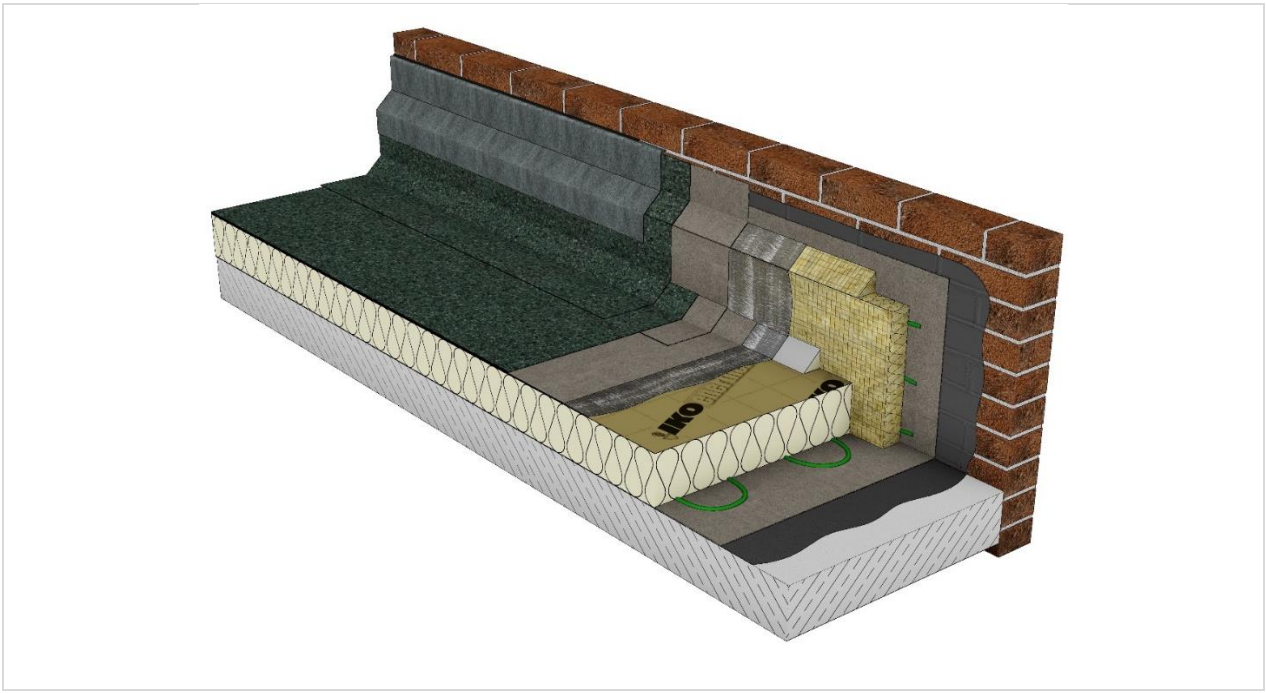
IKO Waterproofing Specification Proposal
Ultra Gold Refurbishment Specification



Project Name: Manchester MRI

Address: Grafton Street, Manchester, M13 9WU

IKO Salesforce Reference Number:

SPEC-BUR-0076277.2026

Date of issue: 28/01/2026

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.

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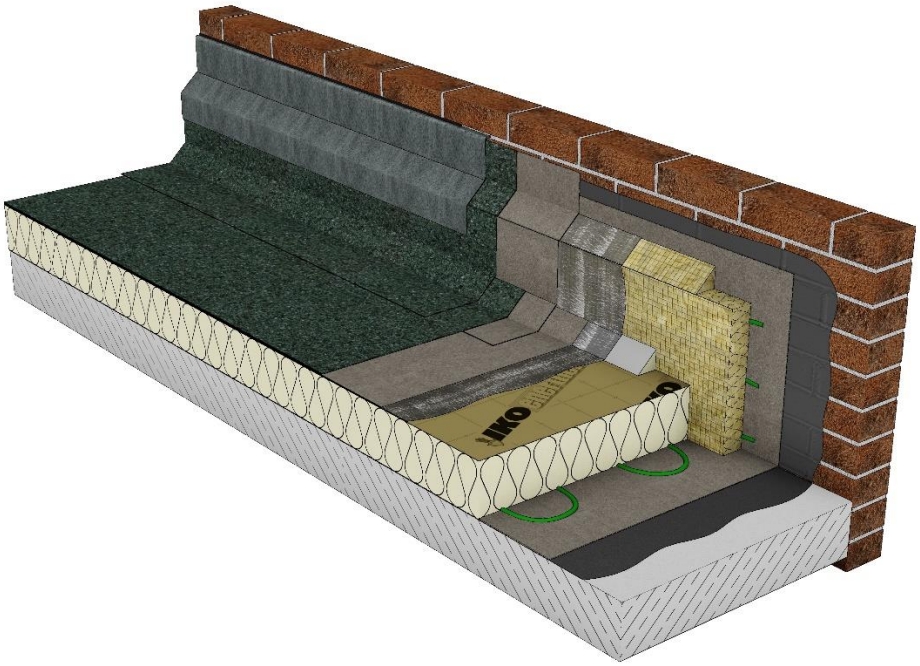
IKO SYSTEM CRITERIA

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
- **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:
- **Manufactured:** all components manufactured within the UK
- **Installation:** hybrid built up roofing system
- **IKO Systems build up:**



- **System components:** must be sourced through IKO including
  - IKO enertherm Insulation
  - IKO Adhesives & primers
  - IKO Internal rainwater outlets
  - IKO Rooflights
  - IKO Trims
- 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** 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 customersupport@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 customersupport@iko.com. Failure to notify IKO may invalidate any guarantee offer.
- **The Appointed Installing Contractor MUST notify IKO by emailing customersupport@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	**MRI**	Approx. m²	220
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 - Unknown - To be checked by the installing contractor as being adequate with areas of standing water to be rectified prior to laying the new waterproofing		
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. Note: All waterproofing upstands, window and glazing sills, and 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 Bonding Agent –** for use with self-adhesive membranes only **IKOpro Quick Drying Bitumen Primer –** for use with torch applied membranes only **IKOpro Sprayfast MPP –** for use with both self-adhesive and torch applied membranes
Air and Vapour Control layer	**IKO Ultra S-A Air & Vapour Control Layer** – to timber and other combustible substrates **IKO Ultra T-O Air & Vapour Control Layer** – to non-combustible substrates only
Insulation	**IKO enertherm GOLD**
Thickness	RA1 – 100mm Enertherm Gold, Enhanced Falls (120mm to 60mm Drainer Boards)
Bonding	**IKOpro Sprayfast IBA** *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.*
Insulation facing preparation	**IKOpro Bonding Agent or IKOpro Sprayfast MPP**
Insulated upstands	**Not applicable**

Internal gutter	Allowance must be made for a minimum finished fall in accordance with BS6229 to be provided to any internal gutters either in tapered insulation or within the deck construction – refer to Preliminary Notes
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 4 – Detailing works

WATERPROOFING DETAILING	**TORCH FREE LOCATIONS**	**SAFE2TORCH ZONES**
Application	**FLAME FREE DETAILING**	**HYBRID DETAILING**
Applicable	✓	✓
Primers	**IKOpro Bonding Agent** or **IKOpro Sprayfast MPP**	**IKOpro Bonding Agent** or **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.		
IKO Liquid applied detailing	IKO liquid applied waterproofing detailing is only acceptable for specified locations. Detailing using the IKO specified liquid applied waterproofing system available on request for suitable details.	

