laps: All side and end laps (100mm min) are hot air welded to facilitate a 5mm -15mm bead of bitumen exuded from the lap.
- Use: Suitable as a high performance air and vapour control layer within a warm roof built up roofing system to prevent penetration of water vapour into the roof build up and minimise the risk of interstitial condensation.
- Vapour resistance: 2436Sd (m) ($\geq 10,000 \text{ MNsg}$)
- Thickness: 2.5mm
- Roll size: 15m x 1m
- Roll weight: 36kg
- Carrier: Polyester
- Surfacing: Fine mineral
- Product code: 62130000
- Primer required: All surfaces and substrates to receive the specified membrane are to be primed with IKOpro Systems Bonding Agent or IKOpro Sprayfast MPP

ADHESIVE FOR INSULATION

- Product reference: **IKOpro Sprayfast IBA**
- Use: A single component, high foaming, spray applied, solvent free polyurethane adhesive developed to bond a wide range of insulation boards to most substrates. Canister must be used in conjunction with separate lance and hose. Coloured green for easy identification.
- Type: Spray applied PU adhesive for bonding insulation boards to a substrate
- Application: The adhesive uses a canister system, enabling rapid and more accurate application compared to hand-poured adhesives.
 - Product Code: 58800102 (17.6kg)
 - Colour: Green
 - Coverage: Up to 250m²/canister, depending on surface porosity. **Coverage rate should be doubled to all perimeter and exposed edges and corners.**
 - Coverage:
 - o Min 4No x 30mm-40mm wide continuous beads per 1200 x 1200mm board at 300mm centres to main roof.
 - o Min 8No x 30mm-40mm wide continuous beads per 1200 x 1200mm board at 150mm centres to perimeter edges and corners.
 - Application temperature: 5 - 30°C
 - Open time: 1-10 mins at 20°C
 - Curing time: Typically - 15 mins at 20°C, dependant on conditions
 - Adhesive canisters: All adhesives must be stored in strict accordance with manufacturer recommendations.
 - Do not allow to pool
- **Canister must be used in conjunction with separate lance, spray tip and 3m hose (sold as separate items).**
- **Not suitable for bonding foil faced insulation boards to each other – where bonding of foil to foil boards is required, IKOpro PUMA Zero Adhesive must be utilised.**

PREFORMED INSULATED HARD EDGE

- Product reference: **IKO Insulated Hard Edge**
- Use: An insulated stop batten which acts as both an incompressible perimeter edge or gutter termination, and a barrier to cold bridging.
- Type: Insulated timber hard edge
 - Material: 18mm OSB/3 with PIR Insulated core
 - Dimensions: 100mm x 10mm thinner than the insulation thickness
 - Length: 1.2m
 - Width: 118mm
 - Heights: 80mm, 110mm, 120mm, 130mm, 140mm, 150mm
- Application: Mechanically fixed and/or adhered
- Application at roof perimeters: Must be mechanically fixed using appropriate fixings at maximum 300mm centres (150mm for areas of high wind uplift)

WARM DECK ROOF INSULATION

- Product reference: **IKO enertherm Gold/TAP**
- Use: High performance PIR insulation suitable for cold applied/ hybrid waterproofing systems within IKO warm flat roof applications.
- Type: High performance, rigid polyisocyanurate (PIR) foam, CFC/HCFC free insulation board with a composite aluminium facing on both sides
 - Sizes: 1200mm x 1200mm and 2400mm x 1200mm (flat boards)
 - Thickness: **Tapered**
 - Refer to Tapered Scheme No.: to follow
 - Edges: Square edge and butted
 - Facing: Composite aluminium
 - Thermal conductivity (Lambda or λ): 0.022W/mK
 - Compressive strength: 175kPa
 - Safe working limit (SWL): 30-40Kpa (3 tons/m²)
 - Density: 32Kg/m²
- Target U value: **0.18 W/m²K** (*for total build up*)
- Surface preparation: Upper surface facing of the insulation to be primed with either the IKOpro Bonding agent or IKOpro Sprayfast MPP to provide the required bond of the specified IKO self-adhesive underlay.
- Enhanced schemes:
 - Sump sets: Sump sets should be formed to all rainwater outlets to assist with drainage
 - Drainer boards: Drainer boards are to be utilised to all external drip edges to assist shedding water from the roof edge.
 - Deflector boards: Deflector boards should be used around large rooflights, plant items and obstructions upon the roof to assist with rainwater disposal.
- Any singular GOLD/ALU board thickness greater than 140mm is to be avoided; thicknesses greater than 140mm must comprise of multilayer boards to make up the desired thickness. These multilayer boards may be, upon request, factory laminated as a single component board or laminated on site - **Where being bonded on site the boards must be bonded together using the IKOpro PUMA 2 part PU adhesive.**
- Insulated upstands (where required):
 - Locations to be confirmed and agreed in accordance with the client or their representative's design and thermal requirements.

- To be formed using IKO enertherm Gold (minimum thickness 60mm); unless a non-combustible upstand insulation is required, whereby IKO MW Insulation should be utilised (minimum thickness 80mm).
- To be adhered and mechanically fastened to the upstand
- Boards to be primed with the specified IKOpro primer

UNDERLAY

- Product reference: **IKO Ultra H-A Underlay**
- Use: Partially bonded self-adhesive underlay for main flat roof areas used with IKO torch applied or IKO PU adhered cap sheets.
- Type: SBS modified, polyester reinforced, self-adhesive underlay with a fine mineral finish and release film backing that is removed during the installation process. The underside has a self-adhesive bitumen coating that provides a 40% partial bond allowing vapour dispersion between the membrane and substrate.
 - Roll size: 16m x 1m
 - Roll weight: 36kg
 - Surfacing: Fine granule
 - Product code: 62720000
- Laps: All side and end laps are hot air welded to facilitate a bead of bitumen exuded from the lap
- Application: All surfaces and substrate to receive the specified membrane is to be primed with IKOpro Bonding Agent or IKOpro Sprayfast MPP

CAP SHEET

- Product reference: **IKO Ultra Gold T-O Cap Sheet**
- Use: High performance torch applied cap sheet as part of an IKO reinforced bitumen built up roofing system
- Type: An SBS modified, polyester reinforced fire retardant torch applied cap sheet with graphite firewall technology, with factory applied mineral finish.
- Application: Fully bonded Torch applied
 - Roll size: 8m x 1m
 - Roll weight: 38kg
 - Product code: Black – 60183824; Green – 60183827
- Laps: All 80mm min side and 100mm end laps are fully bonded to facilitate a 5mm -15mm bead of bitumen exuded from the lap.

SCHEDULE OF IKO DETAILING MATERIALS

Safe2torch Zones - IKO Ultra Gold Hybrid Detailing

WATERPROOFING DETAILING AREAS

- All waterproofing details are to be formed using two layers of waterproofing as specified below.
- All waterproofing details are to be formed in accordance with IKO recommendations.
- Any waterproofing upstands incorporating insulation are to be formed using the specified IKO Air and Vapour control layer, with the insulation secured in accordance with this proposal and dependent upon height and slope.
- The installing contractor is to undertake their own risk assessment regarding Safe2torch zones and utilise the IKO SA membranes throughout location where it is deemed not safe to use a gas torch during both the drying out process and the installation of the waterproofing materials.

PRIMER

- As specified to main field area

ANGLE FILLETS

- Product reference: **IKO ALU Angle Fillets**
- Use: Preformed mitred insulation to be used in all horizontal and vertical abutments within cold applied/hybrid built up roofing systems
- Type: PIR
 - Size: 1200mm x 50mm x 50mm
 - Product code: 40505012
- Installation: Adhered at all junctions between horizontal and vertical interfaces
- Restriction: Fillets under torch-on bitumen membranes to be non-combustible.
- Surface preparation: Upper surface facing of the fillet is to be primed with either the IKOpro Bonding agent or IKOpro Sprayfast MPP to provide the required bond of the specified IKO self-adhesive underlay.

UNDERLAY

- Product reference: **IKO Ultra H-A Detailing Underlay**
- Use: Fully bonded self-adhesive underlay for all waterproofing detailing areas, used with IKO Torch applied cap sheets.
- Type: SBS modified, polyester reinforced, self-adhesive underlay with a fine mineral finish and release film backing that is removed during the installation process. The underside has a self-adhesive bitumen coating.
 - Roll size: 16m x 1m
 - Roll weight: 36kg
 - Surfacing: Fine granule
 - Product code: 62710000
- Laps: All side and end laps are hot air welded to facilitate a bead of bitumen exuded from the lap
- Application: All surfaces and substrate to receive the specified membrane is to be primed with IKOpro Bonding Agent or IKOpro Sprayfast MPP

CAP SHEET

- Product reference: **IKO Ultra Gold T-O Cap Sheet**
- Use: A high performance torch applied cap sheet forming part of an IKO reinforced bitumen built up roofing system
- Type: An SBS modified, polyester reinforced fire retardant torch applied cap sheet with graphite firewall technology, with factory applied mineral finish.
- Application: Fully bonded torch applied
 - Roll size: 8m x 1m
 - Roll weight: 38kg
 - Product code: Brown – 60183823; Black – 60183824; Green (made to order) – 60183827
- Laps: All 80mm min side and 100mm end laps are fully bonded to facilitate a 5mm -15mm bead of bitumen exuded from the lap.

Flame Free - IKO Ultra Stick Self-adhesive Detailing

WATERPROOFING DETAILING AREAS

- All waterproofing details are to be formed using two layers of waterproofing as specified below.
- All waterproofing details are to be formed in accordance with IKO recommendations.
- Any waterproofing upstands incorporating insulation are to be formed using the specified IKO Air and Vapour control layer, with the insulation secured in accordance with this proposal and dependent upon height and slope.
- For flame free zones see further guidance in installation section.

PRIMER

- As specified to main field area

ANGLE FILLETS

- Product reference: **IKO ALU Angle Fillets**
- Use: Preformed mitred insulation to be used in all horizontal and vertical abutments within cold applied/hybrid built up roofing systems
- Type: PIR
 - Size: 1200mm x 50mm x 50mm
 - Product code: EALUAF50
- Installation: Adhered at all junctions between horizontal and vertical interfaces
- Restriction: Fillets under torch-on bitumen membranes to be non-combustible.
- Surface preparation: Upper surface facing of the fillet is to be primed with either the IKOpro Bonding agent or IKOpro Sprayfast MPP to provide the required bond of the specified IKO self-adhesive underlay.

UNDERLAY

- Product reference: **IKO Ultra T-F Detailing Underlay**
- Use: Fully bonded self-adhesive underlay for all waterproofing detailing areas, used with IKO self-adhesive cap sheets.
- Type: SBS modified, polyester reinforced, self-adhesive underlay with a protective film finish and release film backing that is removed during the installation process.
 - Roll size: 16m x 1m
 - Roll weight: 40kg

- Surfacing: Film
- Product code: 62730000
- Laps: All side and end laps are hot air welded to facilitate a bead of bitumen exuded from the lap
- Application: All surfaces and substrate to receive the specified membrane is to be primed with IKOpro Bonding Agent or IKOpro Sprayfast MPP

CAP SHEET

- Product reference: **IKO Ultra Stick Cap Sheet**
- Use: A high performance self-adhesive cap sheet forming part of an IKO reinforced bitumen built up roofing system.
- Type: An SBS modified, polyester reinforced fire retardant self-adhesive cap sheet with graphite firewall technology, with factory applied mineral finish and specially formulated self-adhesive coating protected to the underside with a release film that must be removed during installation.
- Application: Fully bonded self-adhesive with hot air welded laps
 - Roll size: 8m x 1m
 - Roll weight: 32kg
 - Product code: Green – 52320208; Brown – 52300208; Black - 52310208
- Laps: All 80mm min side and 100mm end laps are fully bonded by hot air welding to facilitate a 5mm - 15mm bead of bitumen exuded from the lap.

SCHEDULE OF IKO ANCILLARY COMPONENTS

The specified IKO Ancillary components as listed as complimentary units that have been specifically designed for the use of the specified waterproofing system and all form part of the IKO guarantee. Where alternatives have been used these will not be covered by any IKO guarantee.

PERIMETER EDGE TRIMS

- Product reference: **IKOtrim F**
- Use: Preformed GRP edge trims for use with reinforced bitumen membrane built up roofing systems.
- Type: Glass fibre reinforced polyester (GRP) trim with low coefficient of expansion for use with reinforced bitumen membrane systems.
 - Colour: Black, White or Grey
 - Size:
 - o 40mm, 65mm, 100mm, 150mm or 200mm drips
 - o Matching 90°, 240mm x 240mm internal/external corners available
 - Length: 3m
 - Installation:
 - o 3 mm clear from wall or fascia
 - o Secured between the waterproofing underlay and cap sheet
 - o Countersunk screws or suitable fixings (minimum 20mm long)
 - o Ensure they are securely mechanically fastened in to the sound substrate
 - o Fixing centres: 30mm from ends at (maximum) 300mm centres (150mm for areas of high wind uplift)
- Jointing sleeves: Fix one side only
- Contact surfaces: Prime
- Detailing Cap sheet: Press into channel of trim.

SOIL VENT PIPE COVER UNITS

- Product reference: **IKO Soil Vent Pipe Covers**
- Use: IKO soil vent covers are stainless steel cover units with a factory applied SBS bitumen flange. It is used for flashing of soil vent pipes and an airtight extension of the soil pipe above the roof and to protect and conceal unsightly pipe which penetrate a flat roof construction.
 - The internal pipe sits within the vent pipe and is fitted with an O-ring seal to provide a watertight seal.
 - It can be simply installed over the top of an existing vent pipe, and the membrane flange is bonded to the waterproofing membrane.
 - It features a stainless-steel weather cowl to protect against rainwater and airborne debris.

Product Code	To Suit Vent Pipe (mm)	External Pipe Diameter (mm)	Internal Pipe Diameter (mm)	O-Ring Seal Diameter (mm)
22100075	75	95	58	10
22100110	110	125	87	8
22100160	160	182	145	8

Height of vent cover above membrane level: 335 - 600mm.

COVER FLASHINGS

- Product reference: **IKOflash**
- Use: Lead free cover flashing
- Type: Lead free flashing system for use in place of traditional lead at abutment flashings and terminations. Made of polyethylene compound with integral aluminium mesh reinforcement, grey mineral surface and film backing. Dressed into the chase and held in place with proprietary steel fixing clips with the joint being sealed with IKOpro Stickall mastic. Minimum 100mm overlaps sealed with IKOpro Stickall mastic.
 - Colour: Grey
 - Sizes: 12m lengths – 150mm, 250mm, 300mm, 400mm, 645mm
6m lengths – 150mm, 250mm, 300mm, 400mm, 450mm, 600mm, 1000mm
 - Thickness: 3.5mm
- **To be used in conjunction with IKOpro Stickall**
- Product reference: **IKOpro Stickall**
- Use: Weathering mastic for IKOflash cover flashing
- Type: Elastomer modified, black bituminous sealing mastic
 - Coverage: 3 linear meters per 310ml cartridge (based on uniform 10mm² bead)
 - Sizes: 300ml
 - Colour: Black

CABLE AND PIPE PENETRATION UNITS

- Product reference: **IKO Roofport**
- Use: Duct unit for roof penetrations passing through a roof.
- Type: Proprietary cable and pipe penetration boxes for penetrations passing through a flat roof. RP150 unit is a split design allowing installation around existing services. Mechanically fixed to the substrate through the base plate using direct or thermally broken fixings.
- Sizes:

RB50SBS internal diameter 48mm

- o OA size: 50mm diameter, upstand heights 300mm, 400mm, 600mm
- o Base plate: 230mm x 230mm
- o Weathering: integral 500mm x 500mm felt flange

RB110SBS internal diameter 108mm

- o OA size: 110mm diameter, upstand heights 300mm, 400mm, 600mm
- o Base plate: 230mm x 230mm
- o Weathering: integral 500mm x 500mm felt flange

RP150 & RP150-400

- o OA size: 150mm square, upstand heights 250mm & 400mm
- o Weathering: waterproofing to be dressed to the top of the upstand

Other sizes are available upon request.

