

Drees & Sommer UK Ltd
182 Sefton Street
Brunswick Business Pa
Liverpool
L3 4BQ

Date: 19/11/2024

For the attention of Glen Moody

Re: Specification for Blackley Crematorium Office and Chapel Roofs
Project Number: 10134951

We refer to my site visit on 5th November 2024 and the Roof Survey Report, and now have the pleasure in submitting our suggested roof waterproofing specification for your project.

The following specification would be covered by our BMI Group UK Ltd Insured System Guarantee Scheme for a period of 20 years provided that the work is carried out by a BMI Group UK Ltd. approved Roofing Contractor and is subject to the guarantee offer enclosed within the specification and the guarantee terms and conditions.

The roof areas indicated in this specification are approximate and should only be used as a guide. For accurate tendering purposes the client or contractor should confirm the exact areas.

I trust this specification is of assistance to you. If I can be of further help on this, or any other project, please do not hesitate to contact me on 07970455073.

Yours sincerely

A handwritten signature in red ink, appearing to read "Paul Seel", is positioned above the printed name.

Paul Seel
Area Technical Manager
T: 07970 455 073
E: paul.seel@bmigroup.com

Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



FLAT ROOFING SPECIFICATION



PROJECT ADDRESS:

PROJECT NAME: Blackley Crematorium Office and Chapel Roofs
CITY: Manchester
POSTCODE: M9 8PJ
DATE PREPARED: 19/11/2024

CLIENT

PREPARED ON BEHALF OF: Drees & Sommer UK Ltd

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Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
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1. INTRODUCTION

The specification provided below is not exhaustive. The purpose/extent of the enclosed specification is to provide an indicative outline of the products and application processes required to complete a successful BMI Icopal flat roof waterproofing system. **It is not the intent of this specification to provide step by step guidance covering all aspects and issues that may be relevant to the installation on the specific project.**

BMI Group UK Limited is committed to continually enhancing and improving our product range. We reserve the right to change products and specifications without notice albeit advanced notice of product withdrawals or replacements will be given where reasonably practicable. We recommend the BMI Icopal approved roofing contractor confirms product availability with a local BMI Group UK Limited flat roofing representative in advance of entering into any contracts based on this specification. If any aspects are revised prior to commencement of the construction please contact BMI Group UK Limited to review the specification and to amend or update the information provided.

Installers must follow BMI Group UK Limited installation guidance (available at <https://www.bmigroup.com/uk/bmi-icopal/>) and should contact BMI Group UK Limited Technical Services department as required.

For areas where 'Safe2Torch' is required please refer to the accompanying BMI Group UK Limited Site Survey (where applicable). It is the roofing contractor's responsibility to assess all hazards and health and safety issues associated with work on combustible substrates and to take appropriate steps and precautions in respect of any risk involved in the proposed roofing works implementation. For further guidance visit www.NFRC.co.uk/safe2torch

Any unauthorized changes made to this specification as originally issued by BMI Group UK Limited shall render it invalid.

Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



2. CONTACT DETAILS

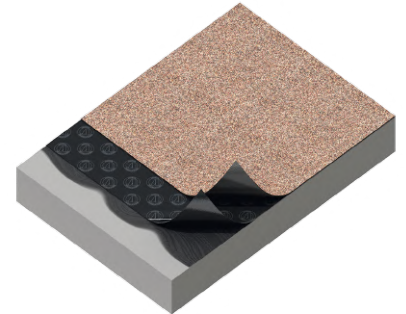
Client Details	
Client Company Name	Drees & Sommer UK Ltd
Client Address	182 Sefton Street Brunswick Business Pa Liverpool L3 4BQ
Contact Name	Glen Moody
Tel	
Email	glen.moody@dreso.com
Project Details	
Site Name	Blackley Crematorium Office and Chapel Roofs
Site Address	Victoria Avenue Manchester M9 8PJ
Icopal Contacts	
Name	Paul Seel
Position	Area Technical Manager
Tel	07970 455 073
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Head Office	Icopal Limited BMI House 2 Pitfield, Kiln Farm Milton Keynes MK11 3LW
Tel	01908 015760

Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951

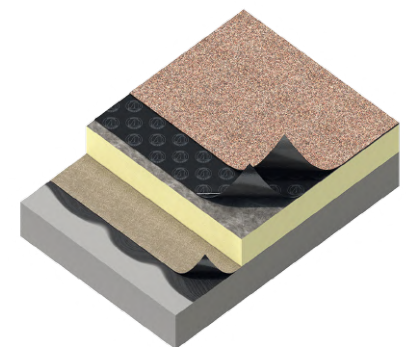


3. SPECIFICATION SUMMARY

Roof Area Reference	Blackley Crematorium Storage Roof
Roof Area(m2)	186
Deck	Prescreeded Woodwool
Substrate	Existing BUR
Primer	Siplast Primer
Vapour Control Layer	Not Required
Adhesive	Not Required
Packerboard	Not Required
Insulation	Not Required
Baselayer	Not Required
Underlay Primer	Not Required
Underlay	Total Torch Vapour Dispersion Layer
Capsheet	Thermaweld FireSmart Mineral Capsheet
Type of System	TORCHON(J41)



Roof Area Reference	Blackley Crematorium Office and Chapel Roofs
Roof Area(m2)	538
Deck	Prescreeded Woodwool
Substrate	Existing Bituminous VCL
Primer	BMI Icopal S.A. Spray Primer
Vapour Control Layer	TorchSafe T.A. VCL - Sanded
Adhesive	BMI Icopal Insulation Spray Adhesive
Packerboard	Not Required
Insulation	Thermazone Torch-on Board 130mm
Baselayer	Not Required
Underlay Primer	Not Required
Underlay	Total Torch Vapour Dispersion Layer
Capsheet	Thermaweld FireSmart Mineral Capsheet
Type of System	HEATACTIVE(J41)



4. PRELIMINARIES

1 - Health and Safety

Prior to commencement of works, all involved parties should consult the Asbestos Register from the building owners/duty holder. If asbestos based materials are present, all work must be carried out strictly in accordance with all current guidelines provided by the Health and Safety Executive, Local Authority and any other official organisation concerned with the project.

In the preparation of this technical specification and subsequent advice, BMI Group UK Limited understands its responsibility as an (additional) designer under the requirements of the current issue of The Construction (Design & Management) Regulations. As a result, we have made every effort to obtain all relevant information by way of site survey and client consultation in preparing this document. It is assumed that the client has also carried out their legal duties with regard to the The Construction (Design & Management) regulations and other associated health and safety legislation. Further information may be obtained from <https://www.hse.gov.uk/construction/cdm/2015/index.htm>

All work must comply with the requirements of the Health & Safety at Work Act and any additional project requirements.

The Work at Height Regulations 2005 apply to all work at height where there is a risk of a fall liable to cause personal injury. They place duties on employers, the self-employed and any person who controls work of others (e.g. facilities managers or building owners) to the extent that they control the work. The Construction (Design and Management) Regulations 2015 states that it is the responsibility of the employer to ensure that any employee required to work at height must be suitably trained and protected from any potential fall hazards. These regulations have been made to prevent the deaths and injuries caused each year by falls at work. A place is "at height" if (unless these regulations are followed) a person could be injured falling from it, even if it is at or below ground level. Therefore, in line with Health and Safety Executive (HSE) codes of practice, adequate fall protection must be provided where access is required to a roof area. This could be for maintenance, inspection, repair work or retro-fitting of plant equipment. Employees have general legal duties to take reasonable care of themselves and others who may be affected, and to cooperate with their employer to enable their health and safety duties and requirements to be complied with.

It is the contractors' responsibility to liaise with the client or building owner to identify any potential hazards that could affect safe working practices (eg. hazardous gases, noxious fumes, flammable fumes, transmitters and microwaves etc.).

Roofing products can be heavy. The contractor should ensure the correct control measures should be implemented to protect operatives and minimise risk when moving materials. Care should also be taken to avoid excessive point loading when storing and loading materials on a roof.

All material safety data sheets relating to BMI Icopal products are available on the company website or upon request from the BMI Technical Services Department.

It is the responsibility of the contractor to alert the client or building owner to the possibility of noise likely associated with roofing works prior to the start of works

Provision should be made to minimise or eliminate the risk of fumes or smoke from the roofing works entering the building by air intakes, doors and windows. The contractor should agree a plan of work with the building owner prior to commencement.