Table 5 – Ancillary Components

ANCILLARY COMPONENTS	Where applicable:
Cover flashings	IKOFlash with specified sealant
Edge trims	IKO GRP F trim
Internal Rainwater Outlets	Combination of both internal and external drainage
Rooflights	Not applicable
Cable entry systems	Not applicable
Pipes	Not applicable
Roof mounted plant and equipment	To be supported on proprietary plant support system
Man safe system	Supplied by others
Edge protection	Supplied by others
Insulated Hard edges	IKO Insulated Hard Edge units

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 to arise on site 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. Clarification must be sought directly from 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.
- 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 specification proposals are based on that to meet the current Approved Documents of the Building Regulations. Where a thermal insulation thickness or design has been specified 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 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. 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 including 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 and/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 is recommended that 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.
  Note: ELD tests are not only a recommendation, but a requirement of any project whereby additional finishes will be being installed to the roof.
- 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 designed in accordance with BS6229 (Code of practice for Flat roofs with continuously supported flexible waterproof coverings).
- Unless third party accreditation permits, the minimum **finished falls** (including to internal gutters) is to be 1:80. To ensure a minimum finished fall of 1:80 is achieved, allowing for construction tolerances, and deflection under load, new substrates should have a **design fall** of 1:40.
- Where a waterproofing system is British Board of Agrément Certified for use on zero falls decks, a **design fall** of 1:80 may be used, alongside a detailed structural analysis; considering any construction tolerances, settlement and/or deflection under load. If there are negative falls present remedial works will be required e.g. localised screed or additional rainwater outlets etc. This application is only permitted in instances where the waterproofing membrane is installed in a true inverted rood design, incorporating inverted insulation, a water control layer and suitable additional finishes. It is not suited for instances where the waterproofing layer will be left exposed.
- Falls may be created in various forms, including within the deck or structural support; from a levelling screed such as IKO Permascreed; or by utilising tapered insulation within a warm roof application.
- Allowance should be made by the installing contractor to remove any back falls, hollows, depressions, or deflections prior to the application of the first layer of waterproofing.
- Where ponding water is present and the allowance of tapered insulation is not viable, consideration must be allowed for by the installing contractor to improve falls using other methods; such as the use of levelling screeds, fillers, or sacrificial layers of the waterproofing. It is the contractor's obligation to ensure all reasonable measures have been allowed for in the rectification of poor drainage/falls, prior to the installation of the waterproofing.
- Any arising defects 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

- Constant standing water on a roof waterproofing membrane in excess of 10mm may affect the long term performance of the waterproofing. Not only is there the consideration of additional weight (25mm of standing water rover 20m² would equate to 500Kg) which could lead to progressive deck deflection, there is also the issues of thermal stress, slip hazards and buildup of debris and algae. IKO will not be held 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 in accordance with BS EN 12056: Part 3 – Gravity drainage systems inside buildings – roof drainage, layout, and calculation. Drainage rainwater outlets must be installed at the low point(s) 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

- Drainage and rainwater disposal for parts of these roofs include the use of external drainage systems.
- Drip edges should be a minimum of 75mm deep and formed using 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

- Drainage chutes to external hoppers must be of adequate size (minimum 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

- 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.
- 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.
- 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.

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/or upstands are present that cannot be raised to comply with the requirements of this proposal specification, the IKO technical department must be notified prior to any works being undertaken to provide guidance on any compromised detail to minimise any future defect arising. Details formed outside of the design requirements defined within Codes of Practice; technical guidance documents; and this specification, will not be covered by the IKO guarantee.**
- **Where present, any existing waterproofing detailing (e.g. upstands; kerbs; perimeter edges; internal gutters and the like) 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 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 and sills

- If the upstand height to the window 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.

Door, sills and thresholds

- If the upstand height of the door threshold will be compromised by the installation of the new waterproofing it will be necessary to raise the door threshold level by replacing or adjusting the door frames and doors at these locations to accommodate the required roof covering thickness and minimum waterproofing upstand height of 150mm above the finished roof level.

Masonry walls

- 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 boarded to provide a smooth even substrate for the application of the waterproofing layer.

Rendered wall upstands

- Rendered walls will require 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.

- 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 is present and 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, may also be used; 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.

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.
- 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 new waterproofing system includes tapered insulation or an increase in insulation thickness, it will be necessary for the DPC/cavity tray to be raised to accommodate the new waterproofing build up.
- The guarantee offered for this project will be compromised if minimum waterproofing upstand heights cannot be achieved.

PARAPETS AND DWARF PARAPETS

- Parapet upstands 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 bars beneath copings or capping's; details formed in this manner will not be covered by the IKO guarantee.
- 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).
- Waterproofing dressed across the horizontal either beneath any coping or capping, or into any external edge trim, should be undertaken as separate waterproofing sections.
- If due to current site constructions or design limitations, it is not possible to form the parapet in accordance with IKOs recommendations and/or standard details, whereby the waterproofing should be dressed across the parapet wall, the waterproofing is to be terminated to the underside of the parapet coping/capping and secured using a suitable flashing or where appropriate, 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 AND 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).
- Fixing must be suitable for the substrate being fixed into, and of an appropriate length (minimum 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 welted drips are to be formed as separate items, whereby the welted 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 minimum of 50mm above the finished roof level and in accordance with IKO detail drawings. Should the detail be unable to be formed correctly, IKO technical services must be notified immediately.
- 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).

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, permanent edge protection and balustrades should be free standing and not penetrate through the waterproofing.
- Any penetration or fixture for the handrail or balustrade must not be within the main falls of the waterproofing. Where the handrail or balustrade is being fixed through the waterproofing, 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

- 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 metal 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

- Where required, plant items are to be removed to allow the waterproofing works to take place and reinstated upon completion. Raise existing kerbs as required to allow for the insulation thickness (as applicable) 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/or 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.
- Pipes and cables that penetrate the waterproofing system must be detailing using 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

- Where an isolation kerb is to be formed at a junction with an adjacent roof, the contractor must confirm that the proposed isolation kerb will not impact the drainage of either roof area, and that all necessary permissions have been sought, prior to works commencing. IKO Technical Services may be contacted for assistance in the creating of an isolation detail.
- 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.

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.
- Decks/substrates identified as fragile by the Health and Safety Executive should be treated as such, and the guidance for their use should be followed; refer to current issued guidance from The Health and Safety Executive (e.g. HSG33).
- Where HSG33 allows, and where approved to be retained by a suitably competent person(s), it may be possible to retain the existing deck if circumstances deem it appropriate. However, wherever possible, such fragile roof decks should be replaced with a non-fragile alternative, or possibly over-decked with a quality timber based panel in order to remove or minimise future risks.

- The future structural integrity of the existing decking or any roof waterproofing defects caused as a direct result of failure of the existing deck will not be covered by the IKO Guarantee.

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 disapate 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/mm^2).
- 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.

IKO WATERPROOFING SPECIFICATION PROPOSAL

J41 REINFORCED BITUMEN MEMBRANE ROOF COVERINGS

To be read with Preliminaries/General conditions and detail drawings within this IKO Proposal specification:

99 **TYPES OF ROOF COVERING:**

110 **BUILT-UP REINFORCED BITUMEN MEMBRANE WARM DECK ROOF COVERING:**

- Substrate: Existing waterproofing
- Falls: Existing falls - Unknown - To be checked by the installing contractor as being adequate with areas of standing water to be rectified prior to laying the new waterproofing
  - finished falls to be in accordance with BS6229 – see preliminary notes
- Preparation: Refer to substrate clauses
- Primer:
  - **IKOpro Bonding Agent** – for use with self-adhesive membranes only
  - **IKOpro Quick Drying Bitumen Primer** – for use with torch applied membranes only
  - **IKOpro Sprayfast MPP** – for use with both self-adhesive and torch applied membranes
- Air and Vapour Control Layer:
  - **IKO Ultra S-A Air & Vapour Control Layer** – to timber and other combustible substrates
  - **IKO Ultra T-O Air & Vapour Control Layer** – to non-combustible substrates only
- Insulation: **IKO enertherm GOLD Insulation**
  - Thickness: **100mm**
  - Enhanced and Internal Gutter Scheme 120mm – 60mm Drainer Boards
  - Target U Value: **0.18W/m²k**
- Primer to top surface of Insulation: **IKOpro Bonding Agent or IKOpro Sprayfast MPP**
- Waterproof covering: **IKO Ultra Gold Cap Sheet** Built up roofing system
- Manufacturer: IKO Plc, Appley Lane North, Appley Bridge, Wigan, Lancashire, WN6 9AB
  - Email: Technical.AB@iko.com
- First layer: **IKO Ultra H-A Underlay**
  - Attachment: H-A and T-F membranes: refer to clause 747
- Cap sheet: **IKO Ultra Gold Cap Sheet**
  - Attachment: Refer to clause 400
  - Colour: For available colours refer to clause 400
- Flashings and detail work:
  - **IKO Ultra Stick** - **Torch free detailing -** Refer to clause 406a
  - **IKO Ultra Gold** - **Hybrid detailing-** Refer to clause 406b
- Surface protection: Protect from follow on trades
- Additional Finishes: Where applicable; suitable protection to be provided to the waterproofing. .
- Ancillary Items: *As required by client design*
  - IKOtrim - GRP edge trims
  - IKO Internal Rainwater Outlets
  - IKO Superlite Rooflights
  - IKOrail handrail edge protection system
  - IKO lightning conductor clips
  - IKOflash and specified sealant
  - IKO Insulated Hard Edge
  - IKO Roofbox S