IKO INTERNAL RAINWATER OUTLETS

- Product reference: **IKO Standard Refurbishment Outlet Kits**
 - o Use: Internal rainwater outlet(s) for flat roof applications
 - o Key Features:
 - o The outlets are sold as kits including outlet, rib seal, and powder-coated universal leaf guard (RAL3020).
 - o High quality 400mm long spigot manufactured from stainless steel.
 - o Factory bonded bituminous 500 x 500mm flange to allow for easy installation (Note: also available in a flange-free version for uninsulated liquid applications).
 - o Flush finish to reduce the risk of ponding.
 - o O-ring seal supplied for refurbishment applications – this provides an excellent seal whilst still allowing for movement.
 - o The outlets are available in the following sizes to fit the varying internal diameters of down-pipes:

IKO reference	Flow Rate (l/sec)	Outlet drain (mm)	To suit pipe size (mm)*	O-ring seal dia. (mm)
RBM Flange				
IKO Standard Outlet Kit 59-75mm	0.90	50	58-64	8
IKO Standard Outlet Kit 71-88mm	1.65	62	70-76	8
IKO Standard Outlet Kit 85-106mm	2.98	75	82-97	8/12
IKO Standard Outlet Kit 103-109mm	4.08	95	102-109	8
IKO Standard Outlet Kit 152-159mm	5.48	145	150-153	5
Flange-free (for uninsulated liquid applications)				
IKO Standard Outlet Liquid Kit 59-75mm	0.90	50	58-64	8
IKO Standard Outlet Liquid Kit 85-106mm	2.98	75	82-97	8/12
IKO Standard Outlet Liquid Kit 103-109mm	4.08	95	102-109	8
IKO Standard Outlet Liquid Kit 120-128mm	3.94	110	120-128	10

*where outlet is inserted into existing pipe in refurbishment situations

LIGHTNING CONDUCTOR CLIPS

- Product reference: **IKO Lightning Conductor Clips**
- Use: Proprietary lightning conductor fixing clip for reinforced bitumen roofing membranes
- Type: The fixing clips comprise of a proprietary plastic conductor fixing, factory bonded to a colour matched section of compatible torch applied, slate surfaced, roofing membrane.
- The proprietary clip allows the conductor strip to move independently of the fixing, while the torch applied membrane anchor provides a positive attachment to the roof surface, without damage to the waterproofing membrane.
- Application: Torch applied, or hot air welded
- Membrane Colours: Green (30075011), Brown (30075012) and Black (30075013).
- Size: 95mm x 95mm
- Spacing: 1m centres
- *Note: All lightning conductor installations must have a lightning protection test that is to be certified by a qualified electrical engineer in accordance with BS EN62305:2006 – Code of Practice for Protection of Structures against Lightning.*

INSTALLATION

INSTALLATION OF IKO WATERPROOFING MATERIALS

PRIMER

- Product: **IKOpro Sprayfast MPP**
- Application: All surfaces must be structurally sound, clean, dry, and free from grease, oil, dirt, and loose material. All areas to which the waterproofing system is to be bonded must be prepared and primed accordingly. Uneven surfaces may require suitable preparation to the surface prior to the application of the waterproofing.
- Use: Specially formulated spray applied primer for use with both IKO self-adhesive and torch applied membranes.
- Installation: Full details are available on the product literature, but attention should be paid to the following criteria;
 - Apply the primer in one full even coat to the surfaces adjusting the spray pattern to approx. 300mm wide and allow to dry thoroughly.
 - **IKOpro SPRAYFAST MPP** is supplied in a canister and must be used in conjunction with the **IKOpro SPRAYFAST LANCE, SPRAY TIP** and **BRAIDED HOSE** to allow dispensing and accurate application of the primer with minimum effort and without waste.
 - The installing contractor must utilise the correct method of application.
 - Avoid pooling of the primer
 - Allow to dry thoroughly
 - The specified primer once dry should be covered by the first waterproofing layer. Do not allow to become contaminated with dust, dirt or other contaminants before applying the waterproofing.
 - Only prime the area to be covered with membrane within a normal working day, limiting application to 50m² areas, allowing **IKOpro SPRAYFAST MPP** to dry before application to adjacent areas. Where the primer is exposed for longer than the tack life of 4 hours then the surface must be suitably cleaned and the primer reapplied.
 - *Refer to product literature for details on setting up the canister, lance and tip, cleaning of the application equipment and emptying/disposal of the canisters.*

AIR & VAPOUR CONTROL LAYER – to non-combustible substrates only

- Product reference: **IKO Ultra T-O Air & Vapour Control Layer**
- Application: Fully bonded torch applied application. The underside of the roll has a torch dispersible film that is burnt off during the installation process.
 - When applying the membrane using the torch-on technique, progressively advance the roll whilst applying even downward pressure using a weighted roll bar to bond the membrane to the substrate, ensuring no air is trapped.
 - When approaching an angle where the sheet will change from a horizontal to a vertical configuration, press the membrane firmly into position into the angle ensuring a full bond is achieved throughout the detail.
- Apply IKO Ultra T-O Air & Vapour Control Layer securely and fully bonded to the primed substrate with 80mm minimum side laps and 100mm minimum end laps and finished at perimeters, roof edges, abutments, upstands, kerbs and penetrations to enable linking with the waterproofing system by a minimum of 50mm.
- Fully bonded torch application to facilitate a bead of bitumen exuded from all side and end laps.
- Scraping of lap joints is not recommended

- The installing contractor must be aware of the NFRC safe2torch guidelines, this product should be used in accordance with those guidelines. Alternative IKO Ultra S-A Air & Vapour Control Layer may be used in locations where it is not safe2torch.
- *When installing on a profiled metal deck, all laps must be fully supported and sealed. Metal profiled decks must provide a minimum 45% bond for the Air and Vapour Control Layer, or the metal deck must be over boarded with 18mm OSB/3 or plywood.*

AIR AND VAPOUR CONTROL LAYER - to timber and other combustible substrates

- Product: **IKO Ultra S-A Air & Vapour Control Layer**
- Release film: The underside of the roll and selvedge lap has a release film that is removed during the installation process.
 - When removing the release film, progressively advance the roll whilst applying even downward pressure using a weighted roll bar to bond the underlay to the substrate ensuring no air is trapped.
 - When approaching an angle where the sheet will change from a horizontal to a vertical configuration, use a seam or penny roller to press the membrane firmly into position into the angle. Provide heat activation to all changes of direction of the membrane to ensure a full bond is achieved throughout the detail.
- Apply IKO Ultra S-A Air & Vapour Control Layer securely and fully bonded to the primed substrate with side laps and end laps (100mm minimum) and finished at perimeters, roof edges, abutments, upstands, kerbs and penetrations to enable linking with the waterproofing system by a minimum of 50mm..
- All side and end laps must be hot air welded to facilitate a bead of bitumen exuded from the lap.
- Torchigng and scraping of lap joints is not permitted
- *When installing on a profiled metal deck, all laps must be fully supported and sealed. Metal profiled decks must provide a minimum 45% bond for the Air and Vapour Control Layer, or the metal deck must be over boarded with 18mm OSB/3 or plywood.*

BONDING OF THE INSULATION

- Product: **IKOpro Sprayfast IBA**
- **IKOpro Sprayfast IBA** is a high performance spray applied PU adhesive, for bonding the insulation boards to a suitable substrate. Surfaces must be clean, dry and free from dirt, debris, grease and dust. Thoroughly sweep the area, prior to the application of the adhesive and insulation.
- The adhesive is supplied in a canister and must be used in conjunction with the **IKOpro Sprayfast lance** and **IKOpro Sprayfast braided 3m hose** to allow dispensing and accurate application of the adhesive with minimum effort and without waste.
- The installing contractor must utilise the correct method of application.
- Application: installed in accordance with IKOs recommendations
 - Spray applied
 - Do not allow to pool
 - Coverage: Up to 250m²/canister, depending on surface porosity. Coverage rate should be doubled to all perimeter and exposed edges and corners.
 - Apply the adhesive in a continuous 30mm minimum width bead at 200-300mm centres, doubling up this coverage rate at all perimeter edges. Locate the insulation board into the wet adhesive and apply even pressure to ensure full contact with the adhesive. Do not stand on the boards or allow any application of waterproofing layers to the insulation board until this cure has been achieved.
 - o Min 4No x 30mm-40mm wide continuous beads per 1200 x 1200mm board at 300mm centres to main roof.
 - o Min 8No x 30mm-40mm wide continuous beads per 1200 x 1200mm board at 150mm centres to perimeter edges and corners.

- Locate the insulation board into the wet adhesive and press into position before the adhesive skins. About 10 minutes after laying, check that boards have not uplifted due to the foaming action of the adhesive. The adhesive must be allowed to fully cure for a minimum of 15 minutes before undertaking any further works.
- ***Refer to product literature for details on setting up the canister and lance, cleaning of the application equipment and emptying/disposal of the canisters.***
 - Adhesive canisters: all adhesives must be stored in strict accordance with the manufactures recommendations.
- On inclined roofs apply additional insulation stops for anchoring the waterproofing system against slippage, at intervals according to the slope as necessary.
- Ensure the substrate is dry when applying the adhesive, wet surfaces will create a barrier between the substrate and adhesive and therefore reducing the adhesion and bond strength.
- **Not suitable for bonding foil faced insulation boards to each other – in these instances IKOpro PUMA Zero adhesive must be used.**

INSTALLING PREFORMED INSULATED HARD EDGE

- Product: **IKO Insulated Hard Edge**
- Location: Used to provide hard edge protection at all internal gutter channels on warm roofs.
- Preparation: Surface to be free of any contaminants, dirt or dust.
- Prime: Prime surfaces with IKOpro Bonding Agent or IKOpro Sprayfast MPP and allow to dry thoroughly.
- Installation: Adhered with IKO PU Adhesive or mechanically fixed using appropriate fixings; at roof perimeters they **must** be mechanically fixed using appropriate fixings at maximum 300mm centres (150mm for areas of high wind uplift).

INSULATION

- Products: **IKO enertherm insulation**
- All insulation boards must be protected from moisture prior to installation by storing off the ground and covered with a tarpaulin.
- Boards must be in good condition, dry, well fitted and stable
- Any hollows, depressions, deflections, back falls etc. found in the deck either before or after stripping should be rectified prior to installation of the insulation.
- All upstands, kerbs, sills, thresholds, cavity trays and other associated details must be raised/prepared to accommodate the insulation thicknesses and proposed roof build up.
- Any singular GOLD/ALU board thicknesses greater than 140mm must be avoided and thickness greater than 140mm must comprise of multilayer boards to make up the desired thicknesses. These multilayer boards may be upon request factory laminated as a single component board, or laminated on site using the IKOpro PUMA 2 part PU adhesive.
- Apply **IKO enertherm Insulation board** to the clean and dry substrate, with joints fully supported and staggered with boards tightly butted.
- Sequence the installation to ensure all insulation boards are made watertight upon each working day and during inclement weather. Only install sufficient insulation boards that can be effectively waterproofing during the same working day.
- Protection to exposed edges of insulation: Treated timber batten or **IKO Insulated Hard Edge**. Dimensions: 100 mm x 10mm thinner than the insulation thickness
- The use of preformed metal angles could be used as an alternative to insulated hard edge in line with the relevant IKO design detail. Whereby the metal angle is formed using 0.9mm galvanized metal min 75mm x 75mm (d) for insulation 120mm thick, and 75mm x 100mm for insulations of 140mm thickness. All metal angles are to fully bonded to the insulation using IKOpro PU adhesives.

- Encapsulation seal: Provision must be allowed for forming a minimum 100mm lap seal between the vapour control layer and underlay, where the insulation finishes.
- Installation: Apply with the facing upper most and tightly butted to the horizontal and vertical abutment.
- Insulation surface: Prepared in accordance with IKO recommendations.
- **Tapered Insulation:** Where a tapered scheme has been designed, the insulation must be installed in accordance with the layout in the IKO tapered scheme drawing.
- **Enhanced schemes:** Where an enhanced insulation scheme has been proposed, the following should be used in locations where enhanced falls are required to assist with drainage:
 - Sump sets: Sumps sets are available and should be used around internal rainwater outlets to assist with drainage.
 - Drainer boards: Drainer boards should be utilised to perimeter edges where enhancement of the drainage is required to perimeter edges
 - Deflector boards: Deflector boards should be used around large rooflights, plant items and obstructions upon the roof to assist with drainage.
- **Adhered application:** Apply the specified insulation bonding adhesive in accordance with the manufactures recommendations.
 - Multi-layer foil faced insulation board applications are to be undertaken using IKOpro Puma adhesive.
 - The adhesive should be applied in the direction of the board length at the same application rate as the base board.
 - Do not stand on the boards or apply any waterproofing layers until the adhesive has fully cured and a secure bond is achieved.
- **Angle fillets: IKO enertherm Angle fillets** are to be used at all horizontal and vertical abutments.
 - Type:
 - o IKO enertherm ALU Angle fillets (PIR fillet for use where the subsequent layer is a self-adhered bitumen membrane)
 - o IKO enertherm Universal Angle fillets (PIR fillet for use with all types of reinforced bitumen applications)
 - o IKO MW Angle fillets (mineral wool fillet for use with IKO MW insulation)
- **Inclined and sloped roofs:** Insulation stops for anchoring the waterproofing system against slippage may be necessary - refer to fixing requirements within this specification or those defined within BS8217.

PREPARATION PRIMER FOR INSULATION

- All surfaces of the insulation must be clean, dry and free from dirt and loose material and primed with the specified primer. Install the underlay as soon as possible after the primer is dry.
- **For hybrid and self-adhesive systems:** *Where sequencing of the application of the cap sheet is not undertaken during the same working day as the application of the IKO self-adhesive underlay.*
 - Prime the upper most surface of the insulation board with the specified IKO Primer and allow to dry thoroughly
 - Once fully dry, install the specified IKO underlay in strict accordance with the manufactures recommendations.
 - Do not torch or scrape the laps.
- **For Ultra Mach Two systems:**
 - Prime the upper most surface of the insulation board with the specified IKO Primer to a throughout all detailing and abutments, being applied a minimum of 300mm onto the upper surface of the insulation to allow for the application of the IKO Ultra T-F Underlay being dressed through all details and abutments.

- Any installed insulation must be waterproofed within the same working day and kept dry during the installation process.
 - Provide temporary/night joints.

UNDERLAY

- Product reference: **IKO Ultra H-A underlay**
- Preparation: Ensure the substrate is free of dust, debris or moisture that will impair the bond.
- Installation: The specified underlay is to be applied as soon as possible after the **IKOpro Bonding Agent** or **IKOpro Sprayfast MPP** is completely dry.
 - To be installed in accordance with BS8217 and IKO recommendations.
 - Cold applied and bonded over whole surface, with no air pockets
 - Install with 75mm side and 100mm end laps by removing the release film and progressively advancing the roll whilst applying even downward pressure using a weighted roll bar to bond the underlay to the substrate, ensuring no air is trapped.
 - All laps must be hot air welded and pressure rolled ensuring a visible bead of bitumen is exuded from all side and end laps.
 - No gas torches are to be used for the installation of the **IKO Ultra H-A Underlay**
 - No back laps are to be formed against falls
 - In insulated build-ups, the underlay should link with the vapour control layer at detail works.
 - Setting out: Neat, with carefully formed junctions.

CAP SHEET

- Product reference: **IKO Ultra Gold Cap Sheet**
- Installation:
 - To be installed in accordance with BS8217 and IKO recommendations.
 - Torch applied and bonded over whole surface, with no air pockets
 - Install by the torch on technique with minimum 75mm side and 100mm end laps and lay to break joints
 - Progressively advance the roll whilst applying even downward pressure using a weighted roll bar to bond the membrane to the underlay ensuring no air is trapped.
 - The cap sheet should be finished at the top edge of the angle fillet to allow for linking with the detailing cap sheet.
 - All laps must be ensure a visible bead of bitumen is exuded from all side and end laps.
 - No back laps are to be formed against falls
 - Setting out: Neat, with carefully formed junctions.

INSTALLATION OF IKO DETAILING MATERIALS

Detailing Materials – RBM

WATERPROOFING DETAILING – REINFORCED BITUMEN MEMBRANES

- All waterproofing details are to be formed in accordance and agreement with IKO installation recommendations using two layers of waterproofing as specified within the detailing materials section.
- All waterproofing details should be detailed in accordance with IKO Standard or designed details and those set out in BS8217 and BS6229.
- If a detail is not able to be formed in accordance with IKO recommendation, IKO Technical Services must be contacted for further advice. IKO cannot be held responsible for any details not formed in accordance with these British Standards or IKO recommendations.
- This specification should be read in conjunction with the IKO detail drawings.
- Any waterproofing upstands incorporating insulation are to be formed using the specified IKO Air and Vapour Control Layer, with the insulation secured in accordance with this proposal and dependent upon height and slope.
- The installing contractor is to undertake their own risk assessment regarding Safe2torch zones, and utilise the IKO SA and T-F membranes throughout the location where it is deemed not safe to use a gas torch during both the drying out process and the installation of the waterproofing materials.
- All surfaces and substrates to which a torch applied underlay is being applied must be deemed non-combustible.

PREPARATION OF SUBSTRATES

- All surfaces and substrates must be adequately prepared in accordance with this specification and be deemed acceptable of receiving the waterproofing applications. Refer to preliminary and enabling works section of this specification.

PRIMING SUBSTRATES

- All surfaces and substrates to which the waterproofing is to be applied to must be primed with the specified primer as stated within the waterproofing detailing materials section of this proposal.

FLAME FREE ZONES

- Flame free zones must be a minimum 900mm from any identified areas of risk in accordance with the guidance set within the NFRC – Safe2torch guidance document. Within these zones no torches should be allowed (including drying the roof).
- Flame free zones are to be utilised within areas where there is a potential risk due to close proximity to potential combustible materials, such as cladding or pitched roof abutments.
- It is the installing contractor's obligation to identify these locations and allow for compliance with the NFRC Safe2torch guidelines.
- In warm roof applications, the IKO Ultra S-A Vapour Control Layer should be used within these locations in conjunction with the IKOpro Bonding Agent or IKOpro Sprayfast MPP.
- **IKO Ultra S-A and T-F membranes** must be used in any areas outside of the safe2torch zones, these membranes are cold applied with hot air welded laps. **IKO Ultra S-A and T-F membranes** must be installed in accordance with IKO recommendations.
- IKO Technical Services may be contacted for guidance on product specification if it is not already stated within this specification.

DETAILING WORKS

- Carry each layer in staggered formation up the upstand, with each layer being fully bonded throughout the detail.
- All detailing works must be undertaken as separate items and as two layer application using the specified underlay and cap sheet.
- Special attention should be paid to all structures, such as rooflights, counter flashings, window and door sills, pipes etc. IKO cannot take responsibility for water ingress over waterproofing details constructed below the recommended minimum height of 150mm above the finished roof level.
- Underlays must be fully bonded throughout the detail and dressed 125mm onto the main roof area and minimum 125mm up the upstand unless specified otherwise.
- Cap sheets must be fully bonded to the underlay and dressed 150mm minimum onto the main roof area, and dressed a minimum 150mm above the finished roof level. This must include any surface finish to the waterproofing such as slabs or tiles.
- Sills and thresholds: waterproofing detailing around sills and thresholds may be reduced to 75mm, in line with NHBC and BS6229 design requirements only where level threshold access has been provided.
- Additional fixing of bitumen membranes: Mechanically fix the top leading edge of all upstand details in excess of 250 mm in height using appropriate fasteners.

ANGLE FILLETS

- Only IKO angle fillets may be used as specified, being bonded in the specified IKOpro adhesive, alternatives will invalidate the guarantee offer.
- Angle fillets are to be used at all horizontal and vertical abutments, bonded to the substrate/insulation before the application of the waterproofing underlay.
- Angle fillets are to be used above the insulation and before the waterproofing membrane application.

COVER FLASHINGS

- All waterproofing upstands to brick/block/concrete etc. are to be terminated with the use of IKOFlash cover flashing and sealed with IKOpro Stickall mastic.
- Cut out a 25mm deep chase into the wall abutment at the top of the waterproofing,
- Allow for the IKOFlash to provide 75mm cover to the waterproofing detail.
- Install at maximum 1.5m lengths and overlap adjoining at 75mm minimum overlap.
- Securely fix the IKOFlash into the chase and seal with IKOpro Stickall mastic. Provide even and full coverage.
- Any existing cover flashing and associated mastic/sealant that is to be re-used, will not be covered by the IKO guarantee, and it is for the installing contractor to ensure any retained components are sound and secure and provide 75mm min cover to the new waterproofing.