4. PRELIMINARIES - CONTINUED

1 - Health and Safety

Consideration must be given to working in adverse or windy conditions and the guidance in HSE publication HSG33 'Health and Safety in Roofwork' must be followed. Additional guidance provided by the NFRC in the document "Roofing and Cladding in Windy Conditions" is also available.

If solvent based products are included in this specification provision should be made for the safe storage of these products in a secure, well ventilated, flame proof, locked, protected storage area out of the weather. To minimise the risk associated with these products refer to the information provided within the relevant BMI Icopal material safety data sheets and product packaging. When working in confined spaces all relevant regulations should be followed. Consideration should be given to the proximity of air intakes, windows and doors during the application of solvent based products.

Where the specification calls for the removal of lead, strict adherence to the current 'Control of Lead at Work Regulations' and supporting Approved Code of Practice should be observed. Where lead-free replacement flashings are required BMI Icopal FormFlash should be used.

Appropriate PPE should be worn by operatives when cutting chases into masonry and concrete using hand or power tools.

BMI Icopal are signatories to the Safe2Torch guidance and therefore recommend that safe practices set out in the NFRC guidance document are followed where applicable. Guidance on hot works and roofing equipment is available from the NFRC - "Guidance - For the safe installation of torch-on reinforced bitumen membranes and use of gas torches in the workplace".

<https://www.nfrc.co.uk/docs/default-source/health-and-safety-guidance-publications/safe2torch-guidance.pdf>

Appropriate health and safety precautions should be adopted to minimise risk when using hot bitumen for roofing works. Information relating to the use of hot liquid bitumen can be found in the following publications: LRWA - Hot Melt Code of Practice Specification and Use of Hot Melt Monolithic Waterproofing Systems for Roofs, Balconies and Walkways <https://www.lrwa.org.uk/wp-content/uploads/2015/07/LRWA-Hot-Melt-Code-of-Practice.pdf>. UKLPG Codes of Practice - COP 4; Recommendations for the Safe and Satisfactory Operation of Thermoplastic and Bitumen Boilers, Mastic Asphalt Cauldrons and Mixers, Hard Tools and similar Equipment. 2004. <https://www.wlpga.org/>.

It is the client or building owner's responsibility to provide safe access and egress in line with Health and Safety Executive codes of practice, for personnel carrying out roof works or maintenance. Provision of adequate fall protection must be provided during installation, maintenance, inspection, repair work or retro-fitting of plant equipment. This should be considered at the design stage. Further information regarding protection can be found in the current version of HSG33 - Health and safety in roof work.

2 - Roofing Contractor

All dimensions given in the enclosed documents and drawings are approximate and the roofing contractor must either examine the buildings on site or consult with the lead designer to ascertain the full extent of the works required ensuring dimensions are correct before preparing a tender.

Before commencement of any roofing works the roofing contractor must visit the site and fully acquaint himself with all aspects of the site and scope of work whether explicitly referred to in the specification or not, they must also satisfy themselves as to the facilities including access, storage of materials, plant, welfare and other site conditions.

4. PRELIMINARIES - CONTINUED

2 - Roofing Contractor

It is the responsibility of the contractor to familiarise themselves with all current relevant regulations and appropriate supporting documents, such as Approved Documents, Technical Handbooks and Technical Booklets. The contractor must follow all current codes of practice with particular note to Regulation 7 - Materials and Workmanship, and BMI installation guidance. BMI Group UK Limited take no responsibility for the lack of knowledge of third parties.

The contractor shall ensure the surfaces to receive the specified works are acceptable and conform to the requirements of the specification. All surfaces must be free from solvents, hydrocarbons or any other incompatible materials.

Any works which may affect the client concerning the temporary disruption or suspension of existing services to the building during the works must be notified to them with sufficient notice.

The contractor shall co-ordinate all works to ensure the integrity of the roofing system is not compromised during installation. Works conducted during adverse weather conditions shall be suspended unless suitable temporary protection can be provided.

The contractor shall ensure that the decking materials and sub layers are dry prior to the application of the waterproofing system to prevent blistering, moisture entrapment, excessive movement and adhesion failure.

All roofing work must be left secure at the end of each working day and equipment must be left safe at the end of each work period.

It is the responsibility of the contractor to ensure that the building remains watertight at all times. Areas of existing waterproofing removed within a single day should be done so ensuring the provision of appropriate night joints.

The contractor should make adequate provision for the safe removal and disposal of all associated waste, including the existing waterproofing system if the roof is to be stripped

Suitable night joints should be formed at the end of each working day to provide a temporary waterproofing seal to the new installation. Materials used to create the joint which do not form part of the specified system shall be removed prior to continuation of the works.

Upon completion of the primary waterproofing works, the integrity of the waterproofing must be independently electronically leak tested (ELD) before any ballast, insulation, surface finishes or other items are placed above the waterproofing and submitted to BMI Group Ltd. Technical Services Department for acceptance and approval. If the third party leak detection survey confirms the presence of any punctures/defects these must be repaired prior to covering and subsequently re-tested and re-inspected by BMI. Please note that any guarantees will not be issued without a valid BMI inspection and valid ELD test certificate.

3 - Drainage

Temporary ponding of water on the specified waterproofing membranes will have no detrimental effect on the integrity of the waterproofing system, provided it has been installed in accordance with the specification. BMI Icopal waterproofing membranes have the capacity to accommodate the additional stresses imposed on the membranes by temporary ponding, however, we recommend that all guidance in accordance with the current revisions of BS 6229, BS 8217, SPRA, the LRWA, NFRC, LABC, and NHBC is followed to avoid ponding wherever possible. In the event of ponded areas, additional roof maintenance in addition to the normal requirements of the BMI Icopal care and maintenance manual will be required to regularly clear leaves, silt or other debris from these roof areas.

4. PRELIMINARIES - CONTINUED

3 - Drainage

Ponding water may have the following negative effects on the finished flat roof.

- Potential increased water loading on the structure, which should be taken into account.
- The aesthetics may be affected with the increased risk of membrane staining, algae, moss and insect infestations.
- There are potential health and safety concerns that may also arise such as odour/hygiene and a slip risk especially in freezing conditions.
- If the waterproofing membrane is penetrated in an area where ponding water forms there is a high risk of a leak.

Temporary ponding water will not affect the BMI Group UK Limited guarantee for the project. BMI Group UK Ltd. consider temporary to be a period within 48 hours after rainfall.

Inspect and test all rainwater goods including downpipes to ensure free drainage. Bring defects to the attention of the Client and agree remedial action prior to further works.

4 - Preparation

Electrical or mechanical work to existing plant or equipment must be carried out by competent and qualified professionals and any advice followed.

All preparatory works including alterations must be complete and satisfactory prior to the commencement of the installation of the specified waterproofing system.

It is the roofing contractors responsibility to ensure that all surfaces to receive the following specification are acceptable and conform to the necessary requirements.

5 - Application

The roofing contractor should ensure that all BMI Icopal materials are stored and installed within the temperature parameters stated in the relevant product datasheet and installation guidance.

If the reader of this document finds that there is a conflict of information please contact BMI Technical Services Department prior to the commencement of works for further advice.

This specification including any drawings or calculations should be read in conjunction with any relevant Architect or Specifier information. Any discrepancies should be highlighted to all parties in writing immediately.

Ensure that from completion of the waterproofing the roof is not used as a working platform unless fully protected to the satisfaction of the roofing contractor and BMI Icopal site inspectors. No paint, solvents, hydrocarbon volatile substances; or other substances which may be detrimental to the waterproofing membrane should come into contact with the waterproofing membrane. No sharp or abrasive materials should be allowed to come into contact with the completed waterproofing membrane.

Timber used as part of the roofing works should be treated structural softwood timber that meets, is used and is installed in accordance with the current version of "BS EN-1995-1-1". All timber used for flat roofing should be "Use Class 2" in accordance with the current version of "BS EN 335"

4. PRELIMINARIES - CONTINUED

5 - Application

A completed flat roofing project must achieve across the whole area a minimum fall of 1:80 as per BS 6229-2018. All flat roof surfaces (including internal gutters) should be designed to a fall of 1:40 to ensure finished fall of 1:80 is achieved. The design must take account of construction tolerances, permitted deviations and deflection under loading and deflection/settlement. The design of the falls must also take into account the point at which two areas of falls intersect. A minimum finished fall of 1:80 along is required along the intersection.