- IKO Roofport RPSBS
- IKO Soil Vent Pipe Covers

199 **PERFORMANCE:**

201 **MANUFACTURERS GUARANTEE:**

- The waterproofing system supplier is to provide a 20 year guarantee covering Materials and workmanship
- The installing contractor must be approved by the waterproofing system supplier and employ installing operatives whom have undertaken and passed the specified waterproofing system accredited product induction course and carry an up to date installer card. Proof that each installing operative carry's an installer card must be provided prior to any works being undertaken.

202 **CONTRACTOR'S DESIGN OF ROOF COVERINGS:**

- Design responsibility: Installing roofing contractor
- Structural and fire requirements: To comply with the relevant sections of The Approved Documents of the Building regulations.
- Generally: As section B50.
- Modifications: Changes, amendments or revisions to the IKO proposal specification must be notifiable and agreed by all parties in writing, prior to any roofing works being undertaken.
- Design: Complete the design in accordance with the designated code of practice to satisfy specified performance criteria. BS6229, BS8217 and BS8000 pt4. All waterproofing to be installed in accordance with IKO designed details.
- Functional requirements: Complete the detailed design to satisfy specified performance criteria to meet CR requirements.
- Performance: To satisfy specified performance criteria to meet CR requirements.
- Additional requirements: To ensure compliance with waterproofing system manufacturer's requirements.
- Design and production information: By installing roofing contractor
- Timing of submissions: Prior to undertaking any works to the CR.

205 **COMPLETION OF DESIGN OF ROOF COVERINGS:**

- Description: Waterproofing works – to designated flat roof areas
- Requirement: Complete the detailed design to satisfy specified performance criteria and coordinate with the detailed design of related and adjacent work.
- Structural requirements: As section B50.
- Additional requirements: To ensure compliance with waterproofing system manufacturer's requirements.
- Design and production information: All waterproofing to be installed in accordance with IKO designed details.
- Timing of submissions: Prior to undertaking any works to the CR

207 **ROOF COVERING DESIGN PROVIDED:**

- Description: waterproofing works - to designated flat roof areas
- Requirements:
  - Generally: As section B50.
  - Additional requirements: All waterproofing to be installed in accordance with IKO designed details.

210 **ROOF PERFORMANCE:**

- General: Lay roof covering in accordance with BS6229 and BS 8217 to provide a secure, free draining and completely weather tight roof.
  - Ancillary products and accessories, where not specified, to be types recommended for the purpose by IKO Technical Department.
  - Use operatives conversant in the application of built-up roofing and who have attended the IKO Specified system product induction. Submit evidence to IKO upon request.
  - Maintain a minimum of 50 % fully conversant operatives on site throughout the installation period.

220 **AVOIDANCE OF INTERSTITIAL CONDENSATION - WARM AND INVERTED ROOFS:**

- Interstitial condensation within roof construction: Determine risk as recommended in BS 6229. Modify calculation method to conform to BS 5250.
- Determine the potential of interstitial condensation within roof construction: Assess in accordance with BS 5250, Annex D.
- Air and Vapour control layer: Provide the specified **IKO Air and Vapour Control Layer** so that damage and nuisance from interstitial condensation do not occur.

230 **INSULATION:**

- Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:
  - Thermal performance of roof (maximum): As per clause 110.
  - Compressive strength of insulation (minimum) at 10% compression: 175(kPa).
  - Finished surface: Suitably even, stable and robust to receive roof covering.
  - Insulation compliance: To relevant British Standard, or Agrément certified,
  - To be supplied by IKO and to be fully compatible with the specified waterproofing system.

244 **ATTACHMENT OF ROOF COVERING IN ACCORDANCE WITH BS EN 1991-1-4:**

- Requirement: Determine methods of attachment to resist wind loads. Provide for relative movement of materials and effects of vapour pressure. Do not reduce performance of Air and Vapour Control Layer (AVCL).
- Design wind pressure: Calculate in accordance with BS EN 1991-1-4.

320a **PRIMER:**

- Type: Bitumen membrane primer.
- Manufacturer: **IKO Plc**
- Product reference: **IKOpro Quick Dry Bitumen Primer**
  - Application: By brush or roller to achieve a full and even coat
  - Coverage: 3-4 m²/litre/per coat for concrete substrates and 10-15m² per litre for metal substrates (dependant on porosity and surface texture). Applied in 2 coats.
  - Product code: MW646408 (25 litres)
  - Note: Do not use in temperatures below 5 ^{o}C

320b **PRIMER:**

- Type: Self-Adhesive bitumen membrane primer.
- Manufacturer: **IKO Plc**
- Product reference: **IKOpro Bonding Agent**
  - Application: By brush or roller to achieve a full and even coat.

- Coverage: 3-5 m²/litre/coat (depending upon porosity), porous surfaces may require a second coat.
- Product code: 23500015 (15 litres)
- Note: Do not use in temperatures below 5 ^{o}C

320c **PRIMER:**

- Type: Multi-purpose bitumen membrane primer
- Manufacturer: **IKO Plc**
- Product reference: **IKOpro Sprayfast MPP**
  - Coverage: up to 150m²/canister/coat, depending on surface porosity.
  - Product code: 58800115
  - Note: Do not use in temperatures below 5 ^{o}C
- Canister must be used in conjunction with separate lance, spray tip and hose sold as separate items.

325a **ADHESIVE - INSULATION:**

- Type: PU Adhesive for bonding Insulation to a substrate
- Manufacturer: **IKO Plc**
- Product reference: **IKOpro PU Adhesive for Insulation**
  - Product Code: 58800001 (6.5kg)
  - Coverage: 30-35m²/tin, depending on surface porosity. Coverage rate should be doubled to all perimeter and exposed edges and corners.
  - Application:
    - Min 4No x 15mm wide continuous beads per 1200 x 1200mm board at 300mm centres to main roof.
    - Min 8No x 15mm wide continuous beads per 1200 x 1200mm board at 150mm centres to perimeter edges and corners.
  - Application Temperature: 5 - 30°C
  - Open time: 15 mins at 5°C; 7 mins at 20°C; 4 mins at 30°C
  - Curing time: Typically 60 mins at 5°C; 30 mins at 20°C dependant on conditions

325b **ADHESIVE - INSULATION:**

- Type: Spray applied PU adhesive bonding Insulation to a substrate
- Manufacturer: **IKO Plc**
- Product reference: **IKOpro Sprayfast IBA**
  - 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.
  - Application:
    - Min 4No x 30mm-40mm wide continuous beads per 1200 x 1200mm board at 300mm centres to main roof.
    - 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
  - Canister must be used in conjunction with separate lance, spray tip and hose sold as separate items.