INTERNAL GUTTERS AND SUMPS

- Any internal gutters should be designed and installed in accordance with BS6229 to achieve a finished fall of 1:80, and be free draining to the rainwater outlet(s).
- Flat gutters are not recommended and will not be covered by any IKO guarantee.
- All detailing to any internal gutter is to be formed as separate items and be fully bonded throughout the detail in accordance with IKO designed details, utilising an insulated hard edge to reduce any lap build up.

DESIGNATED WALKWAYS

- Where a designated walkway is being proposed either a proprietary walkway matt or an additional layer of **the specified IKO cap sheet** in a contrasting colour can be utilised to be mark out a designated maintenance walkway as directed by the client.
- Where an additional layer of cap sheet is being used, the cap sheet should be installed as per the specification to mark out a walkway with all laps and edges fully sealed.
- Consideration must be undertaken not to create a water check to the rainwater outlets when setting out the walkway.

GENERAL CONDITIONS

Specification

- All works are to be installed in accordance with the IKO Specification and recommendations, by an IKO Approved Contractor for the specified waterproofing system.
- Installers must be competent in the installation requirements of the system specified.

Materials

- Manufactured and marketed by IKO. www.ikogroup.co.uk
- Only materials within this specification and supplied by IKO will be covered by the IKO guarantee.
- Any system component that is used for this project that is not supplied or approved by IKO, will not be covered by the IKO guarantee, and will either be an exclusion within it, or the guarantee offer will be reduced or withdrawn.

Design

- Only waterproofing details approved by IKO will be covered by the IKO guarantee.

Specification

- IKO specification must be followed.
- A copy of the IKO specification must be held on site by the installing contractor.
- IKO waterproofing details must be followed.
- Where this document is to be included within the clients/client's representative own specification documentation, a copy of such document must be forwarded to IKO Technical Services Department for final approval before commencement of the works.

Specification variations

- The appointed installing contractor must ensure that the waterproofing specification proposal meets the clients brief, is fully compliant with Building Regulations requirement and that the proposal meets the project requirements.
- IKO must be notified where any element of the proposed specification does not meet the project requirements. IKO will not be held liable for any design undertaken outside the scope of this proposal.
- Any element of the IKO specification that is not followed or changed without prior written consent from IKO, will constitute that under CDM they will become the designer and take responsibility for the design of waterproofing. This will include compliance with the Approved Documents of the Building Regulations, specifically relating to fire performance and thermal performance.
- Any changes made to the IKO specification before or during the undertaking of the works must be brought to the attention of IKO and the client/client's representative immediately.
- Variations to this proposal must be agreed in writing, by both the client's representative and IKO technical department. Where this has not been notified and agreed in writing, then the IKO guarantee offer may be withdrawn.
- Any costs incurred or saved due to variations must be agreed by all parties and the work not undertaken until agreed by all parties.

Project start notification

- As part of the IKO guarantee requirements, all project starts and/or pre start meetings must be notified by the installing contractor a minimum 10 working days before the project starts to guarantees.uk@iko.com.
- Failure to notify IKO through this email address may invalidate any guarantee offer proposed with this specification proposal.

Workmanship

- By undertaking this proposal, the IKO Contractor is fully responsible for their workmanship and the installation of the waterproofing materials throughout the term of the guarantee.
- They must employ installing operatives that deemed competent and that are familiar with the application methods required for the installation of the specified waterproofing system, and where applicable undertaken and passed IKOs product induction programme.
- If found through the term of the guarantee that the installing contractor has not followed the IKO specification or installed the waterproofing in accordance with this proposal, then the installing contractor will be deemed liable for any associated remedial repairs and that the IKO guarantee will no longer be valid until such time the remedials have been rectified.

Installation

- Must be undertaken by a competent person who is familiar with the correct application techniques required to install the waterproofing system components in accordance with IKO recommendations.
- The works must comply with the requirements of the Health and Safety at Work Act and specific requirements as set out by the client. All risk assessments and method statements must be undertaken and recorded by the installing contractor.
- Before the works commence, the installing contractor should ensure that the surfaces to receive the new waterproofing system are acceptable and that the specification conforms to the clients requirements.
- Allowance should be made by the installing contractor for the extent of, volume and degree of difficulty in stripping and removal from site the existing waterproofing and associated build up.
- Any retained components from the existing structure must be sound and capable of accepting the imposed loading of the new waterproofing system and associated installation procedures.
- Where the installation has been undertaken that is not in line with either IKO recommendations or that of good practice, these items will not be covered by the IKO guarantee.

Project completion

- It is the responsibility of the **IKO Contractor** to advise the IKO Technical Engineer when the waterproofing works are ready for final inspection. Notice must be a minimum of 5 working days prior to completion and safe access must be provided to allow IKO to undertake any necessary final inspection.

Applying for the guarantee

- Application for the guarantee is made by the IKO Contractor by completing the guarantee application form and forwarding to guarantees.uk@iko.com. The guarantee will then be forwarded to the IKO Contractor for forwarding to the client.

Cover flashings

- All cover flashings and the sealants used within the chase are seen as items that require maintenance within the term of the guarantee. As such these items are not covered as part of the guarantee.

Maintenance

- Maintenance must be undertaken in accordance with the terms of the guarantee.
- The waterproofing must be protected from any follow on trades or other works that may affect the waterproofing.
- Once completed, access will be required for future inspections and maintenance. Maintenance of drainage outlets, plant items and services etc. will be required to ensure the long term performance of the waterproofing system.
- The client is to ensure safe access is provided to allow maintenance.
- Unauthorised access should be prevented from all parties not associated with the installation of the waterproofing, inspection or maintenance.
- Designated walkways should be provided for maintenance and means of escape.
- Provide a detailed risk assessment and method statement to any person accessing the area within the term of the guarantee.

- Ensure no unauthorised works to or affecting the waterproofing are undertaken without prior written consent from the guarantor. Approval from the guarantor must be confirmed prior to any works being undertaken.
- No solvents or other chemicals harmful to the waterproofing system should be allowed to come into contact with the waterproofing.

Construction (Design and Management) Regulations 2015

- The Construction (Design and Management) Regulations (CDM) are the main set of regulations for managing the health, safety and welfare of construction projects, and are designed to help workers, contractors, designers and clients of construction businesses to plan and manage health and safety.
- CDM applies to **all** building and construction work and includes new build, demolition, refurbishment, extensions, conversions, repair and maintenance and includes all projects including domestic client projects
- The responsibilities of the client with legal duties under CDM include but are not limited to the following:
 - Appointment of a principle designer and principle contractor
 - Ensuring there are arrangements in place for managing and organising the project
 - Providing information to and communicating with the designer and contractor
 - Ensuring there is a written construction phase plan
 - Keeping a health and safety file, after the project is completed
 - Protecting members of the public, including all employees
 - Making sure all persons have the right skills, knowledge, training and experience
 - Making sure certain projects are notified to the HSE
- Refer to HSE guidance **Managing health and safety in construction – Construction (Design and Management) Regulations 2015 – (L153)** on the legal requirements for CDM 2015.

Health & safety guidance notes

- The Contractors nominated in conjunction with this specification must be approved to install IKO materials specified and therefore will be in possession of the Health & Safety data sheets relating to any hazardous products manufactured and marketed by IKO which have been included within this specification.
- It is assumed that the Contractor/s will be working to the guidelines of the relevant British Standard Codes of Practice (in particular BS 8000: 1989) and that relevant Health & Safety information will be obtained from the manufacturers of any components which are not manufactured by IKO.

Risk assessments and method statements

- Works must comply with the requirements of the Health and Safety at Work Act and any additional requirements of the Client.
- The contractor must ensure that the works are carried out in accordance with a written method statement for the project, which should be based on a project specific risk assessment. Prior to commencing work, the contractor must liaise with the client or building occupier to establish the nature of any hazards which exist, and agree a system of work for adoption in accordance with health and safety requirements.
- In addition to the normal hazards associated with working at height and hot works, we recommend that particular attention be paid to the following aspects, although this list is not intended to be exhaustive, contractors and specifiers must assure themselves that all potential risks have been accounted for.
 - **Safe2Torch** – The installing contractor is to ensure they follow the Safe2Torch guidelines that are available from the NFRC.
 - **Gas flues** – determine whether flues are live, and if so establish working methods to ensure that flues are not covered or obstructed in any way.
 - **Microwave transmitters** – establish safe working methods to prevent personnel from being exposed to microwave radiation.
 - **Air Intakes** – precautions should be taken to prevent the ingress of fumes from the waterproofing works entering the building.

Rooflights/openings

- The Construction (Design and Management) Regulations places a duty on designers and specifiers to give proper consideration to eliminating or reducing risks at the design stage.
- Unless there is definite information to the contrary, existing rooflights (which may be constructed from glass, GRP or polycarbonate) should be assumed to be fragile and all appropriate measures taken to prevent people falling through them.
- The contractor for the works is required to provide a risk assessment and method statement for the safe working of personnel around rooflights and openings.
- HSG 33 *health and safety in roof work* draws attention to the responsibilities of those specifying rooflights and designers should consider the following:
 - Specifying rooflights that are non-fragile.
 - Fitting rooflights designed to project above the plane of the roof and which cannot be walked on (these reduce the risk but they should be capable of withstanding a person falling onto them)
 - Protecting rooflights, e.g. by means of mesh or grids fitted above or below the rooflight.
 - Specifying rooflights with a design life that matches that of the waterproofing system, taking account of the likely deterioration due to ultraviolet exposure, environmental pollution and internal and external building environment.

Isocyanurates (PU based products)

As of 24 August 2023, training is required for professional and industrial users of polyurethane adhesives, sealant and waterproofing products within the EU and UK.

- **REACH**

New REACH labelling and training regulations are being introduced for diisocyanates; the chemical building blocks for polyurethane (PU) products, including foam products and roofing adhesives. Labelling regulations are to be implemented by February 2022 and training regulations by 24th August 2023. The regulations address industrial and professional use, targeting unsafe handling, whilst allowing adhesives and sealants to remain widely available. It does not impact the DIY market.

- **Labelling**

Products sold within the EU and UK with a total monomeric diisocyanate concentration greater than 0.1% by weight, either as a substance or in a mixture, intended for professional or industrial use must have the statement below on the product container label by 24th February 2022:

'As from 24th August 2023, adequate training is required before industrial or professional use'.

- **Training**

- Training and certification for product users, which involves passing an examination, **must be completed by 24 August 2023**. Records of the training given to employees must be maintained by employers. Every five years, renewal of the training will be necessary.
- FEICA (the Association of the European Adhesive & Sealant Industry, in coordination with several other bodies within the polyurethane industry, have been developing a comprehensive training programme to ensure the safe use of diisocyanates for producers and professional users all over Europe.

A PU Training Platform has therefore been launched for product users within the EU and UK and can be reached via: www.safeusediisocyanates.eu.

- The Restriction requires employers or the self-employed to ensure that industrial or professional users have successfully completed training on the safe use of diisocyanates prior to the use of the substance or mixture. There is no requirement for an accreditation or certification scheme to be put in place for the training. Training will need to be adequate, appropriate to the use of the substance (which includes any specific circumstances as to where it is used i.e., in GB) and in line with the restriction. (The training requirements are set out in paragraphs 4 and 5 of Annex XVII 1 of the restriction).
- Suppliers must ensure that training relevant to the particular products they are supplying is available, but suppliers do not need to deliver or pay for the training themselves.

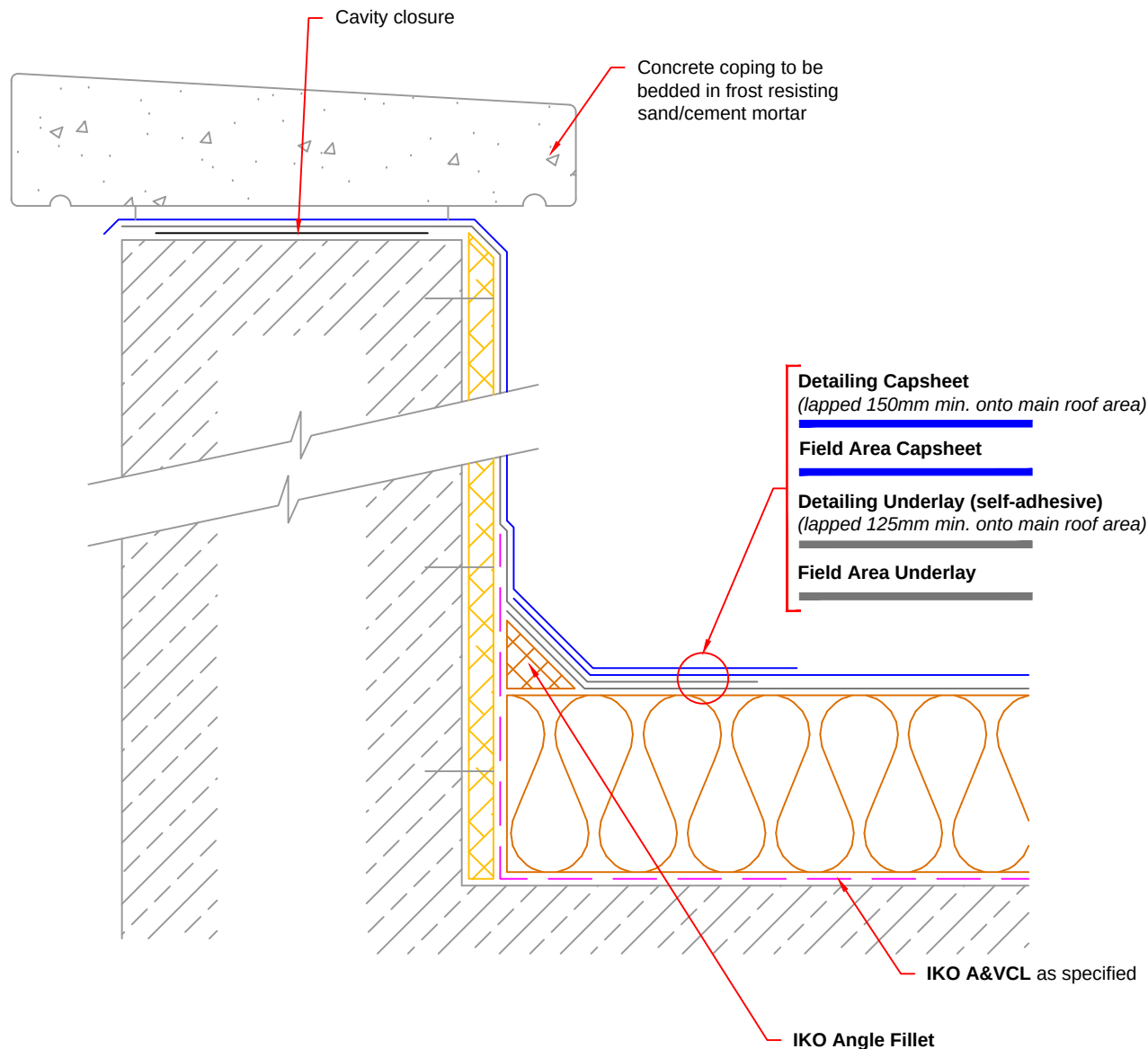
- **The legal duty remains on employers to ensure that all users have successfully completed the required training before using the substance.**
- Any record that shows the user has successfully completed the required training before using the substance will help demonstrate compliance. However, providing information, instruction and training should be reviewed and updated whenever significant changes are made to the type of work carried out or to the work methods used.
- **IKO products containing Isocyanurates:**
The following IKO material items containing Isocyanurates:
 - IKO tanetech EC
 - IKO tanetech UV
 - IKOpro PU adhesive for insulations
 - IKOpro PU adhesive for bitumen membranes
 - IKOpro Sprayfast IBA
 - IKOpro Sprayfast BMA
 - IKOpro Sprayfast FMA
 - IKOpro Sprayfast PCA
 - IKOpro Low Foam PU adhesive Fleece membrane
- IKO to inform our customers they have to complete training number **049** before 24/08/2023.
- IKO personnel who use, demonstrate PU products will have to complete training number **045** (General training) before 24/08/2023.

APPENDIX – REGISTER OF ISSUE

SPEC-0065646	IKO Specification document	✓
	IKO Standard Details	✓
CSR-0065646	IKO Condition Survey	✓

Issue table:

Issue	Date Issued	Prepared By	Checked By	Revision Overview
0	18/06/2025	M. Taylor	AB Tech	-



Note: Detail to illustrate lapping & waterproofing arrangements in relation to IKO specified roofing system. The client / Contractor is to confirm with relevant parties any limitations or restrictions of vertical application in relation to Building Regulations Approved Document B prior to works.

PARAPET - Concrete Copings

Remove any cavity tray from within the parapet, which directs water internally to the roof area. Care should be taken not to bridge over any DPC/Cavity tray when installing the new waterproofing system. Inspect and carry out any maintenance work to the parapet as necessary.

Apply an 18mm plywood / OSB/3 timber panel or CP Board to the vertical face of the parapet secured by mechanical fixings.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments.

Apply the specified waterproofing detailing fully bonded to the vertical & horizontal surfaces of the parapet. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

Replace coping stones over newly installed waterproofing on a suitable frost resisting mortar bedding.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

Cement Particle (CP) Boards to be used inline with SPRA, LRWA & NFRC Guidance.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.