Following completion of the specified roofing works, provision should be given to the protection of all finished waterproofing surfaces from damage by any subsequent trades that require access to the roof area. Additional work by the roofing contractor may be required to return the membrane to a warrantable condition if the membrane is damaged due to inadequate protection.

The building structure must be of sound condition and capable of accepting the imposed loading of the new roofing system and associated installation procedures. It is the responsibility of the building owner/duty holder's to determine whether a Third party structural assessment should be conducted prior to works commencing. Please note if required this is the building owner/duty holder's responsibility to arrange and provide results to all relevant parties.

Any issues found that may affect the future performance of the specified system shall be reported to the client and BMI Icopal at the earliest possible opportunity.

The roof should comply with all relevant requirements governing the conservation of fuel and power and limiting carbon emissions, including, but not limited to, the guidance set out in Approved Document L (England & Wales), Technical Handbook - Section 6 Energy (Scotland), or Technical Standards F (Northern Ireland). Confirmation of individual project requirements should be confirmed to BMI Icopal by the principle designer of the project before commencement of works. Please note any proposed u-value or calculation contained in this specification and any associated quotation is subject to review until the principle designer confirms the actual required u-value.

Fastener withdrawal resistance tests (pull-out test) are recommended on certain refurbishment projects to determine the suitability of the roof deck for mechanical fixings. The withdrawal resistance test may be conducted by an independent laboratory or the fastener manufacturer or their designated representative. The results of the pull-out test must be marked on a roof plan to indicate the areas at which the tests were conducted and forwarded to BMI Group UK Ltd Technical Services Department for review prior to works commencing. On refurbishment projects, a core cutter should be used to remove existing roofing material to expose the deck prior to conducting the withdrawal resistance test.

6 - Materials

Unless otherwise agreed with BMI Group UK Ltd. Technical Services department in writing, all BMI Icopal specified products within the specification must be used.

All BMI Icopal materials to be used on site shall be new and inspected prior to roofing works commencing to ensure the quality of the materials is satisfactory. All BMI Icopal materials shall be handled, stored and fixed as required by the relevant BMI Icopal product data sheets and installation guidelines.

All BMI Icopal products should be stored in accordance with their relevant BMI technical data sheet and materials safety data sheet and follow the applicable codes of practice such as BS 8000 - Part 4 (2.1.2.2).

4. PRELIMINARIES - CONTINUED

6 - Materials	The roofing contractor shall coordinate all roofing works to ensure the integrity of all roofing system components is not compromised during installation. Storage of any material, temporary works such as scaffolding, items of plant and equipment, on top of any BMI Icopal product is only possible with appropriate protection in place, such as plywood boarding.
7 - Other	Do not apply the new BMI Icopal waterproofing system if the temperature or weather conditions are not as required by the specified products datasheet or installation guide. It is the roofing contractors responsibility to ensure that any adjoining areas to the specific project area that will have no roofing work requirements are protected against damage. It is the roofing contractors responsibility to also protect any vegetation, animals or ancillary items which might be affected by any roofing works or operations.
8 - Project Start Date	It is the roofing contractors responsibility to ensure that the start date of works on site is notified to BMI Group UK Ltd. Any changes to this date must be notified in due time as site inspections, which may be a condition of the guarantee offered, may be affected.

5.10134951.1.1 SPECIFICATION - Blackley Crematorium Storage Roof

SUBSTRATES

101A Enabling Works for Refurbishment Projects - Introduction

- These enabling/preparation works must be carried out to allow the waterproofing system specification included in this document to qualify for its guarantee.
- Failure to follow these enabling/preparation works will result in the project not meeting the criteria for its guarantee.
- BMI Icopal believes the deck and substrate to be as described in this document below.
- If the deck or substrate is in any way different please contact BMI Icopal Technical Services Department immediately.
- The roof areas indicated in this specification are approximate and should only be used as a guide and for accurate tendering purposes the client, main contractor or roofing contractor should confirm the exact areas and dimensions prior to project commencement.
- It is the responsibility of the roofing contractor to ensure that they are satisfied as to the existing roof construction and substrate before tendering.
- It is the roofing contractors responsibility to ensure that there are sufficient falls in accordance with the current revisions of BS 6229 on the roof area and any internal gutters prior to the installation of the specified waterproofing system.

101B Enabling Works for Refurbishment Projects - Checks and Removals

- The existing structure should be checked by a relevant qualified professional and their recommendations followed on any structural matters.
- It is the contractor's responsibility to check the suitability where present of; Roof joists, screeds, timber decks, concrete decks and metal decks for the proposed specification.
- Where applicable all redundant items cables or pipes should be clearly identified with the client or building owner prior to commencement of the roofing works, and where agreed and applicable remove or divert them.
- Remove existing waterproofing from all existing detailing including upstands, kerbs, waterchecks/drips.

101C Enabling Works for Refurbishment Projects - Construction Works

- Ensure perimeter water checks maintain a minimum 50mm upstand from the finished roof level, this should be increased to 75mm in more exposed geographical locations.

101D Enabling Works for Refurbishment Projects - Completion Works

- If required install new timber / PVCu fascia boards to the clients specification at all perimeters where required or as agreed and appropriate.
- If required install a new external perimeter rainwater gutter system to the clients specification ensuring it links with any existing downpipes and into the surrounding main rainwater drains in accordance with manufacturer's instructions.
- Where moss, lichen or plant growth exist, clean all existing surfaces with a suitable fungicidal or weed killing wash, in accordance with the manufacturer's instructions.
- Areas should be suitably rinsed and dried to remove any residues.
- Remove all superfluous materials, dust, debris and contaminants from the roof area and leave in a clean and dry condition.

TYPES OF COVERING

130B Cold Roof Covering Built-Up Reinforced Bitumen Membrane

- Roof Reference: Blackley Crematorium Storage Roof.
- Substrate: Existing BUR.
- Preparation: General preparation and Siplast Primer as clauses 566H and 322E,529C.
- Waterproof covering:
- System manufacturer: BMI Group UK Ltd.
- Base Layer: Not Required.
- Underlay: Total Torch Vapour Dispersion Layer.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- Top layer/ Capsheet: Thermaweld FireSmart Mineral Capsheet.
- Accessories: Accessory - Roofgard Cowled Telescopic Soil Vent, Accessory - Roofgard Cable / Tube Duct ,Accessory - Perimeter Trims - Roofgard GRP Edge Trim,.

150A Manufacturers Guarantee - Approved Contractor and ELD

- To be eligible for the guarantee offer enclosed within this specification the roofing contractor must be either a current Team Icopal certified member or Intelligent Membrane Association member (IMA).
- Upon completion of the primary waterproofing works it is the roofing contractors responsibility to ensure the integrity of the waterproofing has been independently electronically leak tested if required. The test must be carried out on any single ply, cold applied liquid or hot-melt waterproofing system and must also be conducted on any waterproofing system which is to be buried in an inverted roof podium deck scenario. The electronic leak detection test must be conducted and any repairs carried out before any further surfacing products are installed to the waterproofing. The electronic leak detection test must be submitted to BMI Group UK Ltd. Technical Services Department.
- If the third party leak detection survey confirms the presence of any punctures/defects these must be repaired prior to covering and the area subsequently re-tested and re-inspected by the BMI Technical Services Department. Please note that a guarantee will not be issued without a valid BMI Technical Services Department inspection and valid independent electronic leak detection test certificate.