325c **ADHESIVE - INSULATION:**

- Type: 2 part PU Adhesive bonding Insulation to a substrate and for bonding two insulation boards together with gastight facings
- Manufacturer: **IKO Plc**
- Product reference: **IKOpro PUMA Zero**
  - Colour: White
  - Coverage Rate: Approx. 15m² per 1.5L cartridge, depending on surface porosity. Coverage rate should be doubled to all perimeter and exposed edges and corners.
  - Application:
    - Min 4No x 10mm-15mm wide continuous beads per 1200 x 1200mm board at 300mm centres to main roof.
    - Min 8No x 10mm-15mm wide continuous beads per 1200 x 1200mm board at 150mm centres to perimeter edges and corners.
  - IKOpro PUMA Zero must be used in conjunction with the IKO PUMA Zero battery powered applicator tool

330 **TIMBER TRIMS, ETC:**

- Quality: Planed. Free from wane, pitch pockets, decay and insect attack (except ambrosia beetle damage).
- Moisture content at time of covering (maximum): 22%.
- Preservative treatment: *Please note organic solvent based timber preservatives are not permitted, as these attack bitumen based materials.*
- Fixing: Sound and secured being mechanically fastened to the substrate at 300mm centre using appropriate fixings.
- All timbers are to be primed with the specified primer.

331 **PREFORMED INSULATED HARD EDGE:**

- Type: Insulated timber hard edge
- Manufacturer: **IKO Plc**
- Product reference: **IKO Insulated Hard Edge**
  - Material: 18mm OSB/3 with PIR Insulated core
  - Dimensions: 100mm x 10mm thinner than the insulation thickness
  - Length: 1.2m
- Application: Mechanically fixed and/or adhered

335a **ANGLE FILLETS:**

- Type: PIR
- Manufacturer: **IKO Plc**
- Product reference: **IKO ALU Angle Fillets**
  - 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

340 **PREFORMED SLEEVES:**

- Type: Cable ducts entry system
- Manufacturer: Fixfast
- Product reference: Rymar cable ducts
  - Colour: TBC

- Size: 75mm dia or 110mm dia X 350mm high

341 **SOIL VENT PIPE COVER UNITS:**

- Type: Stainless steel cover units with a factory applied SBS bitumen flange.
- Manufacturer: **IKO Plc**
- Product reference: **IKO Soil Vent Pipe Covers**
  - Sizes:
    - 22100075 – to suit 75mm vent pipe
    - 22100110 – to suit 110mm vent pipe
    - 22100160 – to suit 160mm vent pipe

345 **PERIMETER TRIMS:**

- Type: GRP
- Manufacturer: **IKO Plc**
- Product reference: **IKOtrim F**
  - Colour: Black, White or Grey
  - Size:
    - 40mm, 65mm, 100mm, 150mm or 200mm drips
    - Matching 90°, 240mm x 240mm internal/external corners available
  - Length: 3 m.
  - Installation: Refer to clause 785

346 **PRE-FORMED DRIPS:**

- Type: Galvanised metal angle with pre applied Reinforced bitumen membrane
- Manufacturer: **IKO Plc**
- Product reference: **IKO Pre-formed drip edges**
- Fixing: mechanically fasten at 300 centres max. (150mm centres for roofs over 10m and areas of high exposure)
  - Length: 3m.
  - Drip edge facing: 75mm
  - Product code: 5920001 (green), 59200002 (brown), 592000023 (black)

375 **MINOR MOVEMENT JOINTS IN SUBSTRATES**:

- Manufacturer: Situra or Soba Inter
- Product reference: Redline or Flamline
  - Size: to be confirmed by manufacturer
  - Installation: In accordance with manufacturers recommendations

380 **PROTECTION LAYER:**

- Type: Polyester protection fleece
- Manufacturer: **IKO Plc**
- Product reference: **IKO Spectratex protection fleece**
- Sizes:
  - 300gsm (2m x 50m) - product code: 05490300
  - 500gsm (2m x 25m) - product code: 05490500
  - 800gsm (2m x 25m) - product code: 05490800
- Laps: 150mm side and end laps
- Installation: Loose laid

395a **AIR & VAPOUR CONTROL LAYER:**

- Type: High performance metal lined torch applied bituminous Air and Vapour Control Layer – **for use on non-combustible substrates only, in accordance with NFRC safe to torch guidance.**
- Manufacturer: **IKO Plc**
- Product reference: **IKO Ultra T-O Vapour Control Layer**
  - Vapour resistance: 2436Sd (m) (≥10,000MNsg)
  - Thickness: 2.5mm
  - Roll size: 12m x 1m
  - Roll weight: 37kg
  - Carrier: Polyester
  - Surfacing: Sanded
  - Product code: 62120000

395b **AIR & VAPOUR CONTROL LAYER:**

- Type: A high performance metal lined self- adhesive bituminous Air and Vapour Control Layer
- Manufacturer: **IKO Plc**
- Product reference: **IKO Ultra S-A Vapour Control Layer**
  - Vapour resistance: 2436Sd (m) (≥10,000MNsg)
  - Thickness: 2.5mm
  - Roll size: 15m x 1m
  - Roll weight: 36kg
  - Carrier: Polyester
  - Surfacing: Fine mineral
  - Product code: 62130000

400 **BUILT-UP REINFORCED BITUMEN WATERPROOF COVERING:**

- Manufacturer: **IKO Plc**
- Product reference: IKO Ultra Gold built up roofing system
- First layer: **IKO Ultra H-A Underlay**
  - Attachment: H-A and T-F membranes: refer to clause 747
- Cap sheet: **IKO Ultra Gold T-O Cap Sheet**
  - Attachment: T-O membranes refer to clause 740
  - Colour: Green, Brown or Black to clients requirements

406a **BUILT-UP REINFORCED BITUMEN - TORCH FREE DETAILING MEMBRANES:**

- Manufacturer: **IKO Plc**
- Product reference: **IKO Ultra Stick torch free detailing**
- Locations: All horizontal and vertical abutments, upstands, internal gutters, rooflights/kerbs as two layers (underlay and cap sheet).
- Detailing Primer: **IKOpro Bonding Agent or IKOpro Sprayfast MPP**
- Angle fillets: Refer to clause 335
- Detailing First layer: **IKO Ultra T-F Detailing Underlay**
  - Roll size: 16m x 1m
  - Roll weight: 40kg
  - Surfacing: Film
  - Product code: 62730000
  - Attachment: Self-adhesive bonding with hot air welded laps
- Detailing Cap sheet: **IKO Ultra Stick Cap Sheet**.
  - Roll size: 8m x 1m

  - Roll weight: 32 kg
  - Product codes: Green – 52320208; Brown – 52300208; Black – 52310208
  - Attachment: Self-adhesive bonding with lap's hot air welded
- Cover flashing: **IKOflash and specified sealant**
  - Max lengths of 1.5m
  - To provide 75mm cover to all waterproofing upstands

406b **BUILT-UP REINFORCED BITUMEN DETAILING MEMBRANES –HYBRID DETAILING:**

- Manufacturer: **IKO Plc**
- Product reference: **IKO Ultra Gold hybrid detailing**.
- Locations: All horizontal and vertical abutments, upstands, internal gutters, rooflights/kerbs as two layers (underlay and cap sheet).
- Detailing Primer: **IKOpro Bonding Agent or IKOpro Sprayfast MPP**
- Angle fillets: Refer to clause 335
- Detailing First layer: **IKO Ultra H-A Detailing Underlay**
  - Roll size: 16m x 1m
  - Roll weight: 36kg
  - Surfacing: Fine granule
  - Product code: 62710000
  - Attachment: Self-adhesive bonding with hot air welded laps, bond enhanced by heat activation of torch applied cap sheet.
- Detailing Cap sheet: **IKO Ultra Gold T-O Cap sheet**
  - Roll size: 8m x 1m
  - Roll weight: 38 kg
  - Product codes: Black – 60183824; Green – 60183827
  - Attachment: Fully bonded by torch on technique
- Safe2Torch zones: Refer to clause 775a
- Cover flashing: **IKOflash and specified sealant**
  - Max lengths of 1.5m
  - To provide 75mm cover to all waterproofing upstands

430a **WARM DECK ROOF INSULATION:**

- Type: Polyisocyanurate (PIR)
- Manufacturer: **IKO enertherm**
- Product reference: **IKO enertherm Gold**
  - Sizes: 1200mm x 1200mm and 2400mm x 1200mm
  - Thickness: Refer to clause 110
  - Refer to Tapered Scheme No**.:** Refer to clause 110
  - 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
- Enhanced schemes:
  - Sump set: 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 with shedding water from the roof edge.