Email: technical.uk@iko.com

STANDARD DETAIL

DRAWING TITLE:
PARAPET - Concrete Copings

DATE:
February 2024

NOTES/REVISIONS:
N/A

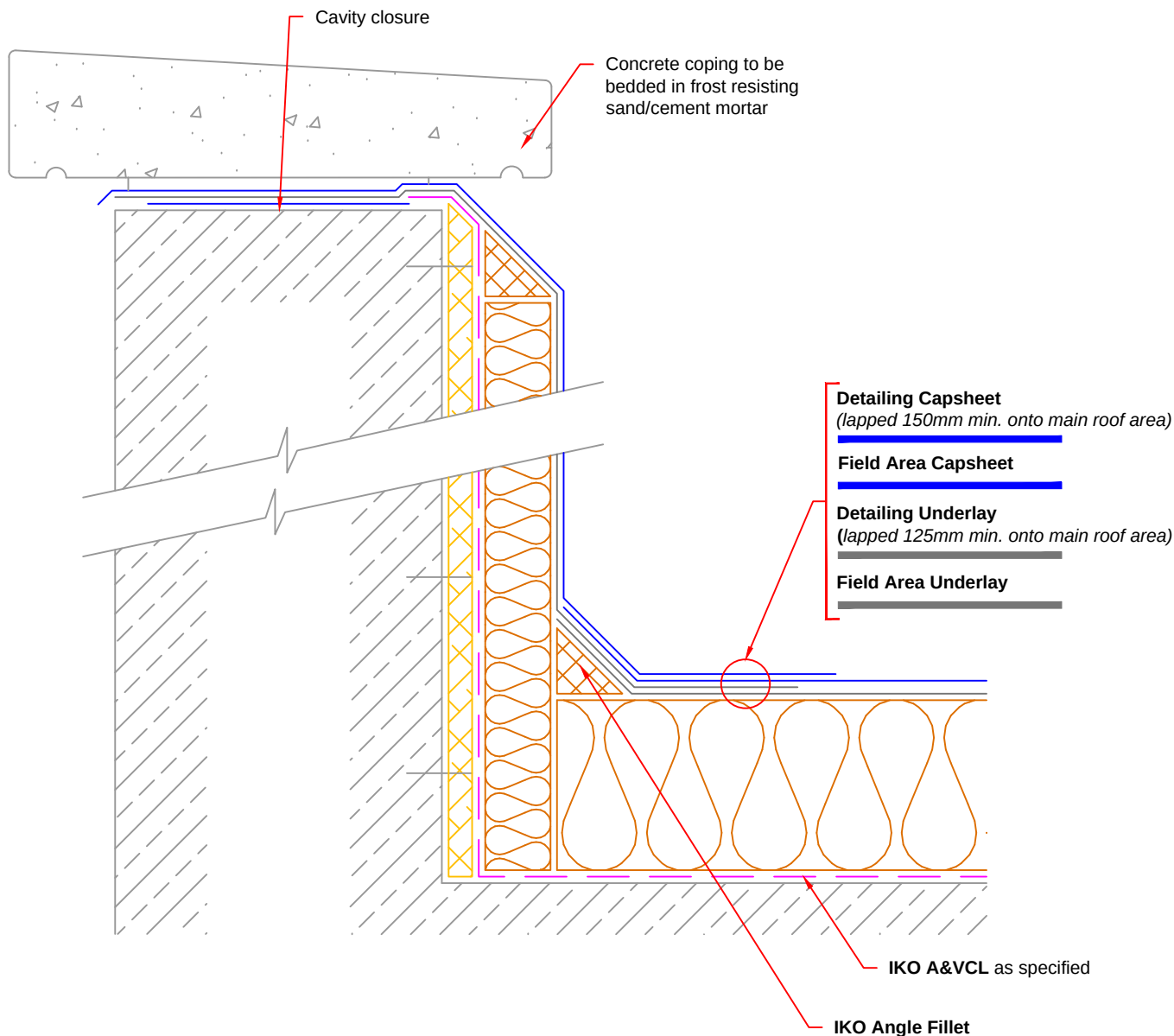
DWG No:
A1

SCALE:
NTS

DRAWN BY:
IKO

This detail is representative of a typical situation and provided for illustration purposes. Where shown insulation thickness may differ in accordance with specifiers U value requirement. To be read in conjunction with the IKO project specification. Refer to specification and product literature for product descriptions and application information.

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PARAPET - Concrete Copings - Insulated

Remove any cavity tray from within the parapet, which directs water internally to the roof area. Care should be taken not to bridge over any DPC/Cavity tray when installing the new waterproofing system. Inspect and carry out any maintenance work to the parapet as necessary.

Apply an 18mm plywood / OSB/3 timber panel or CP Board to the vertical face of the parapet secured by mechanical fixings.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum and fully encapsulate the insulation.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, including to the vertical face of the parapet as indicated to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments.

Apply the specified waterproofing detailing fully bonded to the vertical & horizontal surfaces of the parapet. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

Replace or provide new coping stones over newly installed waterproofing on a suitable frost resisting mortar bedding.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

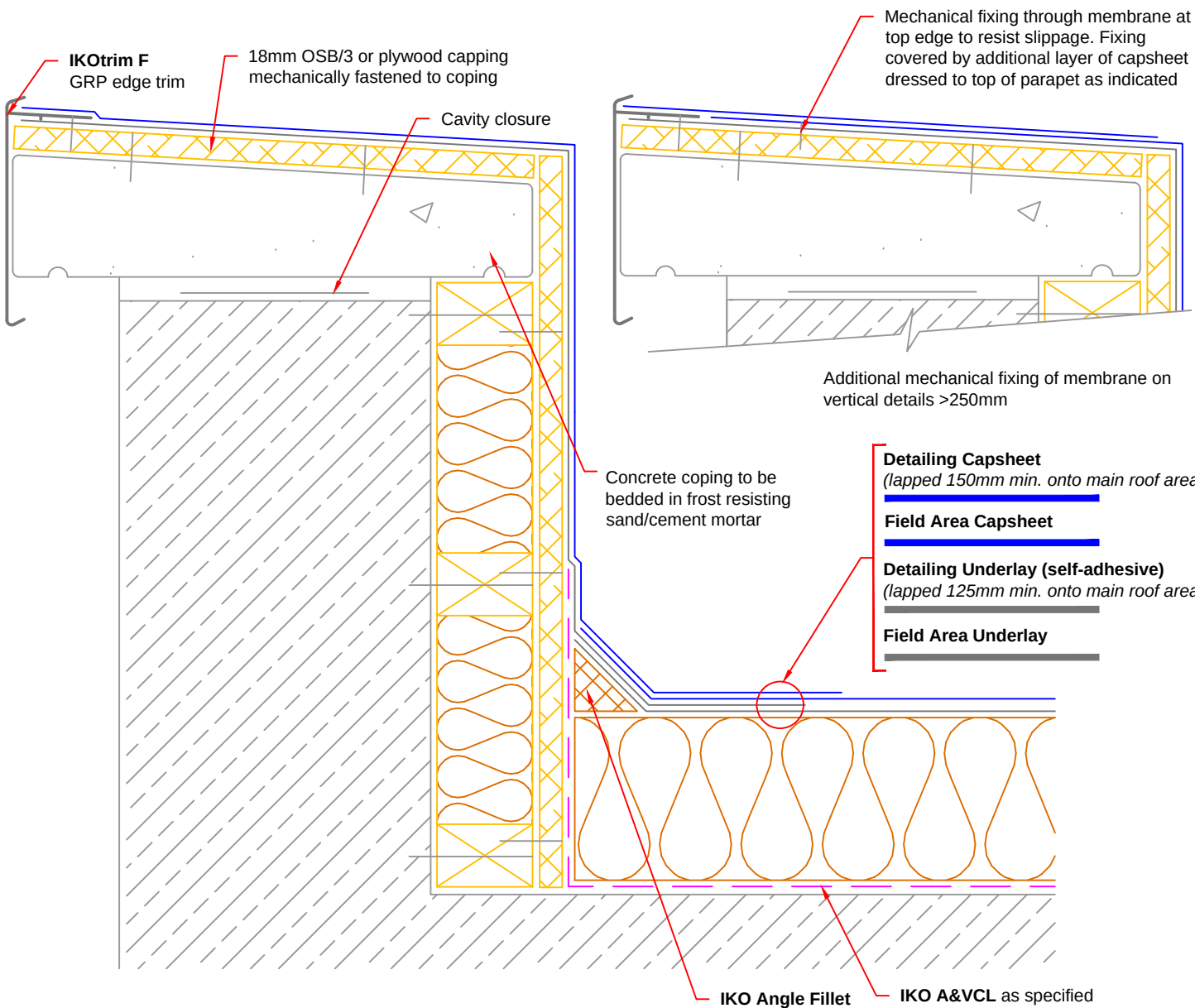
Cement Particle (CP) Boards to be used inline with SPRA, LRWA & NFRC Guidance.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.

Note: Detail to illustrate lapping & waterproofing arrangements in relation to IKO specified roofing system. The client / Contractor is to confirm with relevant parties any limitations or restrictions of vertical application in relation to Building Regulations Approved Document B prior to works.

 Email: technical.uk@iko.com	STANDARD DETAIL	DRAWING TITLE: PARAPET - Concrete Copings - Insulated		Dwg No: A2		This detail is representative of a typical situation and provided for illustration purposes. Where shown insulation thickness may differ in accordance with specifiers U value requirement. To be read in conjunction with the IKO project specification. Refer to specification and product literature for product descriptions and application information. Copyright Reserved - Please note that this drawing & the copyright therein is the property of IKO & is issued on the understanding that the drawing or any detail thereof will not be divulged to a third party unless written permission is first obtained from IKO technical services department. The drawing is valid only when approved by the Architect/ Contractor concerned.
		DATE: February 2024	NOTES/REVISIONS: N/A	SCALE: NTS	DRAWN BY: IKO	



PARAPET - Encapsulate Copings - Batten & Panel

Remove any cavity tray from within the parapet, which directs water internally to the roof area. Care should be taken not to bridge over any DPC/Cavity tray when installing the new waterproofing system.

Ensure that the existing coping stones are securely fixed, rebidding in frost resistance sand/cement mortar as necessary. Inspect and carry out any maintenance work to the parapet as necessary.

Fix sufficient timber battens of appropriate dimensions to the vertical surface to allow application of an 18mm OSB/3 or plywood panel to the vertical face as indicated.

Apply an 18mm OSB/3 or plywood panel to the top of the coping secured by mechanical fixings.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to the full height of the parapet and onto the coping stone to link with the Underlay by 50mm minimum and fully encapsulate the insulation.

Apply the specified **IKO ENERTHERM INSULATION** of appropriate thickness to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the vertical and horizontal surfaces of the parapet, lapped and fully sealed onto the main area as indicated.

Apply **IKOTRIM F** edge trim, mechanically fastened to the timber capping at maximum 300mm staggered centres (150mm maximum for areas of high wind uplift) and sandwiched between waterproofing layers as indicated.

Apply Detailing Capsheet fully bonded to the vertical and horizontal surfaces of the parapet, dressed into the channel of the **IKOTRIM F** edge trim, lapped and fully sealed onto the main roof area as indicated.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm (as indicated).

Note: Detail to illustrate lapping & waterproofing arrangements in relation to IKO specified roofing system. The client / Contractor is to confirm with relevant parties any limitations or restrictions of vertical application in relation to Building Regulations Approved Document B prior to works.



Email: technical.uk@iko.com

STANDARD DETAIL

DRAWING TITLE:
PARAPET - Encapsulate Copings - Batten & Panel

DATE:
February 2024

NOTES/REVISIONS:
N/A

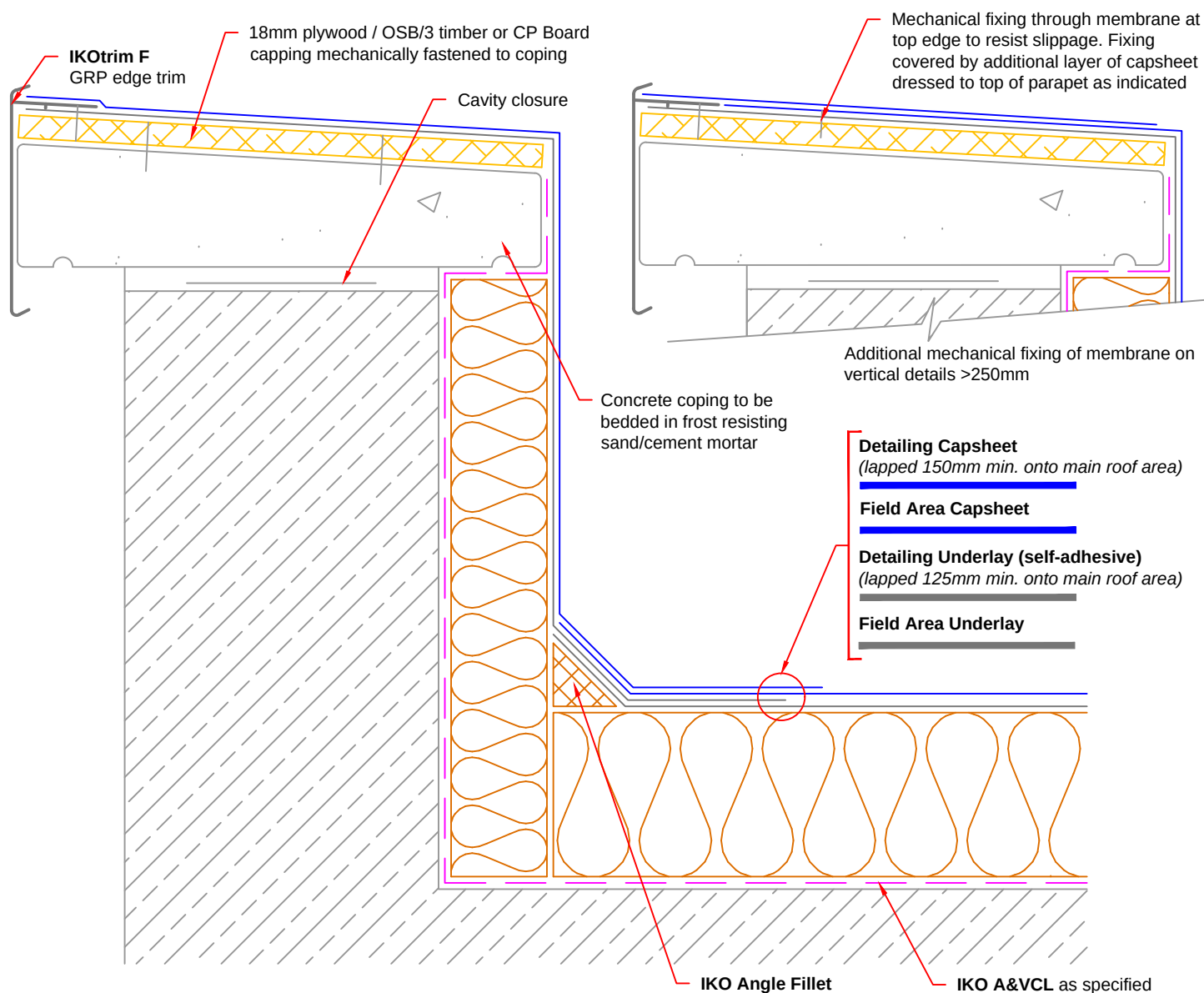
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A9

SCALE:
NTS

DRAWN BY:
IKO

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PARAPET - Encapsulate Copings - Insulation Infill

Remove any cavity tray from within the parapet, which directs water internally to the roof area. Care should be taken not to bridge over any DPC/Cavity tray when installing the new waterproofing system.

Ensure that the existing coping stones are securely fixed, rebedding in frost resistance sand/cement mortar as necessary. Inspect and carry out any maintenance work to the parapet as necessary.

Apply an 18mm plywood / OSB/3 timber panel or CP Board to the top of the coping secured by mechanical fixings.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to the full height of the parapet and onto the coping stone to link with the Underlay by 50mm minimum and fully encapsulate the insulation.

Apply the specified **IKO ENERTHERM INSULATION** of appropriate thickness to the Air & Vapour Control Layer, including to the full height of the parapet to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the vertical and horizontal surfaces of the parapet, lapped and fully sealed onto the main area as indicated.

Apply **IKOTRIM F** edge trim, mechanically fastened to the timber capping at 300mm centres maximum (150mm maximum for areas of high wind uplift) and sandwiched between waterproofing layers as indicated.

Apply Detailing Capsheet fully bonded to the vertical and horizontal surfaces of the parapet, dressed into the channel of the **IKOTRIM F** edge trim, lapped and fully sealed onto the main roof area as indicated.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

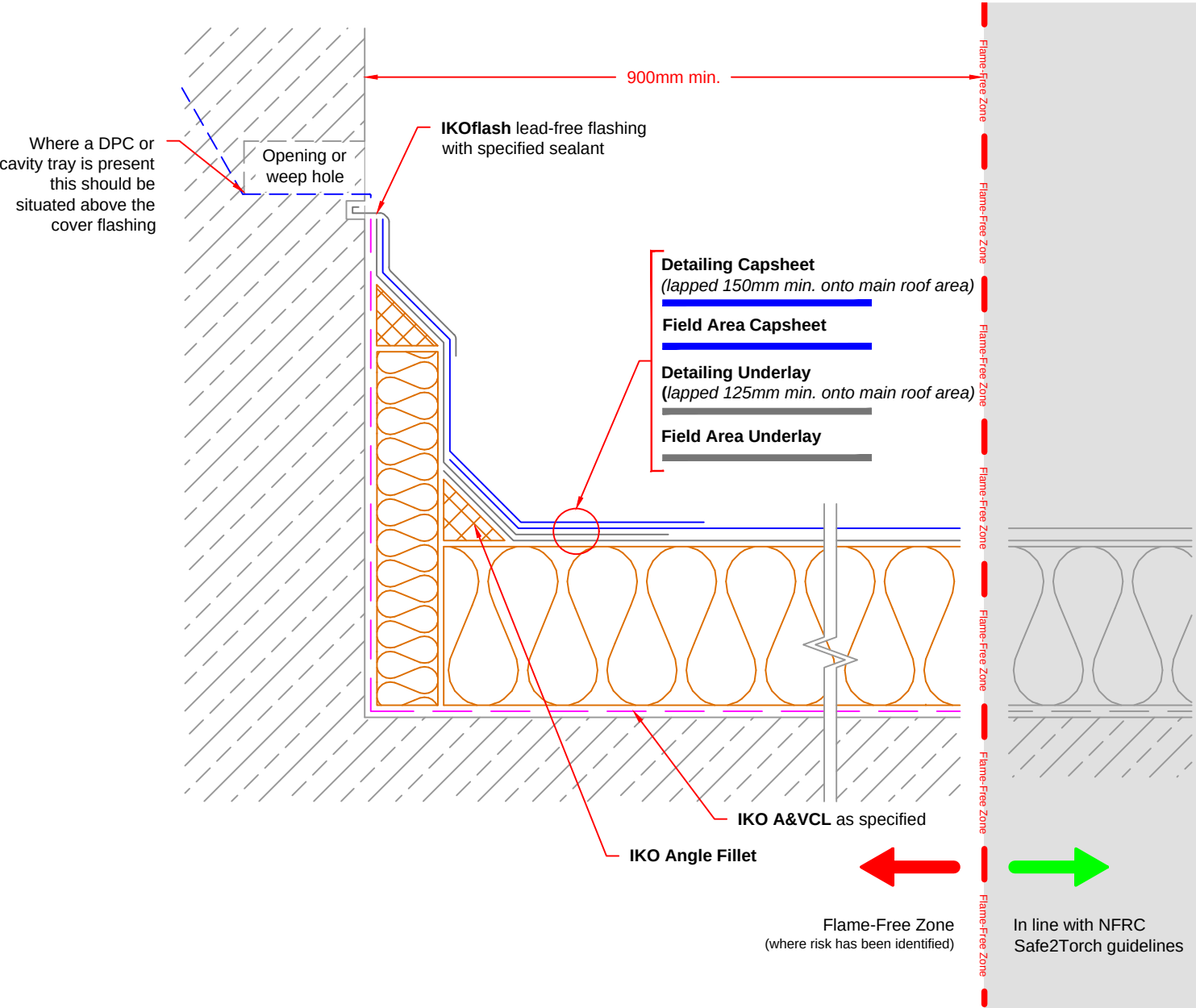
Cement Particle (CP) Boards to be used inline with SPRA, LRWA & NFRC Guidance.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm (as indicated).