PERFORMANCE

204C Manufacturers Guarantee 20 Years

- BMI Group UK Limited hereby offer a 20 Year Insured System Plus Guarantee on the above project, subject to satisfactory inspected installation in accordance with this BMI Icopal specification.
- All works completed should be carried out by an BMI Group UK Ltd. approved installer, and be in accordance with relevant current codes of practice and BMI Group UK Ltd. instructions.
- BMI Group UK Ltd. should be notified at least 7 working days prior to commencement of works to schedule the required inspections throughout the installation of the project.
- A BMI Group UK Ltd. representative must attend site in conjunction with the approved contractor to carry out a final inspection. All other works by third party contractors necessary to provide a weathertight finish should be satisfactorily completed prior to the final inspection.
- Following the satisfactory completion of the project, the roofing contractor should complete and submit a guarantee application form to BMI Technical Guarantee Administration Department within six months of the waterproofing final inspection date.
- All supporting test certificates should accompany the guarantee application. Upon receipt and verification of all documentation, the BMI Group UK Ltd. Guarantee will be issued to the approved contractor.
- It is a condition of the BMI Group UK Ltd. Guarantee that in addition to the inspections carried out each year by the client, that the client is responsible for arranging an inspection of the roof in each fifth year after issue of the guarantee by the BMI approved roofing contractor.
- A detailed inspection report should be returned to the BMI Technical Guarantee Administration Department confirming that the waterproofing integrity of the waterproofing membrane is still intact.
- Any maintenance to the roof should be carried out in accordance with the BMI Group UK Ltd. Flat roofing, care, Inspection and maintenance guide.

210A Roof Performance

- General: Secure, free draining and weathertight.

220A General Design & Installation Criteria

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- The roof waterproofing system is to be installed in accordance with the current recommendations of BS 6229 (Flat Roofs with Continuously Support Coverings: Code of Practice), and if applicable BS 8217 (Reinforced Bitumen Membranes for Roofing), BS 8000 (Part 0: Workmanship on construction sites. Introduction and general principles), BS 8000 (Part 4: Workmanship on Building Sites. Code of Practice for Waterproofing), and BMI Icopal's current installation instructions.

- The roof should comply with the requirements of the current revision of Building Regulations Approved Document L1 or L2, Technical Handbook - Section 6 Energy or Technical Standards F1 or F2. It is recommended that confirmation of individual project requirements is sought from the local Building Control Office before commencement.

- Wind loadings should be assessed in accordance with BS EN 1991-1-4: 2005 (National Annex to Eurocode 1 Actions on Structures. General Actions. Wind Actions) taking into account the dimensions and height, and orientation of the building; wind speed; aspect (e.g. on a hill side); and topographical value of the surrounding areas.

- The building structure must be of sound condition and capable of accepting the imposed loading of the new roofing system and associated installation procedures. Third party assessments should be considered to ascertain its suitability.

- Consideration must be given by the contractor at all times to the aesthetic appearance of the roof.

- Building work which is the responsibility of the roofing contractor and has a bearing on the durability and performance of the Icopal roof system should be carried out by properly trained and qualified tradespersons.

222 General Design & Installation Criteria

- Ensure that from completion of the waterproofing the roof is not used as a working platform unless fully protected to the satisfaction of the Contract Administrator. No paint, solvents or other hydrocarbon volatile substances; or other substances which may be detrimental should come into contact with the waterproofing membrane.

- It is strictly the responsibility of the client and/or their appointed design professional 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.

- It is the roofing contractors responsibility to ensure that there are sufficient falls in accordance with the current revisions of BS 6229 on the roof area and any internal gutters prior to the installation of the specified waterproofing system.

PRODUCTS

322E Icopal Siplast Primer

- A high penetration solvent based quick drying elastomeric bitumen priming solution for the preparation of dusty and porous surfaces prior to the application of bituminous waterproofing membranes.

- Size: 25 Litre.

- Product Code:21000126

- Application Rate: 0.1-0.35 litres/m².

- Application as clause 529C.

330 Timber - General

- 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: [compatible with waterproofing system].

- Softwood timber in accordance with the current version of BS EN-1995-1-1.

343A Accessory - Roofgard Cowled Telescopic Soil Vent

- Install the Roofgard Cowled Telescopic Vent where a soil vent pipe penetrates the waterproofing system. Place the upstand pipe over the soil vent pipe centrally.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- Ensure the high performance membrane flange on the upstand pipe is fully supported and is bonded between the underlay and capsheet by careful torching or flame-free hot-air welding, as appropriate to the main detailing specification.

- The telescopic double pipe is then positioned to fit into the soil vent pipe incorporating the 'O' ring seal and simultaneously over the upstand pipe.
- The height of the telescopic double pipe can be adjusted as required and secured with the self-tapping screw.
- Compliance for the minimum height must be in accordance with all current relevant building regulations.
- The installation is completed by fixing the vented cowl, secured with the self-tapping screw.
- Type: Preformed flanged sleeve.
- Manufacturer: BMI Icopal
- Product reference: Roofgard Cowled Telescopic Vent Pipe.
- Accessories: Telescopic Double Pipe / Vented Cowl.
- Compliance for the minimum height must be in accordance with current Building Regulations.

344A Accessory - Roofgard Cable / Tube Duct

- Install the Roofgard Cable & Tube Duct where required for cables and/or tubes penetrate the waterproofing system. Ensure the high performance membrane flange on the Roofgard Cable & Tube Duct upstand pipe is fully supported and is bonded between the underlay and capsheet by careful torching or flame-free hot-air welding, as appropriate to the main detailing specification.
- The Roofgard Cable & Pipe Duct consists of a high quality stainless steel pipe providing a rigid 300mm upstand and incorporating a polyester reinforced polymer modified membrane flange for incorporating into the roofing waterproofing for continuity. The upstand is capped with two PVC pipe elbows. The Cable & Pipe Duct provides a weatherproof sleeve for cables or tubes that penetrate through a flat roof.
- Roofgard Cable & Pipe Duct
- Length: 300mm.
- Pack Quantity: 1 unit.
- Product Code: 20000267.

345A Accessory - Perimeter Trims - Roofgard GRP Edge Trim

- The BMI Icopal Roofgard Roof Edge Trim range provides a superior and effective roof edge trim to built-up felt roofing. Quick and easy to install, they will retain their colour and shape for the life of the waterproofing.
- Product Code:
- 20000102 Roofgard Edge Trim B50 (3m length).
- 20000103 Roofgard Internal Corner B50.
- 20000104 Roofgard External Corner B50.
- 20000105 Roofgard Edge Trim B100 (3m length).
- 20000106 Roofgard Internal Corner B100.
- 20000107 Roofgard Internal Corner B100.
- 20000108 Roofgard Edge Trim B150 (3m length).
- 20000109 Roofgard Internal Corner B150.
- 20000110 Roofgard Internal Corner B150.

346 Accessory - Upstand Flashing - FormFlash

- BMI Icopal Formflash is a lightweight, lead-free alternative for roof flashing. It is 50% lighter than Code 4 lead making it easier to handle and speedier to install.
- Roll Length: 10m.
- Surface Finish: Smooth Grey colour.
- Product Codes:
- 120mm to 950mm widths available.
- Formflash Fixing Clips
- Bag Quantity: 25 unit.
- Product code: 20000197.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- Install FormFlash cover flashing dressed into the chases provided and secure using FormFlash Fixing Clips at 400mm centres and every change of direction.
- Cut, joint and dress the new flashing neatly to provide a minimum 75mm cover to the upstand waterproofing.
- Complete by pointing with a suitable bitumen-compatible sealant.
- The pointing must be regularly checked and maintained to ensure compliance with guarantee terms and conditions.

381E Reinforced Bitumen Capsheet - Thermaweld FireSmart Mineral

- A high performance SBS modified bitumen membrane with a strong polyester reinforcing fleece intended for use as a top sheet within a built-up roof waterproofing system.

The addition of FireSmart bitumen provides enhanced fire protection to the roof build up.

- Topside: Mineral Granules.
- Underside: Thermofusible PE film.
- Roll Size: 7m x 1m.
- Roll Weight: 42kg.
- Rolls Per Pallet: 25.
- Product Code: 10001243 Thermaweld FireSmart Charcoal.
- Other colours available on request. (Minimum Order Quantity)

406A Reinforced Bitumen Underlay - Total Torch Vapour Dispersion Layer

- A glass reinforced SBS-modified bituminous membrane with special vapour pressure release stripes.
- Topside: Thermofusible PE film.
- Underside: Low melt bitumen stripes/Sand finished with thermofusible PE film.
- Roll Size: 8m x 1m.
- Roll Weight: 32kg.
- Rolls Per Pallet: 30.
- Product Code: 10001152.