  - Deflector boards: Deflector boards should be used around large rooflights, plant items and other obstructions on the roof to assist with rainwater disposal.
- Any singular GOLD 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 (maximum thickness 60mm); unless a non-combustible upstand insulation is required, whereby IKO MW Insulation should be utilised.
  - To be adhered and mechanically fastened to the upstand
  - Boards to be primed with the specified IKOpro primer

456b **ADHESIVE FOR BONDING INSULATION:**

- Type: High performance polyurethane adhesive
- Manufacturer: **IKO Plc**
- Product reference: Refer to clause 325 and clause 540

460 **STONE BALLAST:**

- Type: Washed rounded pebbles
- Supplier: As specified by project designer
- Size: 20mm – 40mm, free from fines and sharps
  - Spread evenly to a minimum depth of 50mm and 80Kg/m².
- Protection: Protect waterproofing membrane with **IKO Spectratex protection fleece** - Refer to clauses 380 & 820.
- Perimeter edge: For building over 15m high, the perimeter must be loaded with paving slabs determined by reference to BS EN 1991-1-2: 2002 – refer to clause 465
- Colour: As specified by project designer.
- Recycled content: As specified by project designer

465 **PRECAST CONCRETE PAVING SLABS:**

- Type: To BS EN 1339, hydraulically pressed - Concrete and BS 7263-1
- Manufacturer: As per specifiers instructions
- Product reference: As per specifiers instructions
  - Colour/ Finish: As per specifiers instructions
  - Size: Minimum 50mm thick and 120Kg/m²
- Support system: **IKO Paving Support Pad** and **Shims** or **IKO Adjustable Paving Supports**
- To be used in conjunction with: IKO Spectratex - Refer to clauses 380 & 840

467 **SUPPORT SYSTEM FOR PRECAST CONCRETE PAVING SLABS:**

- Manufacturer: **IKO plc**
- Product reference: **IKO Adjustable Paving Support Pads**.
  - Size: Range of heights available: 40mm-56mm, 50mm-70mm, 70mm-110mm, 110mm-160mm, 150mm-210mm, 200mm-300mm.

473 **MAINTENANCE WALKWAY:**

- Manufacturer: **IKO Plc**

- Product reference: **IKO Cap sheet**
- Colour: Contrasting Colour to main field area
- Attachment: adhered with Hot Air Welded side and end laps
- Edges: Butted
  - Remove selvedge lap
  - Do not restrict drainage

485 **ROOF VENTILATORS:**

- Manufacturer: Specified by the project designer and approved by the waterproofing manufacturer
- Product reference: As specified by project designer
  - Size: As specified by project designer

485a **ROOFLIGHTS:**

- Manufacturer: **IKO Plc**
- Product reference: **IKO Superlight Rooflight**
- Size: To be confirmed by the installing contractor/Project designer
- Type: To be confirmed by the client's representative
  - **IKO Superlight Polycarbonate Modular Rooflight**
    - A range of high quality PVCu 3-cell kerb and frame modules combined with individually glazed UV stable, domed or pyramid shaped triple skin rooflight, 3mm UV protected polycarbonate clear outer skin, and clear or opal diffused inner skins.
  - **IKO Superlight Over Sleeve Unit**
    - Vertical glazing or cladding over sleeve refurbishment system. Used where sills/thresholds low inhibits or restricts waterproofing detailing to be correctly detailed
  - **IKO Superlight Polycarbonate Access Hatch**
    - Polycarbonate kerb units designed for specific use over an opening in the roof deck to allow roof access.
  - **IKO Superlight Polycarbonate Barrel Vault**
    - High quality continuous rooflights designed to span openings of up to 6m wide and of unlimited length. Design features of this system incorporate polycarbonate glazing, extruded aluminium sill section and pre formed aluminium glazing bars and caps.
  - **IKO Superlight Polycarbonate Smoke Vent**
    - Smoke Vents are electrically operated smoke vent rooflights designed to reduce smoke and heat build-up within a building in the event of a fire and are used to allow fire escape routes such as stairwells and corridors to remain useable with minimum smoke build up.
  - **IKO Superlight Glass Modular Rooflight**
    - A range of high performance prefabricated flat glazed rooflights available in a range of sizes, providing a clean minimalistic finish.
  - **IKO Superlight Glass Monopitch Rooflight**
    - Skylights are purpose made continuous rooflights and are available in spans of 0.6m up to 6m, and slope pitch of 15-75°.
- See enclosed rooflight proposal for this project specific rooflight detail

486 **CABLE AND PIPE PENETRATION UNITS:**

- Manufacturer: **IKO Plc**
- Product reference: **IKO Roofport**
- Use: Roof penetrations passing through a roof.
- Type: Aluminium unit with SBS membrane flange
- Sizes:

- RP50SBS
- RP110SBS
- RP150
  - 150mm upstand kerb
  - 400mm upstand kerb

487 **CABLE AND PIPE AND SERVICES ENTRY BOX UNITS:**

- Manufacturer: **IKO Plc**
- Product reference: **IKO Roofbox S**
- Use: M&E service cables and Roof penetrations passing through a roof.
- Type: Aluminium unit
- Sizes: Standard cabinets

S1 for 300mm x 300mm openings
- OA size: 500mm x 500mm x277mm
- Kerb heights:
  - UPVC: 150mm high
  - Insulated aluminium: 200mm/375mm/450mm/600mm

S2 for 400mm x 700mm openings
- OA size: 600mm x 900mm x277mm
- Kerb heights:
  - Insulated aluminium: 200mm/375mm/450mm/600mm

S3 for 600mm x 900mm openings
- OA size: 800mm x 1100mm x277mm
- Kerb heights:
  - Insulated aluminium: 200mm/375mm/450mm/600mm

S4 for 600mm x 600mm openings
- OA size: 800mm x 800mm x602mm
- Kerb heights:
  - Insulated aluminium: 200mm/375mm/450mm/600mm

Other sizes are available upon request, refer to manufacturer.

490c **ROOF DRAINAGE OUTLETS:**

- Design: to BS EN 12056 -3 and national annexes
  - Submit calculations and manufacturers literature
  - To be read in conjunction with IKO drainage calculation
  - To be read in conjunction with section R10
- Downpipe/opening:
  - Must be protected at all times
  - Free draining upon completion to be checked by the installing contractor
- Manufacturer: IKO Plc
- Product reference: **IKO Standard Refurbishment Outlet Kits**
- Use: Internal rainwater outlet(s) for flat roof applications
- Type: The outlets are sold as kits including outlet, rib seal, and powder-coated universal leaf guard (RAL3020). The outlets have a high quality 400mm long spigot manufactured from stainless steel.
- Application:
  - Available with a factory bonded bituminous 500 x 500mm flange to allow for easy installation, also available in a flange-free version for uninsulated liquid applications.
  - Flush finish to reduce the risk of ponding.

- O-ring seal supplied for refurbishment applications – this provides an excellent seal whilst still allowing for movement. *IKO Ultra Outlet Seal Tool is available to order as a separate item.*
- Product: Refer to IKO Area Business Manager or Product Data Sheet for available product sizes and flow rates.

495a **COVER FLASHING:**

Flashing

- Type: Lead free cover flashing
- Use: Cover flashing – refer to clause 775
- Manufacturer: **IKO Plc**
- Product reference: **IKOFlash**
  - Thickness: 3.5mm
  - Sizes: 12m rolls (150mm/250mm/300mm) widths
  - Colour: Grey

Sealant

- Type: Dense elastomer modified bitumen sealing mastic
- Use: Cover flashing sealant used in conjunction with **IKOFlash** – refer to clause 775
- Manufacturer: **IKO Plc**
- Product reference: **IKOpro Stickall**
  - Sizes: 300ml
  - Colour: Black

495b **COVER FLASHING:**

Flashing

- Type: Lead free cover flashing
- Use: Cover flashing – refer to clause 775
- Manufacturer: **IKO Plc**
- Product reference: **IKOFlash E**
  - Thickness: 3mm
  - Sizes: 6m rolls (150/200/250/330/400/450/500/600/1000mm) widths
  - Colour: Lead grey (Terracotta red and Black also available to order)

Sealant

- Type: Hybrid polymer adhesive sealant
- Use: Cover flashing sealant used in conjunction with **IKOFlash E** – refer to clause 775
- Manufacturer: **IKO Plc**
- Product reference: **IKOflash E Adhesive/Sealant**
  - Sizes: 290ml
  - Colour: Black

499 **EXECUTION** **GENERALLY**:

500 **WORKMANSHIP:**

- Installation of the IKO waterproofing system may only be carried out by certified operatives approved by IKO Plc who have undertaken and passed the relevant specified IKO Waterproofing system and who carry current ID badges. These should be available for inspection at all times.
- Workmanship must comply with current industry Codes of Practice and IKO Plc specification where otherwise stated. Non-compliant workmanship will not be permitted, even if the system is

watertight. The client will be told that all such faults must be remedied, before the Guarantee is issued.