Note: Detail to illustrate lapping & waterproofing arrangements in relation to IKO specified roofing system. The client / Contractor is to confirm with relevant parties any limitations or restrictions of vertical application in relation to Building Regulations Approved Document B prior to works.

 Email: technical.uk@iko.com	STANDARD DETAIL	DRAWING TITLE: PARAPET - Encapsulate Copings - Insulation Infill		Dwg No: A10		This detail is representative of a typical situation and provided for illustration purposes. Where shown insulation thickness may differ in accordance with specifiers U value requirement. To be read in conjunction with the IKO project specification. Refer to specification and product literature for product descriptions and application information. Copyright Reserved - Please note that this drawing & the copyright therein is the property of IKO & is issued on the understanding that the drawing or any detail thereof will not be divulged to a third party unless written permission is first obtained from IKO technical services department. The drawing is valid only when approved by the Architect/ Contractor concerned.
		DATE: February 2024	NOTES/REVISIONS: N/A	SCALE: NTS	DRAWN BY: IKO	



UPSTAND - Cover Flashing - Insulated Upstand

Carefully rake/cut out the joint to a depth of not less than 25mm, at a height of 150mm minimum above the finished roof level. The chase should be below the level of any DPC or cavity tray.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, including to the full height of the upstand to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the upstand. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

Provide **IKOFLASH LEAD FREE FLASHING** to the provided chase lengths not exceeding 1.5m ensuring end laps are not less than 100mm & that a minimum cover of 75mm is provided to the upstand.

The chase should then be pointed with a one or two part polysulphide sealant or IKO specified Sealant.

NOTES:
Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Where a risk is identified a minimum 900mm flame-free zone must be adopted as indicated. Self-adhesive membranes must be used direct to potentially combustible substrates.

Completed waterproofing upstand details should always be installed so as to achieve a height of 150mm minimum above the finished roof level.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

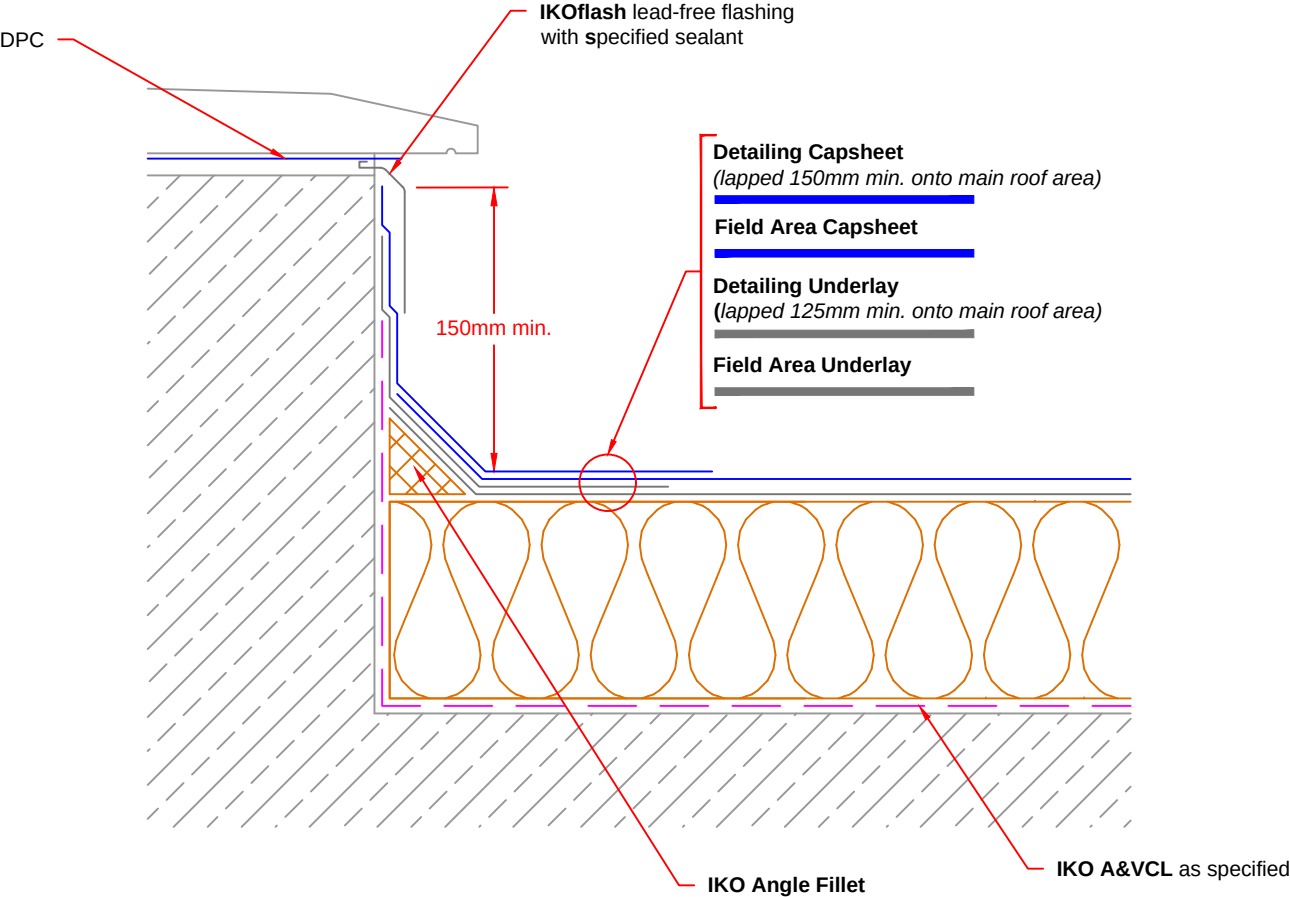
All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.

Note: Detail to illustrate lapping & waterproofing arrangements in relation to IKO specified roofing system. The client / Contractor is to confirm with relevant parties any limitations or restrictions of vertical application in relation to Building Regulations Approved Document B prior to works.

 Email: technical.uk@iko.com	STANDARD DETAIL	DRAWING TITLE: UPSTAND - Cover Flashing - Insulated Upstand		DWG No: B2		This detail is representative of a typical situation and provided for illustration purposes. Where shown insulation thickness may differ in accordance with specifiers U value requirement. To be read in conjunction with the IKO project specification. Refer to specification and product literature for product descriptions and application information. Copyright Reserved - Please note that this drawing & the copyright therein is the property of IKO & is issued on the understanding that the drawing or any detail thereof will not be divulged to a third party unless written permission is first obtained from IKO technical services department. The drawing is valid only when approved by the Architect/ Contractor concerned.
		DATE: February 2024	NOTES/REVISIONS: N/A	SCALE: NTS	DRAWN BY: IKO	



UPSTAND - Sill

Carefully rake/cut out the joint to a depth of not less than 25mm directly beneath the sill as necessary.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the upstand. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

Provide **IKOFLASH LEAD FREE FLASHING** to the provided chase lengths not exceeding 1.5m ensuring end laps are not less than 100mm & that a minimum cover of 75mm is provided to the upstand.

The chase should then be pointed with a one or two part polysulphide sealant or IKO specified Sealant.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

Completed waterproofing upstand details should always be installed so as to achieve a height of 150mm minimum above the finished roof level. Where window or door sills are situated such that an upstand height of 150mm above the finished waterproofing surface cannot be achieved, the sill should be raised sufficiently to allow for this requirement. This may necessitate the complete replacement of the frame. Rotten or defective sills must be removed & replaced with new material.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

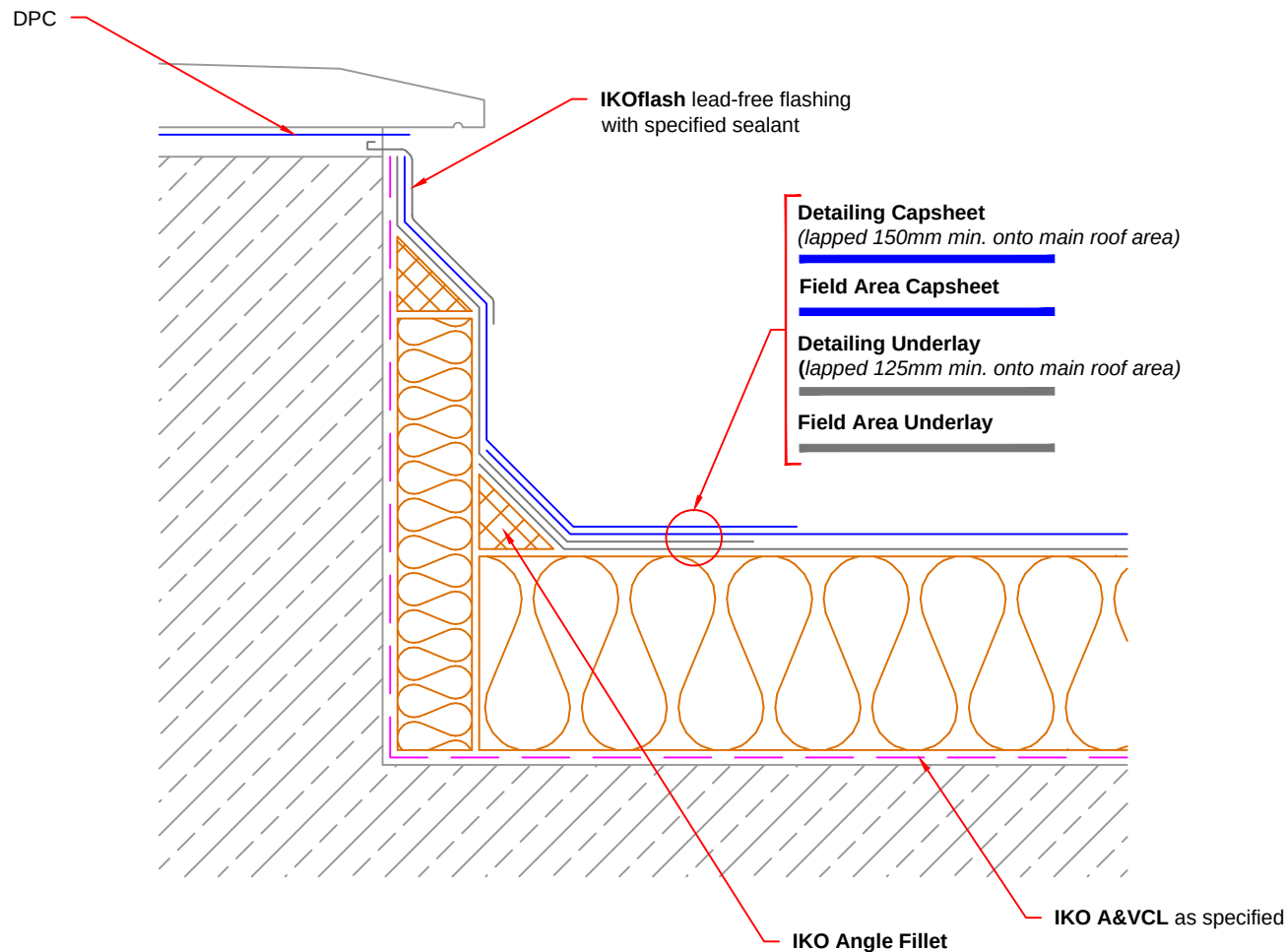
All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.

Note: Detail to illustrate lapping & waterproofing arrangements in relation to IKO specified roofing system. The client / Contractor is to confirm with relevant parties any limitations or restrictions of vertical application in relation to Building Regulations Approved Document B prior to works.

 Email: technical.uk@iko.com	STANDARD DETAIL	DRAWING TITLE: UPSTAND - Sill		DWG No: B5		This detail is representative of a typical situation and provided for illustration purposes. Where shown insulation thickness may differ in accordance with specifiers U value requirement. To be read in conjunction with the IKO project specification. Refer to specification and product literature for product descriptions and application information. Copyright Reserved - Please note that this drawing & the copyright therein is the property of IKO & is issued on the understanding that the drawing or any detail thereof will not be divulged to a third party unless written permission is first obtained from IKO technical services department. The drawing is valid only when approved by the Architect/ Contractor concerned.
		DATE: February 2024	NOTES/REVISIONS: N/A	SCALE: NTS	DRAWN BY: IKO	



Note: Detail to illustrate lapping & waterproofing arrangements in relation to IKO specified roofing system. The client / Contractor is to confirm with relevant parties any limitations or restrictions of vertical application in relation to Building Regulations Approved Document B prior to works.

UPSTAND - Sill - Insulated Upstand

Carefully rake/cut out the joint to a depth of not less than 25mm directly beneath the sill as necessary.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, including to the full height of the upstand to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the upstand. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

Provide **IKOFLASH LEAD FREE FLASHING** to the provided chase lengths not exceeding 1.5m ensuring end laps are not less than 100mm & that a minimum cover of 75mm is provided to the upstand.

The chase should then be pointed with a one or two part polysulphide sealant or IKO specified Sealant.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

Completed waterproofing upstand details should always be installed so as to achieve a height of 150mm minimum above the finished roof level. Where window or door sills are situated such that an upstand height of 150mm above the finished waterproofing surface cannot be achieved, the sill should be raised sufficiently to allow for this requirement. This may necessitate the complete replacement of the frame. Rotten or defective sills must be removed & replaced with new material.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.



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STANDARD DETAIL

DRAWING TITLE:
UPSTAND - Sill - Insulated Upstand

DATE:
February 2024

NOTES/REVISIONS:
N/A

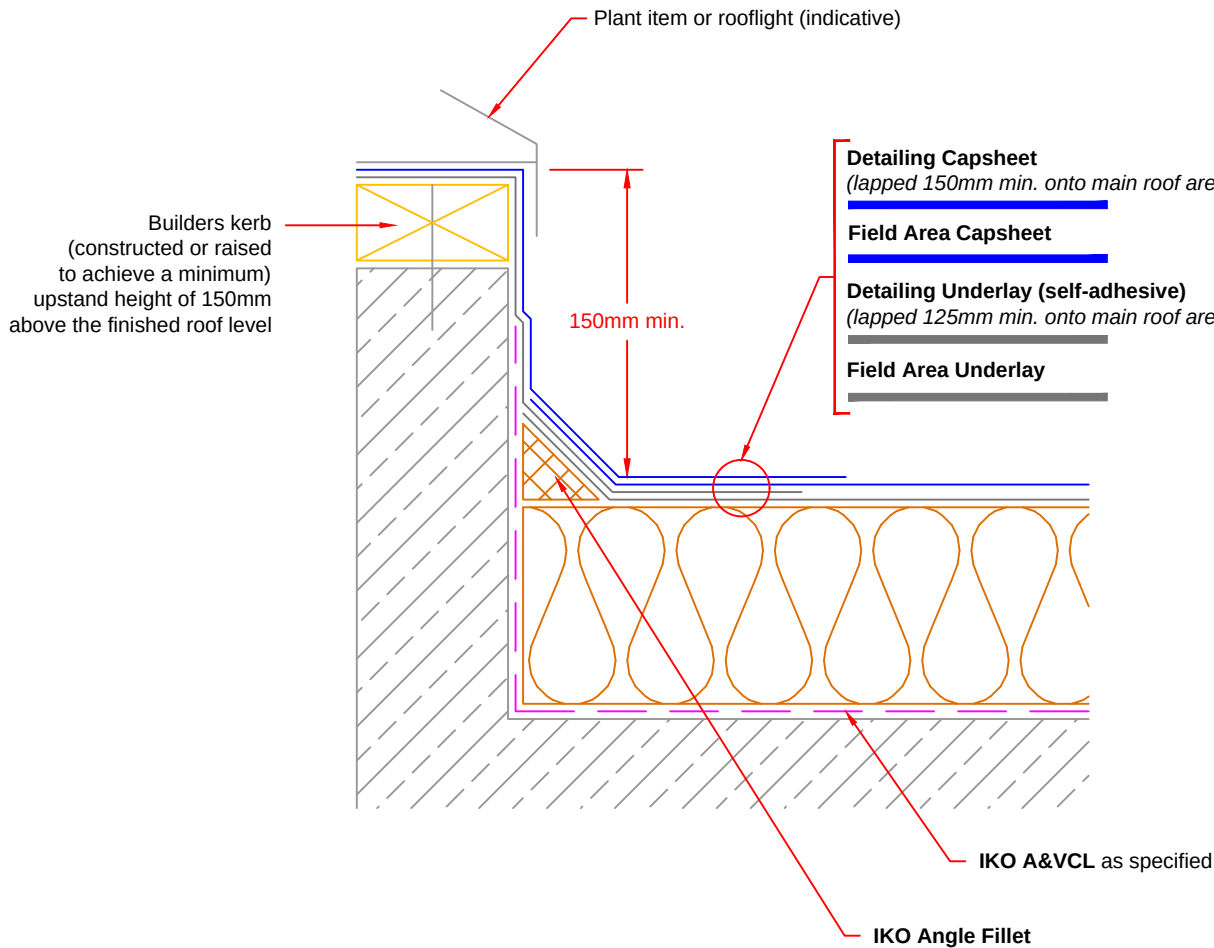
Dwg No:
B6

SCALE:
NTS

DRAWN BY:
IKO

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BUILT UP KERB

Remove the existing cover unit or plant item & set aside for re-fixing. (Where an existing item cannot be removed to enable the waterproofing detail to be formed as specified, this may not be covered within the guarantee).