EXECUTION GENERALLY

505 Storage Of Materials

- Materials should be delivered to site in the original packaging and bearing the appropriate labels.
- Store rolls of membrane in clean, dry conditions off the ground, away from exposure to the sun, heat sources and protect against mechanical damage.
- Bituminous membranes when removed from pallet must be stood on end on a flat level surface.
- Coatings, primers etc, should be stored under cover and protected from frost. They should be kept away from heat sources, and sources of ignition including pilot lights and sparks. Keep containers tightly closed when not in use.
- Care should be taken when loading roof areas to ensure that the material is positioned over structural supports and that adequate protection is taken to protect the deck and insulation from damage.

506 Storage Of Roof Insulation

- Insulation boards are supplied in shrink wrapped polythene which will only provide limited protection during unloading and handling. All board packs are clearly marked with date/time of manufacture, board type and thickness for ease of identification. Boards should be stored inside a building where possible. If outside storage cannot be avoided, boards should be stored flat, raised off the ground and tarpaulins or heavy gauge waterproof sheets should be used to cover the boards at all times.
- The delivery packaging alone cannot under any circumstances be relied upon to provide the required protection from moisture and inclement weather.
- Insulation boards that have been allowed to get wet must not be used under any circumstance.

515 Adverse Weather

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- 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.
- Weather: Do not apply or lay materials on substrates which are frozen or have been affected by frost.
- In high winds (speeds > 7 m/s), unless adequate temporary windbreaks are erected adjacent to working area.
- Unfinished areas of roof: Keep dry. Protect edges of laid membrane from wind action.
- Do not apply liquid coatings or primers:
- In wet conditions or at temperatures below 5°C, unless otherwise permitted by manufacturer.

520 Incomplete Work

- End of working day: Provide temporary seal to prevent water infiltration.
- On resumption of work: Cut away tail of membrane from completed area and remove from roof.
- Ensure water and dirt are removed and damage repaired so as not to impair performance.

521 Suitability of Substrates

- Substrates generally: Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
- Preliminary work: Complete including:
 - Grading to correct falls. Falls should be designed to 1:40 to achieve minimum finished falls of 1:80 to comply with requirements of BS 6229.
 - Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
 - Fixing of battens, fillets and anchoring plugs/strips.
 - Moisture content and stability of substrate: Must not impair roof integrity.

SUBSTRATES

529C Priming Substrates - Siplast Primer

- Apply Siplast Bitumen Primer to the prepared substrates by brush or roller ensuring the primer is evenly applied to the surface to a consistent coverage while avoiding pooling of the primer.
- An application rate of 0.1-0.3litres per m2 is required which is both weather and substrate porosity dependant.
- Leave the primer to dry thoroughly before installing any subsequent layers.

566H Substrate Perpetration - Clean and make good

- Ensure all substrate surfaces are free from cracks, debris, projections rough areas and cavities. The substrate must be clean and dry.

WATERPROOF COVERINGS / ACCESSORIES

710A Laying Reinforced Bitumen Membranes Generally

- Direction of laying: Unrolled up the slope.
- Where practicable, install so that water drains over and not into laps.
- Seal using materials and method recommended by bitumen membrane manufacturer.
- Head laps: Offset.
- Successive layers: Apply without delay. Do not trap moisture.
- Strips of bitumen membrane for 'linear' details: Cut from length of roll.
- Completed coverings: Firmly attached, fully sealed, smooth, weatherproof and free draining.

730A Partial Bonding Of striped Reinforced Bitumen Membrane (Torch Applied)

- Partial bond first layer: Align and cut to length. Do not carry up angle fillets and vertical surfaces or through details.
- Apply a layer of membrane with distinct partial bond stripes:
- The membrane should be low flame torched to completely remove the plastic film and activate the advanced bitumen stripes on the underside and achieve the high strength partial bond.

740 Torch-On Bonding Of Reinforced Bitumen Membranes

- Bond: Full contact over the whole surface, with no air pockets.
- Apply by roofers torch in an advancing manner, ensuring the heat dispersible film is completely removed by torching as work proceeds.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- Membranes should be lapped by manufacturer's recommended minimum width. Following torching a continuous extrusion of bitumen must extrude from all laps.
- All laps must be thoroughly checked for security as work proceeds.

742 Thermally-Activated Bonding Of Reinforced Bitumen Membranes

- Bond: Full over whole surface, with no air pockets.
- Generally: Roll out membrane, whilst progressively removing release sheet from back of membrane and selfedge.
- Ensure all air is expelled from beneath membrane during application.
- Membrane is to be well rolled down.
- Membrane should be lapped by manufacturer's recommended minimum width.
- All overlaps must be thoroughly checked for security as work proceeds.

750 Laying Mineral Faced Reinforced Bitumen Membranes

- Lap positions and detailing of ridges, eaves, verges, hips, abutments, etc: Submit proposals.
- Setting out: Neat, with carefully formed junctions.
- Side and end joints:
- Side Laps: Should follow the manufactured mineral-free selfedge.
- End Laps (minimum): 150 mm.
- Finished surface: Do not scorch.

771 Torch Safe Detailing

- To combustible substrates and other vulnerable details: Use TA thermally activated self-adhesive membranes as an alternative to torch applied membranes to comply with Safe2Torch requirements.
- Exclusion Zone: A torch-free exclusion zone should be created a minimum 900mm from all areas considered at risk due to being constructed from combustible materials, or adjacent to details where there is a risk of fire due to debris, cobwebs or other flammable hazards; for example (and not limited to) timber upstands, details adjacent to existing pitched tiled roof areas or wall cladding, etc.
- Within the exclusion zone: Where appropriate use a combination of thermally-activated membranes allowing combustible and sensitive substrates and details to be covered over using hot-air welding flame-free techniques, to encapsulate and protect the combustible materials and to keep all surfaces free from fire risk during application of any further torch-on membranes.

772 Fully Flame Free Detailing

- Use thermally-activated/self-adhesive capsheet in place of torch applied capsheet in locations where contractor deems fire risk from application of torch applied capsheet remains.
- Detailing sheets to be applied completely flame-free using hot-air welding techniques and/or solvent-free waterproof adhesive to form secure and watertight detail flashings.

773 Upstands - Liquid

- (If required for the new PV support detail) Install the specified carrier membrane to the upstand, following application of the BMI Icopal SA primer. The membrane should be installed as a separate item, lapping onto the field area by a minimum 150mm. Ensure the membrane is sufficiently adhered to the substrate.
- Apply the appropriate Sealoflex Primer to the prepared upstand substrate. If in doubt, an adhesion test should be carried out to determine the most suitable primer to use.
- Apply the Sealoflex Ultima Waterproof Coating to the upstand, in accordance with the manufacturer instructions. Upstands should be completed first to avoid and minimise foot traffic damage to the field area installation.
- Ensure a minimum 75mm overlap to adjacent areas. When installing the reinforcing fabric into the coating ensure the centre line of the fabric is aligned with the angle and is pressed tightly into it. Press the fabric into position vertically and horizontally, ensuring creases, wrinkles or air gaps are removed.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- The waterproofing system should be installed so that continuity is maintained for a vertical height of not less than 150mm above finished roof level, including any surface finishes, in accordance with the current version of BS 6229.

774 Upstand Detailing - Bitumen

- (If required for the new PV support detail) Ensure the upstand substrate on both the horizontal and vertical surfaces, are clean, dry and prepared as appropriate. Prime the surfaces with the specified detailing primer at the specified coverage rates.
- Install the Thermazone Roofboard Angle Fillets at the junction of the horizontal and vertical surfaces. Ensure they are securely fixed using appropriate fixings or insulation adhesive as per the installation instructions.
- Apply a layer of the specified TA Detailing underlay to the prepared, primed upstand detail, using a hot air gun. Ensure a there is a continuous visible extrusion of bitumen from all laps. The underlay should overlap onto the field area by a minimum of 150mm. The underlay should overlap onto the field area by a minimum of 150mm. Ensure the membrane is sufficiently adhered to the substrate.
- Apply a layer of the specified Mineral capsheet to the primed underlay, fully bonded to the underlay by careful heat welding. All side laps to be 75mm minimum and all overlaps onto the field area to be a minimum 150mm. The capsheet must be installed in accordance with the main specification and the products data sheet and installation guide. Ensure a continuous visible extrusion of bitumen is present at all laps. Cap sheet and Underlay should be staggered to prevent a build up of bitumen at the side laps.
- The cap sheet should be installed so that it extends out onto the field area by a minimum of 300mm. At the top edge of the bitumen membrane it should be secured as specified to ensure a watertight termination. Colour to match the main field area membrane.