515 **ADVERSE WEATHER:**

- General: Do not lay coverings in high winds, wet or damp conditions or in extremes of temperature unless effective temporary cover is provided over working area.
- Unfinished areas of roof: Keep dry. Protect edges of laid membrane from wind action.

520 **INCOMPLETE WORK:**

- End of working day: Provide temporary seal to prevent water infiltration.
  - Protect all installed insulation exposed edges by the creation of day/night joints.
- On resumption of work: Cut away tail of membrane from completed area and remove from roof

530 **APPLYING PRIMERS:**

- Application: as per clause 320
- Purpose: specially formulated primers to prepare and seal the substrate prior to the application of the waterproofing.
- Surface coverage: Even and full.
- Coats: Fully bond. Allow volatiles to dry off thoroughly between coats. 2 full coats must be applied to detailing areas
- Application: follow manufactures recommendations
  - Brush, roller or spray applied
  - Avoid pooling of the primer
  - Allow to dry thoroughly and clean before applying the waterproofing
- Application rate: In accordance with manufactures recommendations. Refer to clause 320
- Re–application: 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 apply the waterproofing.

540A **APPLYING ADHESIVES:**

- Application: As per clause 325
- Adhesive canisters: All adhesives must be stored in strict accordance with the manufactures recommendations.
- Cold applied adhesive compound:
  - Do not apply in extremes of temperature
  - Only use those adhesives specified and agreed by IKO.
  - Applied in strict accordance with the technical datasheet.
  - Do not allow to pool

550 **CONTROL SAMPLES:**

- Type of covering: Reinforced bitumen membranes
- Sample area (minimum): 300mm x 300mm
- Location: At regular intervals throughout the whole roof area, to be defined by the installing contractor.
- Approval of appearance: Obtain before proceeding with remaining work.
- Samples: Each sample must be recorded and kept by the installing contractor. Copies must be forward to the IKO Technical department confirming suitability of substrate preparation.

559 **SUBSTRATES/ VAPOUR CONTROL LAYERS/ WARM DECK ROOF INSULATION**:

610 **SUITABILITY OF SUBSTRATES:**

- Substrates: Must be structurally sound and stable and capable of accepting all structural loads, including live and dead loads. All structural decks must be in accordance with The Building Regulations and IKO recommendations. Further information on IKOs guidance regarding structural decks may be obtained upon request from IKO Technical Services at Technical.AB@iko.com.
- Substrates generally: Sound, Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
- Voids, cracks and holes must be repaired and hollows, depressions and deflections must be made good before application of the new waterproofing.
  - Fill with cement based repair mortar.
- Any surface laitance must be mechanically removed and the substrate must be clean, dry, and free from surface water, frost, dust, dirt, oil, grease, curing compounds or any foreign matter detrimental to the adhesion of the new waterproofing.
- **It is the installing contractors responsibility to ensure that the condition of the substrate is structurally sound and adequately prepared in line with this specification document**
  - **Any refurbishment works of existing building where the IKO specified waterproofing system is being proposed, must have been surveyed by the installing contractor to ensure the condition of the existing structure is sound and suitable to be overlaid. IKO will take no liability for any premature failure of the waterproofing integrity as a result of failures or defects arising within any existing structure.**
- Preparation work:
  - Grading to correct falls as required - minimum 1:80 finished falls to be achieved, including any internal gutters. Falls may be achieved at deck level; by the use of tapered insulation; or a combination of both. Refer to preliminary and enabling works section within this proposal.
  - Hollows, back falls and depressions to be rectified prior to laying of the waterproofing.
  - Make good any hollows, backfalls and depressions with a suitable levelling compound or similar.
  - Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
    - Raised/constructed to achieve minimum 150mm above the proposed finished roof level.
    - Raise any cavity trays/DPC to accommodate a minimum 150mm above the proposed finished roof level.
  - Any detail including upstands, sills and thresholds not achieving these minimum requirements will not be covered by the IKO guarantee and will be specifically excluded from the IKO guarantee. Any arising water ingress or arising defect associated with details formed not in accordance with IKO recommendations will not be covered by the IKO guarantee.
  - Moisture content and stability of substrate: Must not impair roof integrity. Refer to preliminary notes.
  - Undertake adhesion test prior to installation of the waterproofing first layer. Adhesion tests must be carried out by the installing contractor to confirm satisfactory adhesion of the new waterproofing can be achieved 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/mm^2).
  - Determinations of adhesion, bond strength and moisture content shall be performed periodically by the contractor throughout the course of work at locations over the whole area, a record of all tests should be logged throughout the application process.
  - Where present, any existing waterproofing and associated detailing must be removed back to a sound surface/substrate and made good.

- All surfaces where the waterproofing is to be applied must be primed with the **specified IKO primer** for the application of the first waterproofing layer.

630a **OVERLAY EXISTING WATERPROOFING, DECK NOT BEING EXPOSED**

- The building must remain weatherproof at all times; only removing areas of existing waterproofing that can be made watertight in the same day, including the provision of day joints.

Overlay existing waterproofing

- **Roof diagnostic survey required (no IKO survey):** Where IKO have not undertaken a condition survey then it is recommended that a thermographic survey or moisture mapping is to be carried out prior to re-roofing works commence to determine any wet area of the existing roof that must be cut out and removed and repaired with new waterproofing build up prior to any overlay works being undertaken.

  Whereby a thermographic survey or moisture mapping survey is not be possible, then a series of core samples and moisture readings should be undertaken no greater than every 50m² in areas across the roof to determine suitability to overlay. Any wet and defect areas must be removed and replaced.

  The findings of the roof diagnostics must be validated by the installing contractor who must also confirm that the existing waterproofing is suitable to overlay including taking core samples at regular intervals over the whole roof area.
- Wet or defective areas including insulation and substrate must be cut out and replaced with new to match existing. IKO will not be held liable for any areas of the roof overlaid that has not been deemed suitable for an overlay by the installing contractor.
- Should the existing substrate be deemed unsuitable to be overlaid with a new waterproofing system, it will be necessary to strip and remove the defective materials.
- Prepare the existing waterproofing for overlay by removing any existing solar reflective coatings, stone chippings, and all associated waterproofing details, to form a neat clean edge. Allow for cutting, drying and re-sealing blisters.
- *Note: 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.*
- Make good any defective areas of the existing waterproofing. All of the existing roof build up must be dry and sound.
- 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.
- Areas subject to moss and algae growth should be treated with a fungicidal wash applied in accordance with manufacturers recommendations then rinsed and allowed to dry
- 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. Falls and drainage: refer to preliminary notes and enabling works.

Deck not being exposed

- The client and installing contractor should satisfy themselves that the existing deck and supporting structure is capable of accepting the imposed additional live and dead loading including that of the waterproofing system and associated installation procedures.
- **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 is 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.