Any exposed openings must be protected against objects/personnel falling through.

Raise the existing built kerb as necessary with timber sections of appropriate dimensions to achieve a minimum 150mm upstand height to the waterproofing detail above the finished roof level.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the vertical and horizontal surfaces of the kerb. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

Reinstall the plant item or rooflight onto the newly waterproofed kerb.

Allowance should be made for making good any interior decoration, where the unit has been raised to accommodate the waterproofing.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

Completed waterproofing upstand details should always be installed so as to achieve a height of 150mm minimum above the finished roof level.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.



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STANDARD DETAIL

DRAWING TITLE:
BUILT UP KERB

DATE:
February 2024

NOTES/REVISIONS:
N/A

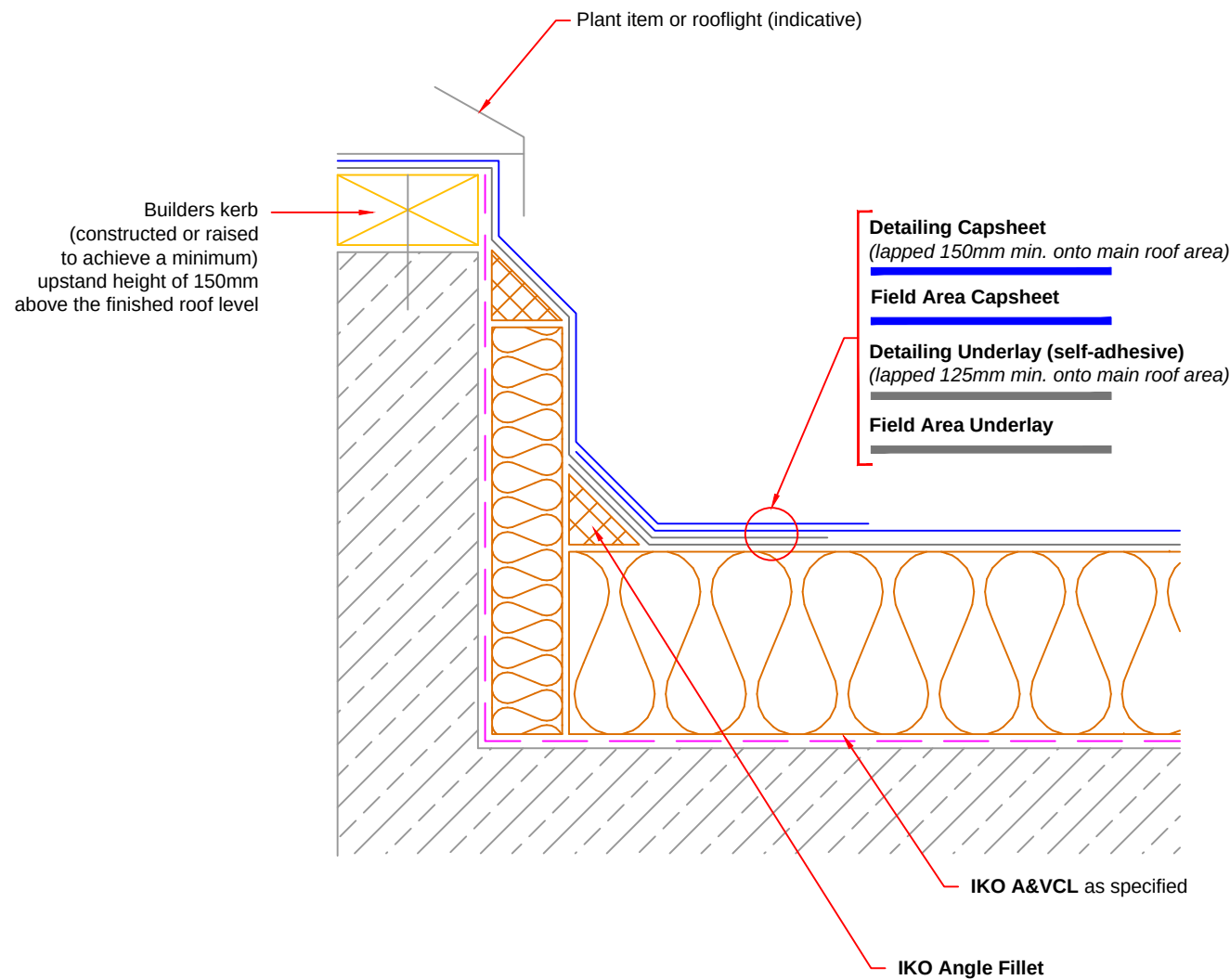
Dwg No:
B16

SCALE:
NTS

DRAWN BY:
IKO

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BUILT UP KERB - Insulated Upstand

Remove the existing cover unit or plant item & set aside for re-fixing. (Where an existing item cannot be removed to enable the waterproofing detail to be formed as specified, this may not be covered within the guarantee).

Any exposed openings must be protected against objects/personnel falling through.

Raise the existing built kerb as necessary with timber sections of appropriate dimensions to achieve a minimum 150mm upstand height to the waterproofing detail above the finished roof level.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, including to the full height of the upstand to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the upstand. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

Reinstall the plant item or rooflight onto the newly waterproofed kerb.

Allowance should be made for making good any interior decoration, where the unit has been raised to accommodate the waterproofing.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

Completed waterproofing upstand details should always be installed so as to achieve a height of 150mm minimum above the finished roof level.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.



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STANDARD DETAIL

DRAWING TITLE:
BUILT UP KERB - Insulated Upstand

DATE:
February 2024

NOTES/REVISIONS:
N/A

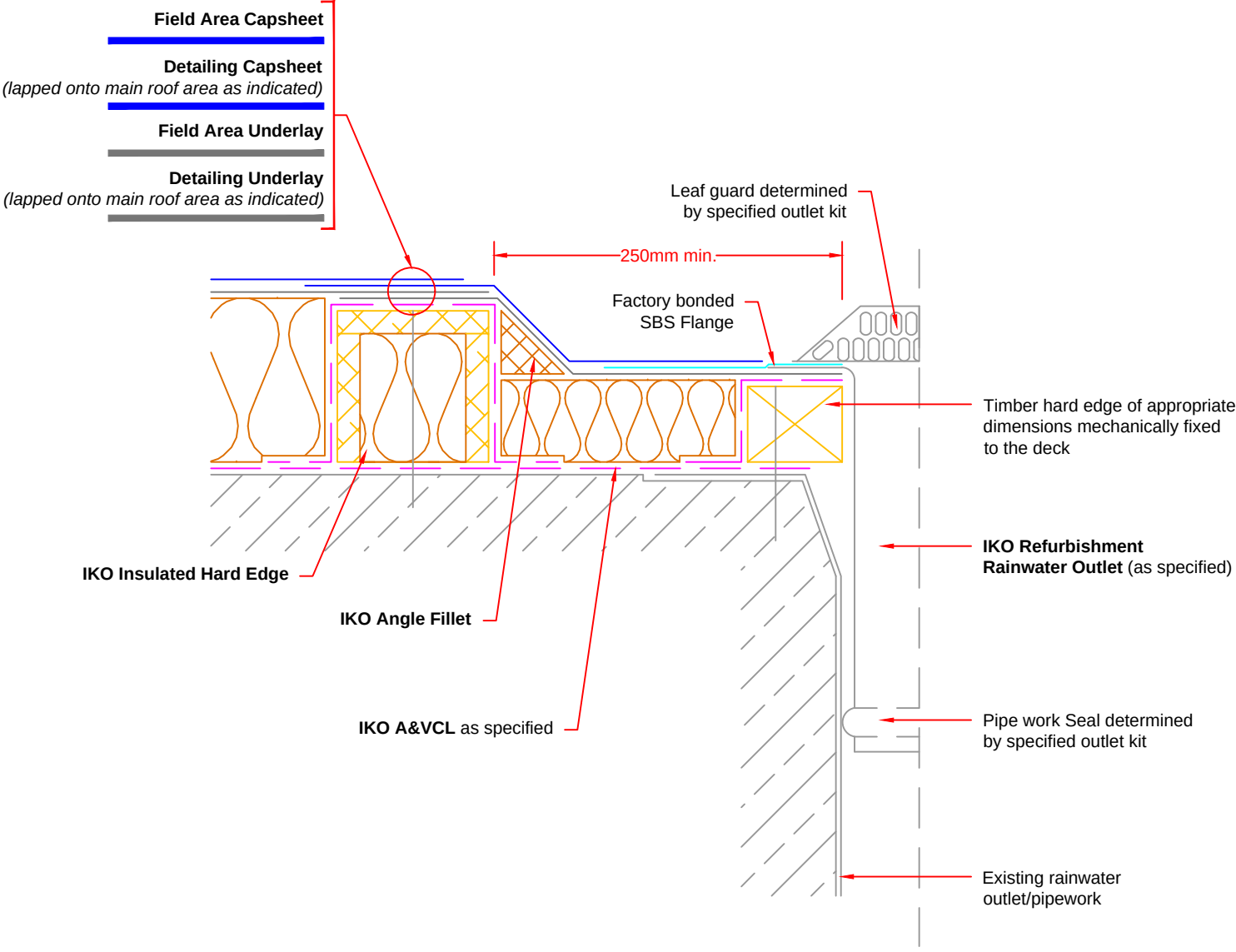
DWG No:
B17

SCALE:
NTS

DRAWN BY:
IKO

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INTERNAL RWO - IKO Refurbishment Outlet - Felt Flange

Rainwater outlets should be of the correct design & of sufficient size so that the opening is not restricted by the application of the waterproofing system. Roof drainage layout must comply with BS EN 12056-3:2000. Install additional rainwater outlets as required to ensure any standing water is within IKO Technical Services recommendations.

Protect all outlets from any ingress of debris as a result of the roofing works, ensuring any such protection is removed upon the detailing being completed or during non-operational periods.

Remove any existing clamping rings, domes and gratings from existing rainwater outlets & dispose of site.

To improve drainage, create a sump detail minimum 500mm x 500mm around the outlet position by installing a minimum 60mm thickness of insulation in this location. Install **IKO INSULATED HARD EDGE** or a treated timber stop batten (minimum 100mm wide), of a thickness 10mm less than the main roof insulation around the sump perimeter to protect the edge of the insulation; to be mechanically fixed or adhered in **IKO PU ADHESIVE** to the roof substrate.

Apply sufficient coats of the specified **IKO PRIMER** to the detail including the flanges of the existing outlet as indicated.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed surface & dress as indicated.

Install timber hard edge of appropriate dimensions (thickness 10mm less than the insulation) in the sump around the outlet to protect the edge of the insulation mechanically fixed to the deck. Prime with specified primer and encapsulate with specified AVCL as indicated.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** as indicated.

Apply the specified waterproofing detailing underlay fully bonded to the detail and dressed into the existing outlet and fully sealed to specified VCL as indicated. Install Field Area Underlay lapped as sealed to the detailing Underlay.

Install new **IKO REFURBISHMENT RAINWATER OUTLET**, ensuring a positive seal to the existing pipe-work and felt flange is fully sealed to the detailing underlay..

Apply the Detailing Capsheet fully bonded to the detail and sealed onto the flange of the new outlet as indicated. Install specified Field Area Capsheet lapped and sealed as indicated.

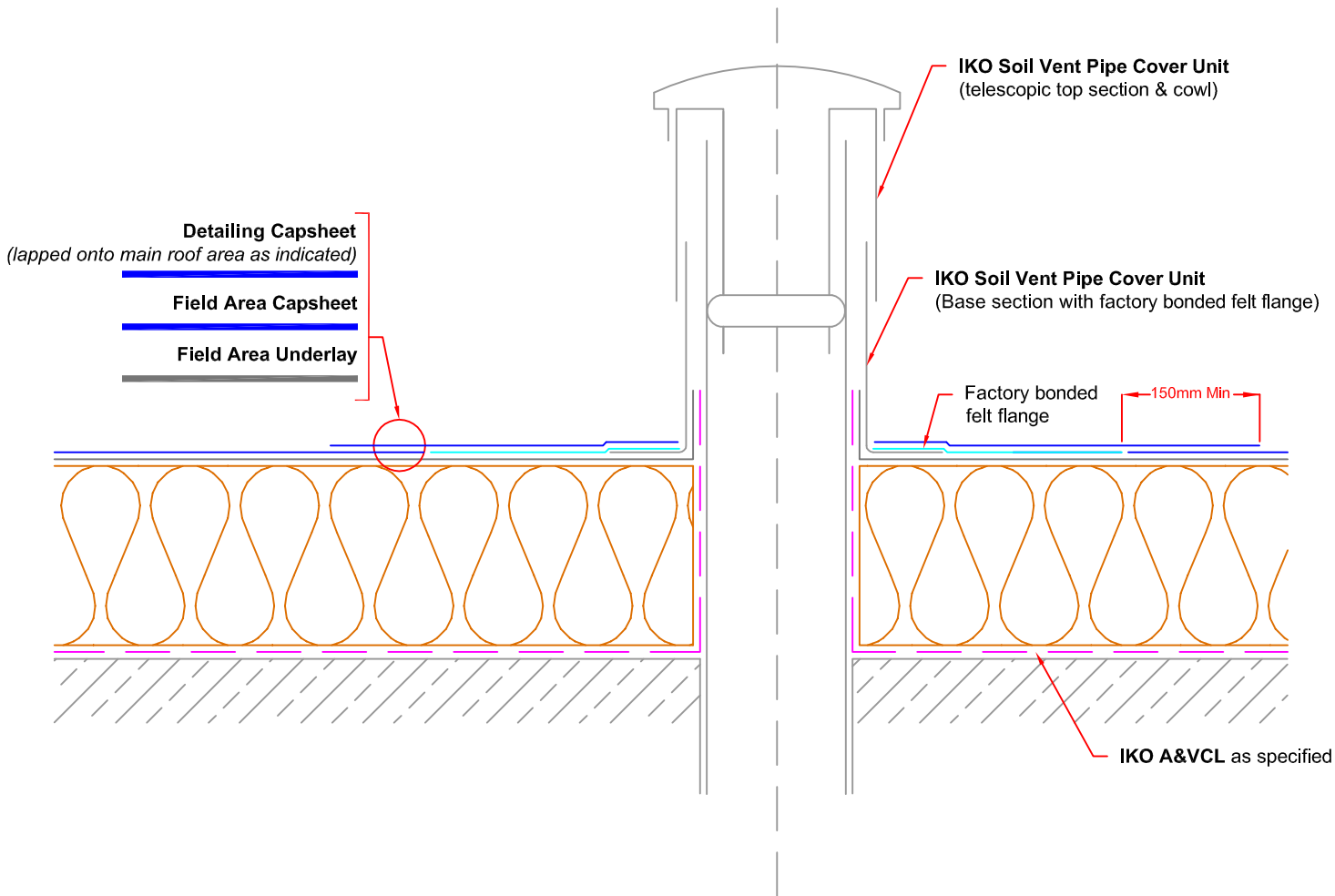
On completion fix the associated gratings/leaf guards for specified outlet kit. All rainwater outlets & drainage should be checked upon completion of the works to ensure that they are free flowing.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations. All waterproofing detailing must be undertaken as two layers and as separate items. All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.



PIPE PENETRATIONS - Cold Pipe - IKO Soil Vent Pipe Cover

Extend pipework as necessary to achieve a minimum upstand height of 150mm above finished roof level.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed upstand & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Apply the specified Field Area Underlay fully bonded and dressed to link with the Air & Vapour Control Layer as indicated.

Install **IKO SOIL VENT PIPE COVER UNIT** over existing pipe work, Factory bonded flange to be lapped and sealed to the field area underlay as indicated. Install telescopic upper section and cowl insuring a secure fit between the pipework and O-ring.

Install specified Field Area Capsheet butt jointed to the felt flange as indicated.

Install specified Detailing Capsheet over the felt flange and lapped on to the Main Roof Area by a minimum 150mm as indicated.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.