774A Welled Drip Detailing - Bitumen

- Form a welled drip detail from the specified detailing cap sheet, reinforced using strips of external grade minimum 6mm WBP Plywood fixed to a treated timber drip batten at 150mm staggered centres using minimum 20mm x 3.0mm galvanised smooth clout nails. Turn the cap sheet back onto the roof a minimum 150mm and fully bond onto the roof underlay before application of the main field area cap sheet. There must be a continuous visible extrusion at all laps. Please refer to the products datasheet, BMI Group UK Ltd. drawing details and installation guides for further information.

COMPLETION

910A Inspection

- For BMI 'Insured System Plus, and 'Product Plus & Workmanship' guarantees inspections of the project by a BMI Group UK Technical representative are a mandatory requirement.
- For BMI Icopal Product Plus and Workmanship Guarantees a bi-weekly inspection is required.
- For BMI Icopal Insured System Plus Guarantee a weekly inspection is required.
- Access to the roof area should be maintained in place until the BMI Inspector has inspected the roof works and completed a final inspection.
- The BMI approved installer should ensure attendance at the final inspection by the BMI inspector.
- Any defects, must be completed prior to a final inspection being issued.
- A BMI Guarantee will only be issued when the completed BMI roofing system has been inspected and is deemed to be in compliance with the waterproofing specification.
- Other requirements: Refer to preliminaries/general conditions of guarantee offer.

920A Electronic Roof Integrity Test

- This may be a requirement under the terms of the BMI Icopal 'Insured System Plus' Guarantee, or/and where the waterproofing system is to be buried, eg beneath a green roof or ballast.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Storage Roof

- Testing authority: UKAS approved laboratory.
- Timing of test: Prior to covering over or/and on completion of waterproofing system. Ideally, testing should be not be carried until all associated follow-on trades are complete and the roof areas are clear from all debris and temporary protection layers.
- Condition of roof prior to testing.
- Complete to a stage where integrity can be tested.
- Test results and warranty: Submit on completion of testing.

940A Completion - General

- Roof areas: Clean.
- 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.

950A Maintenance

- All roofs should have an annual maintenance schedule, with visits twice a year; in late autumn to assure that the roof is ready for the upcoming winter, and in spring to detect winter related roof damage.
- If regular roof access for plant maintenance etc. is required then the waterproofing should be protected with either a designated walkway or temporary protection boards as necessary.
- An inspection should also be carried out following any works on the roof by other trades or contractors, or following installation of any new roof equipment, etc.
- Consideration must also be made in relation to enabling regular safe access for maintenance staff, and it is important that adequate fall protection measures are put in place to allow for safe inspection and maintenance of the roof.
- Failure to adequately maintain the roof system may affect the validity of the guarantee.

5.10134951.1 SAFE2TORCH PLAN -

BMI Group UK Limited have pledged support to the National Federation of Roofing Contractors (NFRC) 'Safe2Torch' campaign. 'Safe2Torch' is an NFRC initiative, developed in partnership with contractor and manufacturer members of the NFRC, which seeks to significantly reduce the risk of roof fires when using gas torches, either to dry out roofs or when used to install torch-on membranes.

The roof plan below denotes the areas where naked flames are or are not permitted, a list of areas considered to be at risk under the Safe2Torch guidance may be found on

<https://www.nfrc.co.uk/safe2torch>

Plan View - Blackley Crematorium Office and Chapel Roofs

Visual impression of the areas where it is not Safe2Torch

■ No Naked Flames

■ Safe2Torch



This plan is based on the findings of the BMI Icopal roof survey. The installing roofing contractor must also make their own assessment of the roof area prior to commencement of any hot works to ensure all "at risk" areas have been identified. If any additional areas of concern are identified please contact your BMI Icopal representative prior to the commencement of works so the specification may be revised.

Areas with flammable substrates should be treated as Non Safe2Torch areas. To the areas with a flammable roof deck (shaded red areas on map) the specification will allow for the use of either a Thermally Activated VCL or Thermally Activated Underlay to protect the deck. As long as all flammable substrates have been encapsulated the remainder of the system can be torch applied. Non-flammable deck/substrates (green areas) can be installed using a torch on method. Flammable details (solid red areas on map, non-exhaustive) require a complete flame free installation. Please follow detailing as per the specification.

5.10134951.2.1 SPECIFICATION - Blackley Crematorium Office and Chapel Roofs

SUBSTRATES

101A Enabling Works for Refurbishment Projects - Introduction

- These enabling/preparation works must be carried out to allow the waterproofing system specification included in this document to qualify for its guarantee.
- Failure to follow these enabling/preparation works will result in the project not meeting the criteria for its guarantee.
- BMI Icopal believes the deck and substrate to be as described in this document below.
- If the deck or substrate is in any way different please contact BMI Icopal Technical Services Department immediately.
- The roof areas indicated in this specification are approximate and should only be used as a guide and for accurate tendering purposes the client, main contractor or roofing contractor should confirm the exact areas and dimensions prior to project commencement.
- It is the responsibility of the roofing contractor to ensure that they are satisfied as to the existing roof construction and substrate before tendering.
- It is the roofing contractors responsibility to ensure that there are sufficient falls in accordance with the current revisions of BS 6229 on the roof area and any internal gutters prior to the installation of the specified waterproofing system.

101B Enabling Works for Refurbishment Projects - Checks and Removals

- The existing structure should be checked by a relevant qualified professional and their recommendations followed on any structural matters.
- It is the contractor's responsibility to check the suitability where present of; Roof joists, screeds, timber decks, concrete decks and metal decks for the proposed specification.
- Where applicable all redundant cables, pipes and rooflights should be clearly identified with the client or building owner prior to commencement of the roofing works, and where agreed and applicable remove or divert them.
- Where suitable some of the items may be reinstated on completion of the waterproofing works.
- Remove existing waterproofing from all existing detailing including upstands, kerbs, waterchecks/drips.
- Where required remove the existing waterproofing system down to the existing vapour control layer and dispose.

101C Enabling Works for Refurbishment Projects - Construction Works

- Raise any and all upstand kerbs to provide the minimum 150mm upstand height from the finished roof level required by current guidance and standards.
- Raise perimeter water checks to maintain a minimum 50mm upstand from the finished roof level, this should be increased to 75mm in more exposed geographical locations.
- Inspect and carry out any necessary repairs to existing upstands or abutment walls, re-pointing or re-building any loose sections as necessary.
- Consideration should be given to the position of any existing cavity trays. Discharge from cavity trays must be above the level of the new waterproofing, consideration should be made on removing, raising or installing new cavity trays if required to achieve the upstand height.
- Cut new 25mm deep chases in all masonry upstands and remove all superfluous dirt and debris.
- The height of a chase should allow for a minimum 150mm upstand above the finished level of the new waterproofing surface, including any surface finishes.

101D Enabling Works for Refurbishment Projects - Completion Works

- If required install new timber / PVCu fascia boards to the clients specification at all perimeters where required or as agreed and appropriate.
- If required install a new external perimeter rainwater gutter system to the clients specification ensuring it links with any existing downpipes and into the surrounding main rainwater drains in accordance with manufacturer's instructions.
- Areas should be suitably rinsed and dried to remove any residues.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Remove all superfluous materials, dust, debris and contaminants from the roof area and leave in a clean and dry condition.

TYPES OF COVERING

110B Warm Roof Covering Reinforced Built-Up Bitumen Membrane

- Roof Reference: Blackley Crematorium Office and Chapel Roofs
- Substrate: Existing Bituminous VCL
- Preparation: BMI Icopal S.A. Spray Primer as clause 529,322C,529B
- Vapour control layer: TorchSafe T.A. VCL - Sanded, as clause 670B,742,396C,680A,771.
- Packerboard: [packerboard], as clause 423A,335,506.
- Insulation: Thermazone Torch-on Board 130mm, as clause 423A,335,506.
- Waterproof covering:
System manufacturer: BMI Group UK Ltd.
- Underlay: Total Torch Vapour Dispersion Layer as clause 710,406A,710B,730A,750,771.
- Top layer/Capsheet: Thermaweld FireSmart Mineral Capsheet.
- Accessories: Accessory - Roofgard Cowled Telescopic Soil Vent, Accessory - Roofgard Cable / Tube Duct ,Accessory - Perimeter Trims - Roofgard GRP Edge Trim,.