640 **FIXING TIMBER TRIMS:**

- Fasteners: Suitable for substrate as specified by Project Designer.
  - Countersunk screws or suitable fixings
  - Ensure they are securely mechanically fastened in to the sound substrate
  - Fixing centres (maximum): 500mm. (150mm for Areas of High Wind Uplift)
  - All timbers are to be primed with the specified primer

641 **INSTALLING PREFORMED 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.
- Installation: Adhered with **IKOpro PU Adhesive** or mechanically fixed using appropriate fixings
- Installation at Roof Perimeters: Must be mechanically fixed using appropriate fixings at maximum 300mm centres (150mm for areas of high wind uplift)

670 **LAYING AIR AND VAPOUR CONTROL LAYER:**

- Attachment: Securely bonded to the substrate
- Substrate: Primed- refer to clause 320
- Application: Refer to clause 395
- Adhesion test: Undertake adhesion test to ensure full bond to the substrate can be achieved.
- Side and end laps: 80mm and 100mm respectively. Seal using materials and method recommended by manufacturer - S-A membranes: refer to clause 747
- Penetrations: Fully seal using bonding methods recommended by manufacturer.
- Edges of insulation at roof edges, abutments, upstands, kerbs, penetrations and the like:
  - Enclosed with IKO Air and Vapour Control layer:
  - Dressed up sufficiently, providing 50 mm (minimum) seal when overlapped by the roof covering.

680 **LAYING WARM DECK ROOF INSULATION:**

- Installation: Boards must be in good condition, dry, well-fitting and stable.
- Setting out:
  - Long edges: Fully support and run at right angles.
  - End edges: Adequately support.
  - Joints: Butt together.
  - End joints: Stagger.
- Bedding: IKO PU Insulation adhesive: as specified – Refer to clause 325
  - *Multi-layer insulation board applications: bedded to the vapour control layer as stated above. The adhesive should be applied in the direction of the board length at the same application rate as the base board to the Vapour control layer.*
- Priming: Prime the upper surface of the insulation board – Refer to clause 681

- Protection to exposed edges of insulation: Treated timber batten as clause 640 or **IKO Insulated Hard Edge** as clauses 331/641 Dimensions: 100 mm x 10mm thinner than the insulation thickness
- Encapsulation seal: Provision must be allowed for forming a minimum 100 mm lap seal between the vapour control layer and underlay, where the insulation finishes.

681 **PREPARATION OF 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 systems:** *Where sequencing of the application of the cap sheet is not undertaken during the same working day as the application of the* ***IKO Ultra H-A underlay.***
  - Prime the upper most surface of the insulation board with the specified IKO Primer and allow to dry thoroughly - Ref to clause 320.
  - Once fully dry, install the specified IKO Ultra H-A 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. - Ref to clause 320.
- **For full self-adhesive systems:**
  - Priming: prime the upper most surface of the insulation board with the specified IKO Primer and allow to dry thoroughly. - Ref to clause 320.
  - Once fully dry, Install the specified **IKO Ultra T-F underlay** in strict accordance with the manufactures recommendations.
  - Do not torch or scrape the laps.
- Any installed insulation must be waterproofed within the same working day and kept dry during the installation process.
  - Provide temporary/night joints.

682 **INSTALLING WARM ROOF INSULATION (INSULATED UPSTANDS):**

- Upstand insulation boards should be installed before the insulation to the flat areas so that the vertical upstand insulation is retained both at the base and at the top. At vertical wall abutments that are cavity insulated, retention is obtained by mechanical fixing of the insulation support bracket.
- Mechanically fasten/adhere the insulation to the upstand.- refer to clause 715
- Encapsulation of the insulation: where the insulation is terminated, allowance must be made for the vapour control layer and waterproofing underlay to form a 50mm sealed lap joint.
- Prime the facing of the insulation board with the specified IKOpro Primer and allow to dry ready for the application of the waterproofing underlay.
- Ensure a full bond is achieved throughout the waterproofing detailing

699 **WATERPROOF MEMBRANES/ ACCESSORIES**:

710 **LAYING REINFORCED BITUMEN MEMBRANES GENERALLY:**

- Direction of laying: Unrolled up the slope.
  - Install so that water drains over and not into laps.
- Side and end laps: All laps joints to provide a visible bead of bitumen (5mm-15mm) exuded from all

laps joints.

- Head and side laps: Offset.
- Intermediate and top layer/ cap sheet: fully bonded
- Successive layers: Apply without delay. Do not trap moisture.
  - Set out the membrane and stagger break joints.
  - Do not cross bond to the underlay.
- Detailing: Form all waterproofing details as two layers and as separate items.
  - All detailing must be fully bonded through the detail.
  - Details formed in accordance with IKO detail drawings.
  - Strips of bitumen membrane for 'linear' details: Cut from length of roll.
- Completed coverings: Firmly attached, fully sealed, smooth, weatherproof and free draining.

715 **LAYING REINFORCED BITUMEN MEMBRANES ON ROOFS PITCHED MORE THAN 5°:**

- Timber battens: Fix flush with surface in substrates that will not securely accept nails.
  - Locations: To BS 8217, table 5.
  - Size: Suitable for substrate as specified by project designer.
- Setting out: Parallel to roof slope, with successive layers carried over ridges.
  - Lengths (maximum): As recommended by bitumen membrane manufacturer.
  - End laps: Half stagger and align on alternate bitumen membranes.
- Additional fixing of bitumen membranes:
  - **Roof Pitch 5° to 25°**
    For roof pitches over 5° and under 25° the bitumen felt should be laid in maximum lengths of 8.0m and mechanically fixed at the head of the sheet. In all cases where the roof run is less than 8.0m, the sheets should be single run without broken head laps. If a run is over 8.0m, broken head laps should be provided midway or at 4.0m (maximum) centres, with additional battens as required.
  - **Roof Pitch 25° to 60°**
    For roof pitches over 25° and under 60° the bitumen felt should be laid in maximum lengths of 4.0m with battens at the ridge and eaves and at 2.0m centres.
  - **Roof Pitch 60° to Vertical**
    For roof pitches over 60° the bitumen felt should be laid in maximum lengths of 1.5m with battens at the ridge and eaves and at 750mm centres.
  - **Additional mechanical fixings** to the top edge of the membrane will also be required on all vertical details more than 250mm high, with additional fixings as required according to the vertical height.

740 **TORCH-ON BONDING OF REINFORCED BITUMEN MEMBRANE:**

- Bond: Full over whole surface, with no air pockets.
- Use weighted roll bar when applying the membrane to remove any entrapped air.
- Applied using a torching technique across the underside of the whole sheet.
  - Only operatives familiar with the safe use of a gas torch may undertake these works.
- Excess compound at laps of top layer/ cap sheet: Leave as continuous bead 5-15mm.

747 **SELF-ADHESIVE BONDING OF REINFORCED BITUMEN MEMBRANES:**

- Bond: bonded over whole surface, with no air pockets
  - Cold applied and bonded by removing the release film to the specified IKOpro primer whereby the laps are sealed and installing by hot air welding and pressure roller to extrude a 5mm - 10mm bead of bitumen. – refer to clause 765

- No gas torches are to be used for the installation of the **IKO self-adhesive membranes including S-A, H-A or T-F Membranes.**
- Use weighted roll bar when applying the membrane to remove any entrapped air.
- Refer to the IKO Technical briefing document on the use of self-adhesive membranes.

750 **LAYING MINERAL FACED REINFORCED BITUMEN MEMBRANES:**

- Lap positions and detailing of ridges, eaves, verges, hips, abutments, etc: Submit proposals.
- To be installed in accordance with BS8217 and IKO recommendations.
- No back laps are to be formed against falls
- Setting out: Neat, with carefully formed junctions.
- Lap bonding:
  - fully bonded
  - A continuous visible bead of bitumen must be exuded from all lap joints 5mm-15mm.

765 **WELDED JOINTING OF REINFORCED BITUMEN MEMBRANES**:

- Product: IKO Ultra S-A, H-A, T-F membranes and adhered cap sheets
- Side and end joints:
  - Preparation: Clean and dry surfaces for full width of joint.
  - Sealing: Hot air welded (gas torches are strictly prohibited and must not be used)
  - Seal: Minimum 80mm fully bonded and sealed to provide a visible bead of bitumen exuded from all lap joints.
- Suitable hot air welding equipment is available from:
  - Lancastria Group (Contact: Lancastria Group email: sales@lancastria-group.co.uk. Tele: 0161 777 9009

  Hot air welding Equipment details
  - *BAKS bitumen automatic welder*
- For sealing all side laps in IKO Ultra S-A, H-A, T-F membranes and adhered cap sheets
  - Leister (contact Welwyn Tool Group, Tel 01707 331 111, www.welwyntoolgroup.co.uk) or
  - Sievert (contact Lister Gas Pro, Tel 0800 801 046,) and is available for hire or purchase.