Email: technical.uk@iko.com

STANDARD DETAIL

DRAWING TITLE:

PIPE PENETRATIONS - Cold Pipe - IKO Soil Vent Pipe Cover

DATE:

February 2024

NOTES/REVISIONS:

N/A

DWG No:

F3

SCALE:

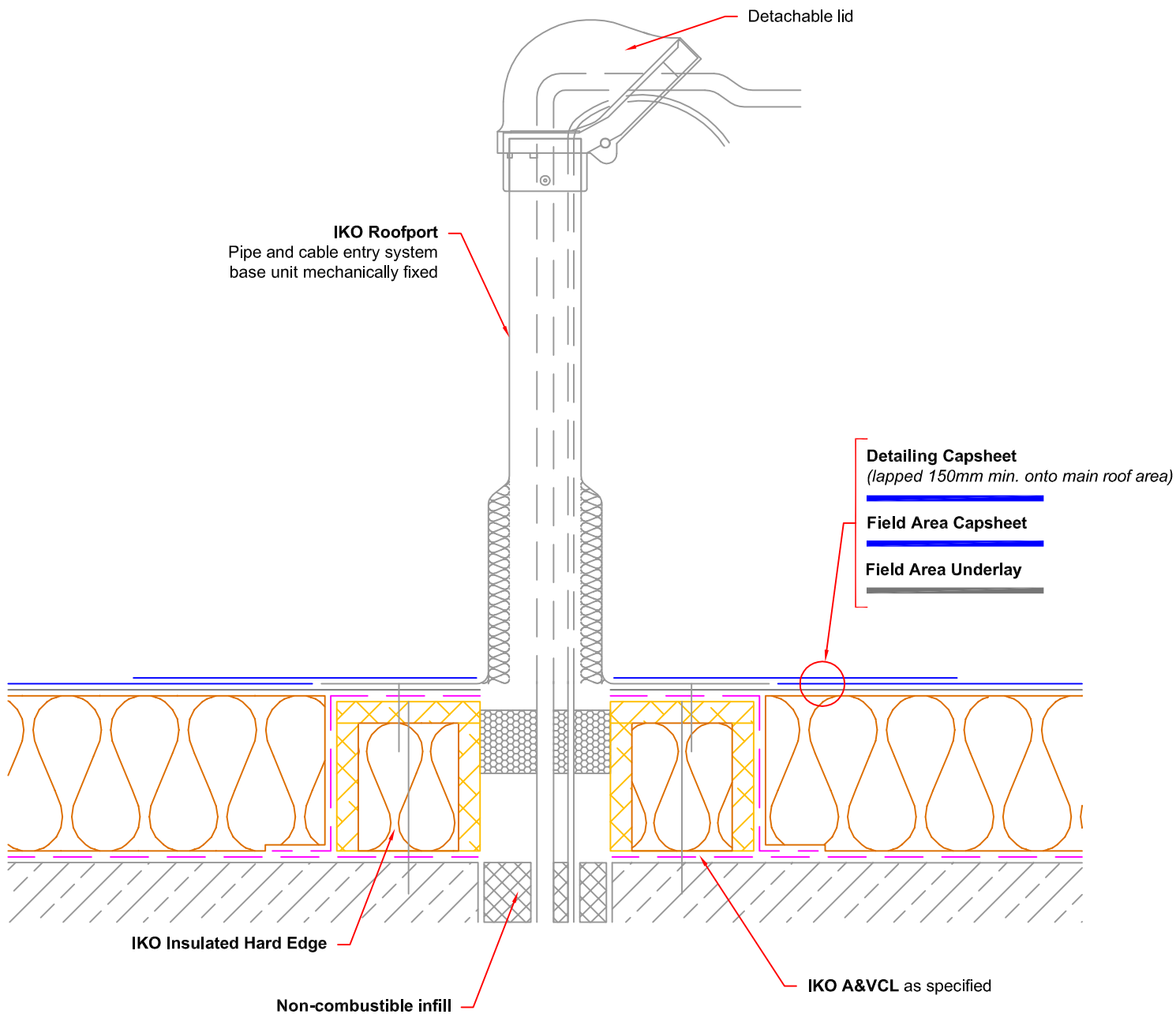
NTS

DRAWN BY:

IKO

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IKO ROOFPORT PIPE PENETRATIONS - Pipe & Cable Entry

Apply **IKO INSULATED HARD EDGE** or treated timber stop batten mechanically fastened, or adhered in **IKO PU ADHESIVE** to the roof deck to provide a hard edge as indicated.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed substrate & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Apply the specified Field Area Underlay fully bonded and dressed to link with the Air & Vapour Control Layer as indicated.

Apply **IKO ROOFPORT** pipe & cable penetration base unit mechanically fixed to the timber stops as per manufacturers recommendations. Prime the flange of the unit with the specified primer.

Apply the specified Field Area Capsheet as indicated, followed by the Detailing Capsheet fully bonded to the detail, sealed onto the flange, lapped and fully sealed to the main roof area as indicated.

Ensure the detachable lid is fitted to the top of the unit as per the manufacturers recommendations.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.



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STANDARD DETAIL

DRAWING TITLE:

IKO ROOFPORT PIPE PENETRATIONS - Pipe & Cable Entry

DATE:

February 2024

NOTES/REVISIONS:

REV A - October 2024

DWG No:

F5

SCALE:

NTS

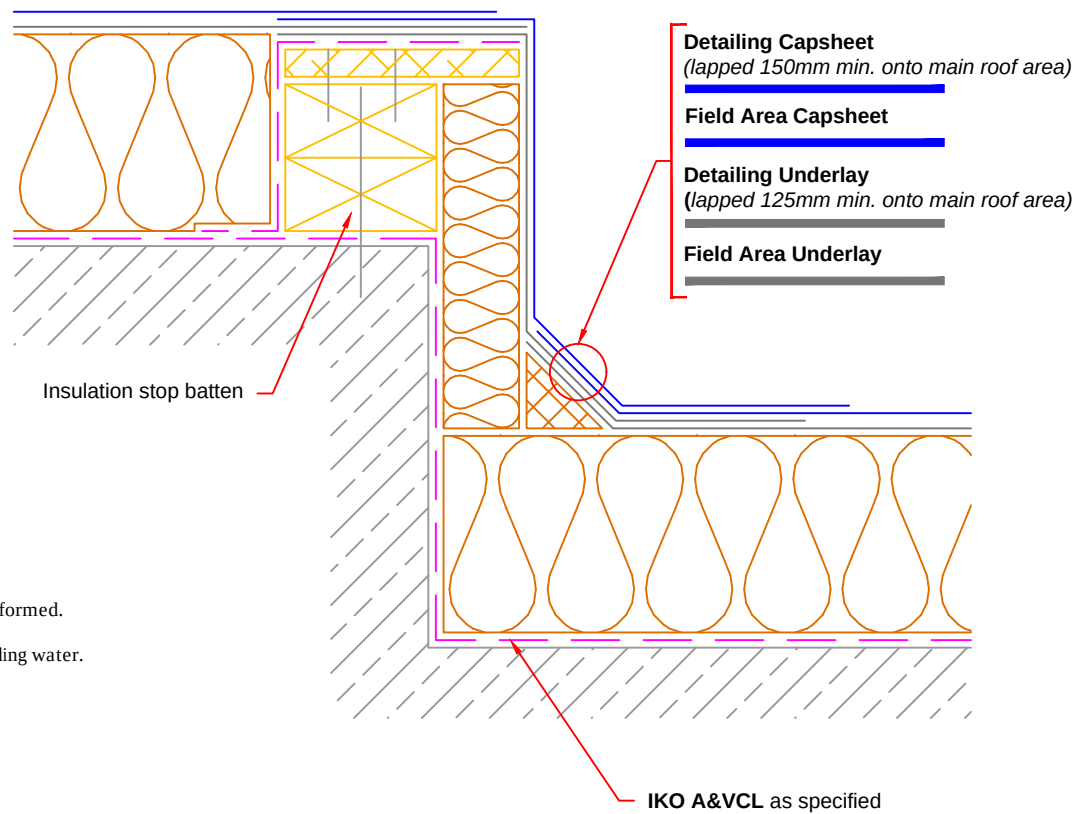
DRAWN BY:

IKO

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Option One

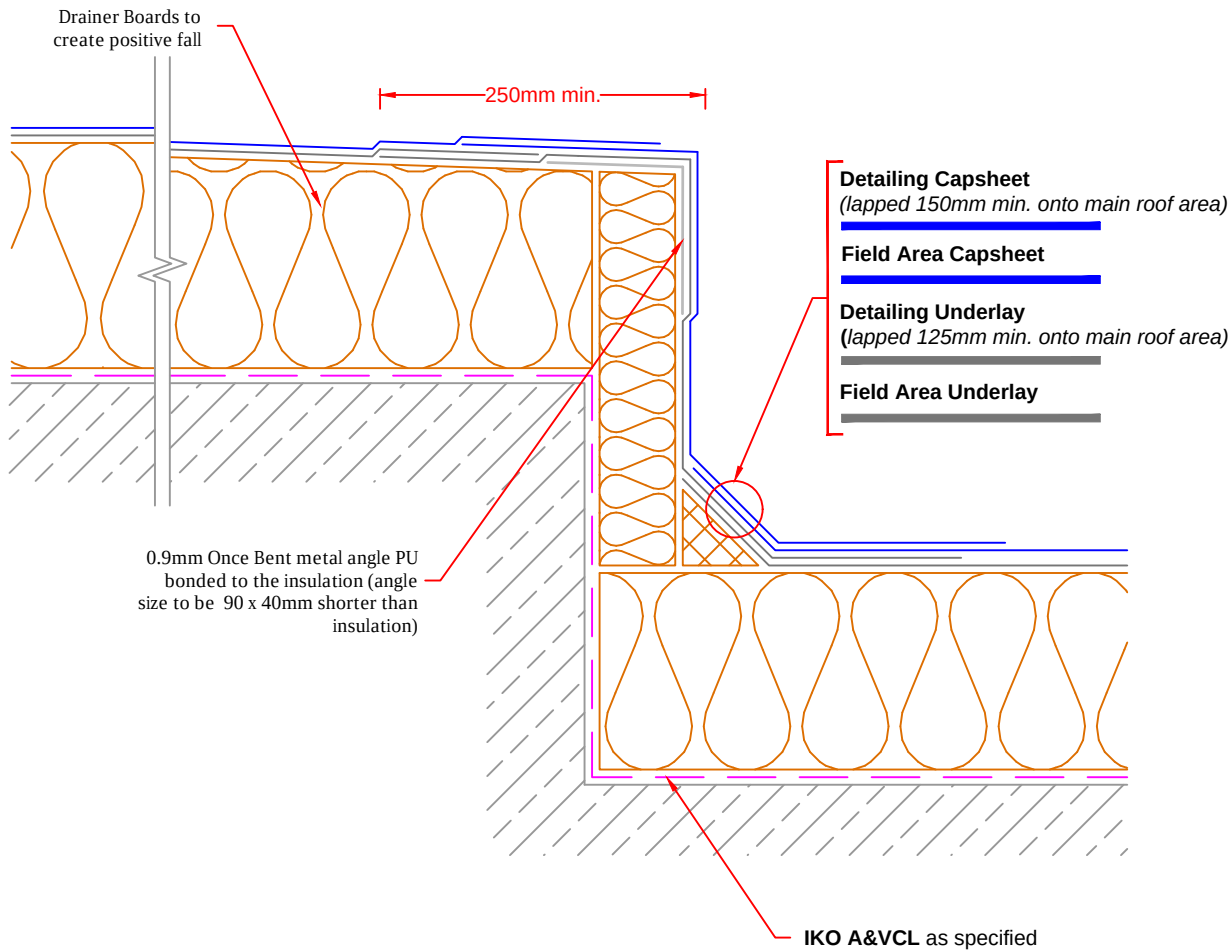


Option Two

For where site restrictions does not allow the use of insulated hard edges.

Formation of the change in Level does not allow for isolations of the lower area from the upper area, unless day joints are formed.

Drainer boards / Tapered insulation to be used to provide positive falls to the leading edge to prevent the lap build up holding water.



CHANGE IN LEVEL

Apply an insulation stop batten to the top edge of the upper level (100mm wide & 30mm thinner than insulation thickness, so as to prevent lap build up) being mechanically fixed to the roof deck, to provide a hard edge to all steps.

Fix 18mm plywood capping piece to oversail stop batten & cover top edge of vertical insulation.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed area as indicated, providing an additional piece of vcl to dress onto the insulation stop & link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, including vertically, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the detail as indicated. Detailing Underlay and Capsheet must be returned to the inner edge of the insulation stop batten and lapped and fully sealed onto the main area as indicated.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

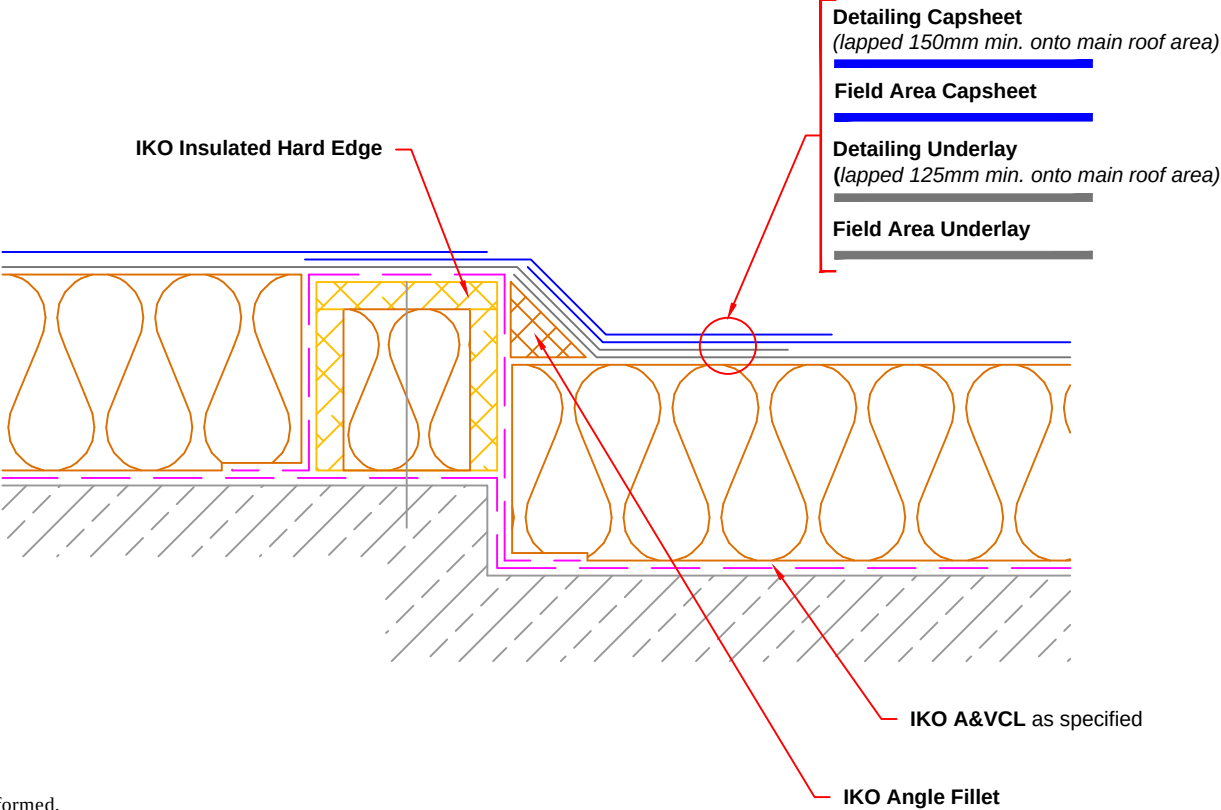
All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

Additional mechanical fixing through the membrane at the top edge to resist slippage will be required on vertical details >250mm.

Option One

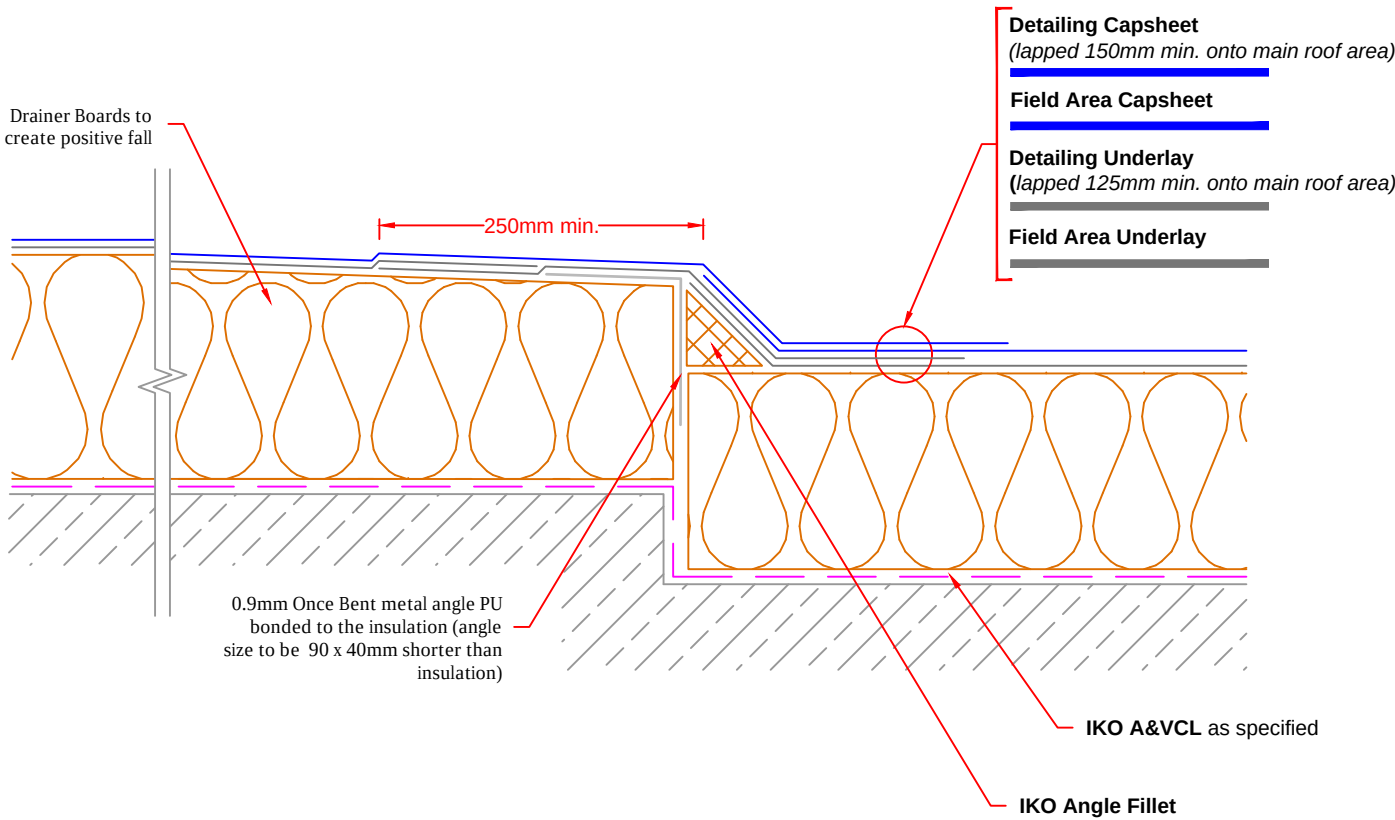


Option Two

For where site restrictions does not allow the use of insulated hard edges.

Formation of the step detail does not allow for isolations of the lower area from the upper area, unless day joints are formed.

Drainer boards / Tapered insulation to be used to provide positive falls to the leading edge to prevent the lap build up holding water.



STEP DETAIL

Apply **IKO INSULATED HARD EDGE** or treated insulation stop batten to the top edge of the upper level (100mm wide & 10mm thinner than insulation thickness, so as to prevent lap build up) being mechanically fixed to the roof deck, to provide a hard edge to all steps.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed substrate as indicated.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded to the detail as indicated. Detailing Underlay and Capsheet must be lapped and fully sealed onto the main area as indicated.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.