150A Manufacturers Guarantee - Approved Contractor and ELD

- To be eligible for the guarantee offer enclosed within this specification the roofing contractor must be either a current Team Icopal certified member or Intelligent Membrane Association member (IMA).
- Upon completion of the primary waterproofing works it is the roofing contractors responsibility to ensure the integrity of the waterproofing has been independently electronically leak tested if required. The test must be carried out on any single ply, cold applied liquid or hot-melt waterproofing system and must also be conducted on any waterproofing system which is to be buried in an inverted roof podium deck scenario. The electronic leak detection test must be conducted and any repairs carried out before any further surfacing products are installed to the waterproofing. The electronic leak detection test must be submitted to BMI Group UK Ltd. Technical Services Department.
- If the third party leak detection survey confirms the presence of any punctures/defects these must be repaired prior to covering and the area subsequently re-tested and re-inspected by the BMI Technical Services Department. Please note that a guarantee will not be issued without a valid BMI Technical Services Department inspection and valid independent electronic leak detection test certificate.

PERFORMANCE

204C Manufacturers Guarantee 20 Years

- BMI Group UK Limited hereby offer a 20 Year Insured System Plus Guarantee on the above project, subject to satisfactory inspected installation in accordance with this BMI Icopal specification.
- All works completed should be carried out by an BMI Group UK Ltd. approved installer, and be in accordance with relevant current codes of practice and BMI Group UK Ltd. instructions.
- BMI Group UK Ltd. should be notified at least 7 working days prior to commencement of works to schedule the required inspections throughout the installation of the project.
- A BMI Group UK Ltd. representative must attend site in conjunction with the approved contractor to carry out a final inspection. All other works by third party contractors necessary to provide a weathertight finish should be satisfactorily completed prior to the final inspection.
- Following the satisfactory completion of the project, the roofing contractor should complete and submit a guarantee application form to BMI Technical Guarantee Administration Department within six months of the waterproofing final inspection date.
- All supporting test certificates should accompany the guarantee application. Upon receipt and verification of all documentation, the BMI Group UK Ltd. Guarantee will be issued to the approved contractor.
- It is a condition of the BMI Group UK Ltd. Guarantee that in addition to the inspections carried out each year by the client, that the client is responsible for arranging an inspection of the roof in each fifth year after issue of the guarantee by the BMI approved roofing contractor.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- A detailed inspection report should be returned to the BMI Technical Guarantee Administration Department confirming that the waterproofing integrity of the waterproofing membrane is still intact.
- Any maintenance to the roof should be carried out in accordance with the BMI Group UK Ltd. Flat roofing, care, inspection and maintenance guide.

210A Roof Performance

- General: Secure, free draining and weathertight.

220A General Design & Installation Criteria

- The roof waterproofing system is to be installed in accordance with the current recommendations of BS 6229 (Flat Roofs with Continuously Support Coverings: Code of Practice), and if applicable BS 8217 (Reinforced Bitumen Membranes for Roofing), BS 8000 (Part 0: Workmanship on construction sites. Introduction and general principles), BS 8000 (Part 4: Workmanship on Building Sites. Code of Practice for Waterproofing), and BMI Icopal's current installation instructions.
- The roof should comply with the requirements of the current revision of Building Regulations Approved Document L1 or L2, Technical Handbook - Section 6 Energy or Technical Standards F1 or F2. It is recommended that confirmation of individual project requirements is sought from the local Building Control Office before commencement.
- Wind loadings should be assessed in accordance with BS EN 1991-1-4: 2005 (National Annex to Eurocode 1 Actions on Structures. General Actions. Wind Actions) taking into account the dimensions and height, and orientation of the building; wind speed; aspect (e.g. on a hill side); and topographical value of the surrounding areas.
- The building structure must be of sound condition and capable of accepting the imposed loading of the new roofing system and associated installation procedures. Third party assessments should be considered to ascertain its suitability.
- Consideration must be given by the contractor at all times to the aesthetic appearance of the roof.
- Building work which is the responsibility of the roofing contractor and has a bearing on the durability and performance of the Icopal roof system should be carried out by properly trained and qualified tradespersons.

222 General Design & Installation Criteria

- Ensure that from completion of the waterproofing the roof is not used as a working platform unless fully protected to the satisfaction of the Contract Administrator. No paint, solvents or other hydrocarbon volatile substances; or other substances which may be detrimental should come into contact with the waterproofing membrane.
- It is strictly the responsibility of the client and/or their appointed design professional 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.
- It is the roofing contractors responsibility to ensure that there are sufficient falls in accordance with the current revisions of BS 6229 on the roof area and any internal gutters prior to the installation of the specified waterproofing system.

PRODUCTS

322C Icopal SA Spray Primer

- A high performance polymeric, quick drying solvent based primer for the preparation of variety of substrates prior to the application of thermally activated bitumen waterproofing membranes. It provides an outstanding bond and has been formulated to allow for simple application and its spray on nature gives exceptional coverage rates, providing a bond that exhibits high adhesive and cohesive strength and good flexibility.
- Canister Size: 23kg.
- Product Code: 20000722.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Coverage: 300 m².
- Additional Products:
 - BMI Icopal SA Spray Primer Application Field Gun - Product Code: 20000723.
 - BMI Icopal Braided Hose, Length: 3.6m - Product Code: 20000719.
 - BMI Icopal Hose & Gun Cleaning Adaptor - Product Code: 20000720.
 - BMI Icopal Hose & Gun Cleaner. Size: 500ml. - Product Code: 20000721.
- Application as clause 529B.

329B Icopal Insulation Spray Adhesive

- Adhere the Insulation boards to the VCL /substrate using BMI Icopal Insulation Spray Adhesive strictly in accordance with the current application instructions.
- Apply 30mm beads of adhesive at the required centres paying particular attention to the wind uplift requirements for the location of the project and the relevant bonding pattern for the adhesive.
- Adhesive should always be applied across the width of the Insulation board.
- Lay the insulation board immediately into the adhesive. Do not allow the adhesive to skin over as this will affect the bond strength. Initial bond will be achieved after 15 minutes after which time the boards are safe to walk on. Full strength cure will occur within 24 hours.
- BMI Icopal Insulation Spray Adhesive is a single component polyurethane foam adhesive for bonding of thermal insulation boards to a range of substrates on flat roofs.
- Insulation Adhesive Canister:
 - Size: 22L
 - Product Code: 20000717.
- Insulation Spray Adhesive Gun:
 - Nozzle length: 470mm
 - Product Code: 20000718.
- Braided Hose:
 - Hose Length: 3.6m
 - Product Code: 20000719.
- Hose & Gun Cleaning Adapter
 - Product Code: 20000720.
- Hose & Gun Cleaner
 - Size: 500ml
 - Product Code: 20000721

330 Timber - General

- 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: [compatible with waterproofing system].
- Softwood timber in accordance with the current version of BS EN-1995-1-1.

335 Torch On Insulation Angle Fillet

- BMI Icopal Torch-on Angle Fillets are high performance rigid urethane CFC/HCFC free insulation board angles for transitioning between horizontal and vertical surfaces.
- Board Size: 50mm x 50mm.
- Length: 1200mm.
- Product Code: 20000470

343A Accessory - Roofgard Cowled Telescopic Soil Vent

- Install the Roofgard Cowled Telescopic Vent where a soil vent pipe penetrates the waterproofing system. Place the upstand pipe over the soil vent pipe centrally.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Ensure the high performance membrane flange on the upstand pipe is fully supported and is bonded between the underlay and capsheet by careful torching or flame-free hot-air welding, as appropriate to the main detailing specification.