775 **SKIRTINGS AND UPSTANDS:**

Angle fillets: as specified and bonded using IKOpro Adhesive as specified. Refer to clause 335

- Only IKO angle fillet may be used, alternatives will invalidate the guarantee offer.
- Used at all horizontal and vertical abutments
- Used above the insulation and before the waterproofing membrane application.

Detailing: Refer to clause110

- Carry in staggered formation up the upstand, with each layer fully bonded.
- All detailing works must be undertaken as separate items and as two layer application using the specified underlay and specified cap sheet.
- Underlays must be fully bonded throughout the detail and dressed 125mm onto the main roof area and minimum 125mm up the upstand.
- Cap sheets must be fully bonded to the underlay and dressed 150mm minimum onto the main roof area, and dressed a minimum 150mm up the upstand.
- 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.

Upstand detailing:

- Waterproofing upstands must be a minimum of 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.
- 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.

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.

775a **DETAILING - ALTERNATIVE MEMBRANES AND APPLICATION – SAFE2TORCH:**

- 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).
- Within all associated waterproofing detailing areas where the potential risk is constructed from or adjacent or close proximity to potential combustible materials, such as cladding or pitched roof abutments.
- **IKO Ultra T-F detailing underlay** and **IKO Ultra Stick Cap sheet** must be used outside the safe2torch zones, these membranes are cold applied with hot air welded laps. **IKO Ultra H-A and T-F membranes** must be installed in accordance with IKO recommendations.

780 **WELTED DRIPS:**

- Material: Specified IKO detailing Cap sheet
  - Height at external gutter (minimum): 75 mm.
  - Max cut lengths: 1m
- Welt tail:
  - Install felt drips using 75mm (minimum) x 6mm plywood drip former, mechanically fastened to the treated welted drip batten. Form welted drip in the specified detailing Cap sheet to outer edge, lapped and fully sealed.
- Welt: Lapped and fully sealed onto the main area by minimum 150mm.

781 **PRE-FORMED WELTED DRIPS:**

- Type: Galvanised metal angle with pre applied Reinforced bitumen membrane
- Manufacturer: **IKO Plc**
- Product reference: **IKO Pre-formed drip edges**
- Fixing: Mechanically fasten at 300centre max (150mm centre for roofs over 10m and areas of high wind exposure)
  - Length: 3m.
  - Drip edge facing: 75mm
  - Product code: 5920001 (green) , 59200002 (brown), 592000023 (black)

784 **ROOF DRAINAGE OUTLETS:**

- Product reference: **IKO Internal Rainwater Outlet**
  - Type: refer to clause 490 and R10
- Fixing: secure, fix before connecting pipework

  - Install in accordance with manufacturers recommendations
- Junctions between outlets and pipework: accommodate movement in structure and pipework
- Priming: prime outlet flange for the application of the waterproofing
- Testing: free flowing
- Grate: secure and fix grate/guard upon completion

785 **FIXING PERIMETER TRIMS:**

- First/ intermediate layers bitumen membrane: Lay over roof edge. Project free edge 25 mm from wall or fascia.
- Trim: **IKO trim F - GRP Edge trim**
  - Setting out (minimum): 3 mm clear from wall or fascia
  - Fasteners: Suitable for substrate as specified by project designer
  - Fixing: 30 mm from ends at maximum 300 mm centres (maximum 150mm centres for Areas of High Wind Uplift)
  - Jointing sleeves: Fix one side only
  - Corner pieces: Purpose made
- Completion:
  - Contact surfaces: Prime.
- Completion of bitumen membrane:
  - Detailing Cap sheet: Press into channel of trim

786 **LIGHTNING CONDUCTOR CLIPS:**

- Product reference: **IKO lightning conductor clips**
- Size: 95mm x 95mm
- Colour: To match waterproofing finish
- Setting out:
  - The lightning conductor is to be fixed using the specified conductor clips, incorporating a colour matched capping sheet pad, fully bonded to the main capping sheet at 1m centres by the approved roofing contractor. Lightning conductor retention using bituminous membrane strips are not acceptable.
  - Where lightning conductors are required to be fixed to brickwork, upstands, parapet walls etc., proprietary clips mechanically fixed should be utilised. Care should be taken to ensure that fixings do not penetrate the new waterproofing system.

790 **INSTALLING ROOF VENTILATORS:**

- Product reference: As specified by Project Designer
- Setting out: Position evenly over roof area
  - Centres (maximum): As specified by Manufacturer
  - Distance from roof edges: As specified by Project Designer
- Holes for ventilators: Cut neatly to suit size of vents through As Specified by Project Designer
- Priming: As specified
  - Vent skirts: Prime before applying first layer of waterproofing, if recommended by manufacturer.

791 **INSTALLING ROOFLIGHTS:**

- Product reference: **IKO Superlight Rooflight**
- Size: To be confirmed by the installing contractor
- Type: To be confirmed by the client's representative
- Setting out: Position evenly over roof area.

  - Location: As specified by Manufacturer.
  - Distance from roof edges: As specified by Project Designer.
- Holes for ventilators: Cut neatly to suit size of vents through As Specified by Project Designer.
- Priming: Prime all skirting upstands and kerbs with the specified IKO primer. Allow to dry

899 **COMPLETION:**

910 **INSPECTION:**

- 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 customersupport@iko.com. Failure to notify IKO may invalidate any guarantee offer.
- 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.
- Interim and final roof inspections: Strictly in accordance with the IKO Technical Services requirements for guarantee.
- IKO technical inspection reports to be submitted and actions confirmed prior to completion.

940 **COMPLETION:**

- Roof areas: Clean and cleared
  - Outlets: Clear
  - Work necessary to provide a weathertight finish: Complete.
  - Storage of materials on finished surface: Not permitted.
  - Completed membrane: Do not damage. Protect from chemicals, traffic and adjacent or high level working. Provide protection from follow on trades.
  - Reduce access to the roof from all parties not associated with its installation, inspection or maintenance.
- Protection:
  - Protect the roof during the installation process and upon completion roof areas are adequately protected from damage by subsequent building operations.
  - The roof is not used as a working platform unless fully protected to the satisfaction of the CR.
  - No petroleum based solvents or other chemicals harmful to bitumen are allowed to come into contact with the roof surface.
  - No building materials are stored on the roof.
  - Prevent unauthorised access to the roof upon and after completion.
  - Provide a detailed risk assessment and method statement to any person accessing the roof within the term of the guarantee.
  - Ensure no unauthorised works to or affecting the waterproofing is undertaken without prior written consent from the guarantor.
- Final Inspection: IKO technical engineer to undertake a final inspection of the completed waterproofing, prior to the issue of the guarantee.

950 **GUARANTEE:**

- Guarantee Period: 20 Years
- IKO will provide a guarantee upon satisfactory completion of the waterproofing works covering IKO Materials and Workmanship by the installing contractor, and subject to the works being undertaken by an IKO Approved contractor and installed by operatives whom have undertaken and passed the IKO product induction and the works completed in accordance with IKO recommendations.
- Guarantee application: to be made by the installing IKO contractor to customersupport@iko.com

- Guarantee issue: IKO guarantees to be issued to the installing contractor upon satisfactory completion.

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 bought 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 customersupport@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.
- Whereby the installing contractor has raised a concern or issue regarding the quality of an IKO product supplied. In such cases the product quality should be raised as a complaint; the products should be put to one side and not to be installed until such time validation of the product use as being fit for purpose or is to be replaced has been confirmed by IKO. Should the contractor then continue to use and install the product, they deem the product fit for purpose, this will be at the contractor's own risk and may result in defects within the installation and as such, any such remedial works required then all associated costs will be bourne by the installing contractor.

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 customersupport@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 though 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.