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STANDARD DETAIL

DRAWING TITLE:
STEP - CHANGE IN LEVEL

DATE:
February 2024

NOTES/REVISIONS:
N/A

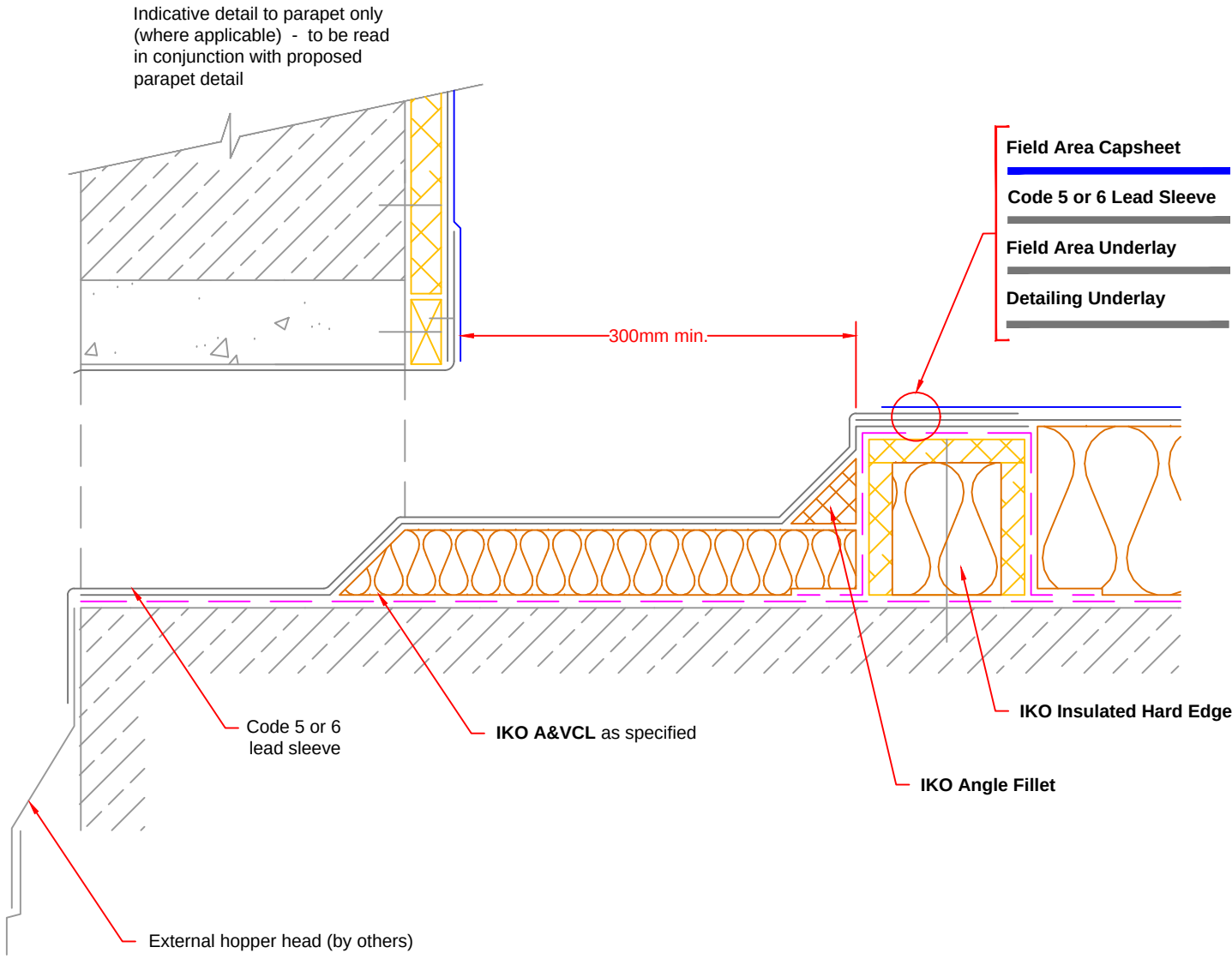
Dwg No:
G2

SCALE:
NTS

DRAWN BY:
IKO

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DRAINAGE CHUTE

Inspect & carry out any maintenance work as necessary & thoroughly clean all surfaces. Enlarge openings as necessary to ensure the opening is not restricted by the application of the new waterproofing system and insulation. It maybe necessary to box out the base and/or cheeks of the drainage chute opening with suitable 18mm OSB/3 or plywood. Any cavity or cavity tray must be closed off or redirected as required.

Apply **IKO INSULATED HARD EDGE** or treated timber stop batten (100mm wide & 10mm thinner than the insulation, so as to prevent lap build up) to create a minimum 300mm sump around the drainage chute mechanically fastened, or adhered in **IKO PU ADHESIVE** to the roof deck.

Apply sufficient coats of the specified **IKO PRIMER** to the detail.

Apply the specified **IKO AIR & VAPOUR CONTROL LAYER** to the primed substrate & dressed to link with the Underlay by 50mm minimum.

Apply the specified **IKO ENERTHERM INSULATION** to the Air & Vapour Control Layer, to be bonded as per IKO Specification Proposal.

Provide 50mm x 50mm specified **IKO ANGLE FILLETS** to the junction of all horizontal & vertical abutments

Apply the specified waterproofing detailing fully bonded and dressed to link with the Air & Vapour Control Layer as indicated.

Apply a Code 5 or 6 lead sleeve through the parapet/kerb. Lead sleeves are to be installed & detailed in accordance with the Lead Sheet Association recommendations. Prime the flange of the new lead sleeve with the specified primer.

Apply the specified Field Area Capsheet fully bonded and sealed onto the flange of the new lead sleeve as indicated.

NOTES:

Detail to be completed with due regard to compliance with the NFRC Safe2Torch guidance for the safe installation of torch-on reinforced bitumen membranes and the client/contractor risk assessment for the works using appropriate materials and application techniques as specified. Self-adhesive membranes must be used direct to potentially combustible substrates.

All details to be installed in accordance with BS8217, BS6229, and IKO recommendations.

All waterproofing detailing must be undertaken as two layers and as separate items.

All surfaces must be clean, dry, and suitably prepared to accept the waterproofing system.

During the application of all bitumen membranes a visible bead of bitumen must be exuded from all side and end laps.

 Email: technical.uk@iko.com	STANDARD DETAIL	DRAWING TITLE: DRAINAGE CHUTE		DWg No: K1		This detail is representative of a typical situation and provided for illustration purposes. Where shown insulation thickness may differ in accordance with specifiers U value requirement. To be read in conjunction with the IKO project specification. Refer to specification and product literature for product descriptions and application information. Copyright Reserved - Please note that this drawing & the copyright therein is the property of IKO & is issued on the understanding that the drawing or any detail thereof will not be divulged to a third party unless written permission is first obtained from IKO technical services department. The drawing is valid only when approved by the Architect/ Contractor concerned.
		DATE: February 2024	NOTES/REVISIONS: N/A	SCALE: NTS	DRAWN BY: IKO	



IKO CONDITION SURVEY REPORT Brunswick Mill / 4 Jun 2025



Description of the roof/area:

IKO were asked to provide a condition survey of the roof and areas listed within this IKO Survey report and to provide a summary of these observations that would enable IKO to formulate a waterproofing specification to the end user.

This IKO condition survey must be read in conjunction with an IKO specification document that would be created for the specific requirements defined within this condition survey.

A summary of the areas that will form part of the IKO Specification document are identified below and should be validated by any persons using this report and any associated IKO Specification document that it fully meets the requirement of the main contract documents of the client or building owner representative.

Project Name	Brunswick Mill
Project Address	Bradford Road Manchester M40 7EZ
Conducted on	04.06.2025 07:34 BST
Prepared by	Mark Taylor
Contact Details	Mark Taylor - mob: 07836 311740
Weather Conditions	Dry
Client Brief	Contractor looking to appraise existing roof coverings in order to determine a remedial specification for the areas identified

INSPECTION OVERVIEW

Any appointed roofing contractor must undertake their own survey to validate these findings and any discrepancies must be raised prior to undertaking works. IKO will not be held liable for any discrepancies once the works have started.

Site Roof Plan – Brunswick Mill



RED	D1, D2	Bad, life expired or serious risk of failure - immediate remedial action required within 6 - 12 months.
AMBER	C1, C2 & C3	Poor, exhibiting major defect or not operating as intended - remedial action required, Immediate or 1 - 3 years at the most
GREEN	B2, B3 & A4	Satisfactory, performing as intended but exhibiting minor deterioration, remedial action required in 3 - 5 years or more

Roof Area Overviews & Information – Brunswick Mill

General overview images of the areas assessed during attendance, the existing waterproofing systems are a combination of the original asphalt waterproofing that is in excess of 35 years or more and a bitumen membrane, applied as remedial repairs to the asphalt substrate, the areas are at the end of their serviceable lifespan and any relevant guarantee period so should be considered for upgrade as part of the wider site refurbishment and redevelopment.



Photo 3



Photo 4



Photo 5



Photo 6

Condition & Defect Report – Brunswick Mill.

As highlighted the existing asphalt waterproofing and associated details is age deteriorated and failed so should be considered for upgrade.

During attendance, defects noted through the areas were the following items.

- Delamination of asphalt waterproofing to perimeter upstands due to age and reduction of bond strength from the substrate, as such the leading edge is wide open allowing wind driven rainwater and draining surface rainwater to enter at the rear of the waterproofing.
- Creasing within the bitumen membrane applied as repairs, associated with poor quality preparation, lack of heat applied and or water penetration through side and head lap joints of the repairs that are able to penetrate cracks within the asphalt layer.
- Split, cracked and open sections of the original asphalt waterproofing, solar coatings have deteriorated through erosion under standing water or due to inability to re-apply, as such the asphalt layer has been subject to uneven expansion and contraction through weather cycles causing splits that can allow water penetration.
- Weak, partially open and open lap joints within bitumen felt repairs applied to the surface of the asphalt waterproofing due to age of the original system, the felt repairs have been installed to prevent water ingress through the asphalt, which do not appear to be a sufficient repair to prevent ingress.
- Creasing and blistering within the asphalt layer, can be associated with uneven expansion and contraction of the substrate, allowing delamination from the screed layer, over time these items are able to expand in warmer climates, rupturing the asphalt waterproofing allowing ingress.



Photo 7



Photo 8



Photo 9



Photo 10



Photo 11



Photo 12



Photo 13



Photo 14



Photo 15



Photo 16

Area Reference (roof area name)	Brunswick Mill
Building use	Residential
Construction type	Roof
Roof Height (m) - Approx	9
Size (m2)	2200
Core samples taken	Yes

During this inspection survey IKO have undertaken a series of core samples on each roof area as detailed within this report to ascertain the existing roof build up. In consideration of the need to maintain waterproofing integrity sampling was kept to a minimum and IKO cannot accept liability for any areas not tested. The roofing contractor must undertake their own core samples and survey to validate these observations and IKO should be notified of any variation prior to undertaking the works

CORE SAMPLE

CORE SAMPLE 1

Build up description

CS1 | Brunswick

Concrete Deck/Screed Layer/20mm Asphalt/Solar Paint/Bitumen Felt Repairs

Client note, that wet reading was found between the applied bitumen felt repairs and the asphalt substrate therefore the existing area must be stripped back to the asphalt substrate to allow new system installation.



Photo 17



Photo 18

Condition of core sample

Wet

CORE SAMPLE 2

Build up description

CS2 | Brunswick

Concrete Deck/Screed Layer/20mm Asphalt/Solar Paint

Dry reading was attained during attendance, taken directly to and beneath the asphalt substrate just above the screed layer.



Photo 19



Photo 20

Condition of core sample

Dry

Roof void
Existing Deck

Uninsulated
Concrete

Existing Insulation Type

None – See Notes, Part L

The existing roof construction does not contain any thermal performance element, so is in excess of 2.0w.Mk which would be consistent with the thermal performance and design requirements at the time the building was erected, or roof was last recovered.

At the time the roof is recovered, it is recommended that a tapered thermal upgrade be applied as part of the roofing works, in order to meet BS6229 requirements associated with drainage falls and to achieve minimum 0.18w.Mk in order to comply with current Part L regulations.

Client note, that the higher 0.18w.Mk requirement in this specific instance, is related to multiple occupancy dwellings despite being a residential development, the lower thermal value of 0.15w.Mk is associated with single occupancy dwellings in relation to Part L changes in a previous year.

Roof pitch

< 1 in 80

Falls generally through the area are poor, despite evidence of these being partially created within the screed layer beneath the asphalt, it is likely that deflections and hollows have formed, either through water ingress to the cementitious layer or alternatively as a result of the imposed dead loads from standing water, compressing the screed layer allowing wider build up of standing water.

At the time the roof is recovered, a tapered insulation layer is proposed in order to reinstate and improve falls through the area to minimise standing water in line with BS6229 requirements. However if falls cannot be improved, then standing water will be present on completion of the works but would not be deemed detrimental to system performance over the term of the guarantee offered.



Photo 21



Photo 22

Drainage – See Notes & Modifications to Positions.

Internal RWO	External drainage
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Both internal and external drainage locations are present to the roof sections at the mill site, these generally are restrictive due to build up of debris around the chute locations, with a water check evident due to build up of detail materials at the mouth of the internal outlet which is impeding rainwater run off.

At the time the roof is recovered, falls are proposed to be improved utilising tapered insulation layer however would suggest that all outlets be sumped, to allow more efficient drainage, with this change the existing chute positions may need to be modified in terms of their heights and or openings to account for the increased flow through the areas.



Photo 23



Photo 24



Photo 25



Photo 26

ASSOCIATED WATERPROOFING DETAILS

Parapets – Heritage Considerations.

To be encapsulated

The existing parapets generally are in a very poor appearance, with evidence of spalled mortar joints to the butts and beneath the copings as the beddings that can allow water ingress to penetrate the building.

Due to heritage considerations, the proposal for the areas is that the existing copings be removed with the upstands boarded out to allow the installation of the new system, the membranes must encapsulate the cavity and at which point when the waterproofing is installed, the copings may be re-bedded on frost resistant mortar.



Photo 27



Photo 28



Photo 29



Photo 30

Additional Parapet Considerations – Stepped Brick Courses.

Client note, due the stepped course brickwork within the parapet upstands the areas may require sections of the parapet to be battened out with 25x50mm timber to allow an even substrate for the waterproofing to be applied.

Further guidance, is that any parapet subject to encapsulation above 250mm will require mechanical restraint of the side and head lap joints, sections of the parapets which have collapsed, or removed for survey purposes must be reinstated prior to waterproofing application.



Photo 31



Photo 32

Upstands

Solid Brick

Solid brick abutment upstands are present to the rear and cheeks of the plant room and stair cores, these show delaminated asphalt waterproofing that will allow wind driven and draining rainwater to bypass the leading edge of the waterproofing to areas beneath the roof.

Due to change in height at roof level associated with tapered thermal upgrade, the upstands must be raised to show a finished height of 150mm or more from the new roof level, at which point a new 25mm depth chase must be cut and a lead free cover flashing installed to act as a counter flashing to the new waterproofing system.



Photo 33



Photo 34

Upstands (requirements)

To be raised

Door and access Thresholds

To be raised

Access thresholds to the existing stair core and tank housing must be considered, due to tapered thermal upgrade proposed. Currently sill heights are level, or less than 150mm therefore at the time the roof is recovered either new sills will be required, or the existing to be raised to show a finished upstand height of 150mm or more from the new roof level.



Photo 35



Photo 36

Apertures / Demolished Tank Rooms.

See Notes

Two sections of concrete decking is present, suspected to be the remnants of tank houses or plant rooms which have been demolished that must be considered during planning and delivery of the roofing works.

Two options which are possible, are that the upstands lined with asphalt are cut away with the slab demolished back to asphalt or concrete deck level, with the area infilled and overlaid with the waterproofing system, to embed the item beneath the system.

The second, would be to create a ladder frame and kerb structure, around the area and line the top with timber as a substrate to carry the waterproofing up and over, to create a continuous detail around the item present through the existing waterproofing.



Photo 37



Photo 38

Pipes, Cable Entry, Ventilation Consideration

See Notes

A single services pipe is present as a penetration through the waterproofing system, this appears to be redundant as the remainder of the pipework to carry the services has been dismantled and removed, the item may be cut and removed back to roof level so that the new system is able to encapsulate.

However if this item or opening is required, for cables or ventilation within the new system then the penetration must receive either a telescopic vent extension, or snorkel which contains bitumen flange that can be linked back into the waterproofing system to form a robust continuous detail at the penetration.

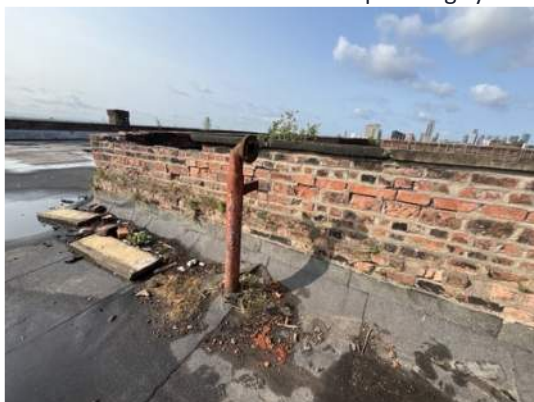


Photo 39



Photo 40

SUMMARY OF OBSERVATIONS AND PROPOSALS

SUMMARY OF OBSERVATIONS

The existing waterproofing systems are a combination of the original asphalt waterproofing that is in excess of 35 years or more and a bitumen membrane, applied as remedial repairs to the asphalt substrate, the areas are at the end of their serviceable lifespan and any relevant guarantee period so should be considered for upgrade as part of the wider site refurbishment and redevelopment.

SUMMARY OF OUTLINE PROPOSALS

From physical, visual, core and moisture sample analysis it is possible to put forwards the below proposal for the areas.

Brunswick Mill - Strip to Asphalt - Warm Roof.

- Strip existing bitumen felt repairs from field areas to expose asphalt waterproofing substrate.
- Strip existing detailing items from upstands, perimeters, abutments and dispose of from site.
- Repair any surface cracks, level off blisters and creases within the asphalt by gently heating.
- Prepare and prime the asphalt waterproofing to receive the new waterproofing system.
- Install high performance IKO Ultra Gold 20 waterproofing system through the areas.
- Incorporate tapered thermal performance upgrade, in order to meet current BS6229 requirements with the layer achieving minimum 0.18w.Mk in order to comply with Part L of the building regulations, related to refurbishment and multiple occupancy dwellings.

Client note, tapered scheme offered is based on third party information and is a provisional design, subject to IKO site measure on successful acceptance of proposal.