- The telescopic double pipe is then positioned to fit into the soil vent pipe incorporating the 'O' ring seal and simultaneously over the upstand pipe.
- The height of the telescopic double pipe can be adjusted as required and secured with the self-tapping screw.
- Compliance for the minimum height must be in accordance with all current relevant building regulations.
- The installation is completed by fixing the vented cowl, secured with the self-tapping screw.
- Type: Preformed flanged sleeve.
- Manufacturer: BMI Icopal
- Product reference: Roofgard Cowled Telescopic Vent Pipe.
- Accessories: Telescopic Double Pipe / Vented Cowl.
- Compliance for the minimum height must be in accordance with current Building Regulations.

344A Accessory - Roofgard Cable / Tube Duct

- Install the Roofgard Cable & Tube Duct where required for cables and/or tubes penetrate the waterproofing system. Ensure the high performance membrane flange on the Roofgard Cable & Tube Duct upstand pipe is fully supported and is bonded between the underlay and capsheet by careful torching or flame-free hot-air welding, as appropriate to the main detailing specification.
- The Roofgard Cable & Pipe Duct consists of a high quality stainless steel pipe providing a rigid 300mm upstand and incorporating a polyester reinforced polymer modified membrane flange for incorporating into the roofing waterproofing for continuity. The upstand is capped with two PVC pipe elbows. The Cable & Pipe Duct provides a weatherproof sleeve for cables or tubes that penetrate through a flat roof.
- Roofgard Cable & Pipe Duct
- Length: 300mm.
- Pack Quantity: 1 unit.
- Product Code: 20000267.

345A Accessory - Perimeter Trims - Roofgard GRP Edge Trim

- The BMI Icopal Roofgard Roof Edge Trim range provides a superior and effective roof edge trim to built-up felt roofing. Quick and easy to install, they will retain their colour and shape for the life of the waterproofing.
- Product Code:
- 20000102 Roofgard Edge Trim B50 (3m length).
- 20000103 Roofgard Internal Corner B50.
- 20000104 Roofgard External Corner B50.
- 20000105 Roofgard Edge Trim B100 (3m length).
- 20000106 Roofgard Internal Corner B100.
- 20000107 Roofgard Internal Corner B100.
- 20000108 Roofgard Edge Trim B150 (3m length).
- 20000109 Roofgard Internal Corner B150.
- 20000110 Roofgard Internal Corner B150.

346 Accessory - Upstand Flashing - FormFlash

- BMI Icopal Formflash is a lightweight, lead-free alternative for roof flashing. It is 50% lighter than Code 4 lead making it easier to handle and speedier to install.
- Roll Length: 10m.
- Surface Finish: Smooth Grey colour.
- Product Codes:
- 120mm to 950mm widths available.
- Formflash Fixing Clips
- Bag Quantity: 25 unit.
- Product code: 20000197.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Install FormFlash cover flashing dressed into the chases provided and secure using FormFlash Fixing Clips at 400mm centres and every change of direction.
- Cut, joint and dress the new flashing neatly to provide a minimum 75mm cover to the upstand waterproofing.
- Complete by pointing with a suitable bitumen-compatible sealant.
- The pointing must be regularly checked and maintained to ensure compliance with guarantee terms and conditions.

381E Reinforced Bitumen Capsheet - Thermaweld FireSmart Mineral

- A high performance SBS modified bitumen membrane with a strong polyester reinforcing fleece intended for use as a top sheet within a built-up roof waterproofing system.

The addition of FireSmart bitumen provides enhanced fire protection to the roof build up.

- Topside: Mineral Granules.
- Underside: Thermofusible PE film.
- Roll Size: 7m x 1m.
- Roll Weight: 42kg.
- Rolls Per Pallet: 25.
- Product Code: 10001243 Thermaweld FireSmart Charcoal.
- Other colours available on request. (Minimum Order Quantity)

396C Vapour Control Layer - TorchSafe T.A. VCL (Sand)

- A SBS-modified bituminous membrane reinforced with an extra strong glass fibre fleece with a PET film.
- Topside: Sand.
- Underside: Heat-activated self-adhesive bitumen with pull-off release sheet.
- Roll Size: 15m x 1m.
- Roll Weight: 31kg.
- Rolls Per Pallet: 30.
- Product Code: 10001443.
- Application as clause 670B.

406A Reinforced Bitumen Underlay - Total Torch Vapour Dispersion Layer

- A glass reinforced SBS-modified bituminous membrane with special vapour pressure release stripes.
- Topside: Thermofusible PE film.
- Underside: Low melt bitumen stripes/Sand finished with thermofusible PE film.
- Roll Size: 8m x 1m.
- Roll Weight: 32kg.
- Rolls Per Pallet: 30.
- Product Code: 10001152.

423A Rigid Urethane Foam Warm Deck Roof Insulation - Thermazone Torch-On

- High performance rigid urethane CFC/HCFC free insulation board specially designed for use in high performance partial-bond torch-applied warm roof waterproofing system applications.
- Thermal conductivity: Core: 0.024-0.026 W/m²K
- Upper Face: Bitumen coated glass tissue finished with a thermofusible polypropylene fleece.
- Lower Face: Mineralised glass tissue.
- Board Size: 1200mm x 600mm.
- Various board thickness available.

EXECUTION GENERALLY

505 Storage Of Materials

- Materials should be delivered to site in the original packaging and bearing the appropriate labels.
- Store rolls of membrane in clean, dry conditions off the ground, away from exposure to the sun, heat sources and protect against mechanical damage.
- Bituminous membranes when removed from pallet must be stood on end on a flat level surface.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Coatings, primers etc, should be stored under cover and protected from frost. They should be kept away from heat sources, and sources of ignition including pilot lights and sparks. Keep containers tightly closed when not in use.
- Care should be taken when loading roof areas to ensure that the material is positioned over structural supports and that adequate protection is taken to protect the deck and insulation from damage.

506 Storage Of Roof Insulation

- Insulation boards are supplied in shrink wrapped polythene which will only provide limited protection during unloading and handling. All board packs are clearly marked with date/time of manufacture, board type and thickness for ease of identification. Boards should be stored inside a building where possible. If outside storage cannot be avoided, boards should be stored flat, raised off the ground and tarpaulins or heavy gauge waterproof sheets should be used to cover the boards at all times.
- The delivery packaging alone cannot under any circumstances be relied upon to provide the required protection from moisture and inclement weather.
- Insulation boards that have been allowed to get wet must not be used under any circumstance.

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.
- Weather: Do not apply or lay materials on substrates which are frozen or have been affected by frost.
- In high winds (speeds > 7 m/s), unless adequate temporary windbreaks are erected adjacent to working area.
- Unfinished areas of roof: Keep dry. Protect edges of laid membrane from wind action.
- Do not apply liquid coatings or primers:
- In wet conditions or at temperatures below 5°C, unless otherwise permitted by manufacturer.

520 Incomplete Work

- End of working day: Provide temporary seal to prevent water infiltration.
- On resumption of work: Cut away tail of membrane from completed area and remove from roof.
- Ensure water and dirt are removed and damage repaired so as not to impair performance.

521 Suitability of Substrates

- Substrates generally: Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
- Preliminary work: Complete including:
- Grading to correct falls. Falls should be designed to 1:40 to achieve minimum finished falls of 1:80 to comply with requirements of BS 6229.
- Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
- Fixing of battens, fillets and anchoring plugs/strips.
- Moisture content and stability of substrate: Must not impair roof integrity.

SUBSTRATES

529B Priming Substrates - SA Spray Primer

- Apply S.A Spray Primer to the prepared substrate which is to receive thermally activated membranes (Torchsafe T.A range).
- Apply the primer with the spray gun at 90° to the surface, applying a uniform coat of primer, ensuring 80-100% coverage of the surface.
- Move the spray gun in parallel to the surface and pay attention to any edges. Do not allow the primer to puddle.
- When applying to porous surfaces it may be necessary to apply a second coat immediately.
- The Torchsafe T.A membrane range is to be installed whilst the primer is in a semi-cured state (tacky to touch).

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- The primer must only be used between +5°C to +30°C, adhesion strength may vary if used outside of this.

566H Substrate Perpetration - Clean and make good

- Ensure all substrate surfaces are free from cracks, debris, projections rough areas and cavities. The substrate must be clean and dry.

VAPOUR CONTROL LAYERS / WARM ROOF INSULATION

670B Laying Thermally-Activated Vapour Control Layer

- Immediately install a layer of TorchSafe T.A. VCL - Sanded / Stripes as the vapour control layer to the surface of the substrate following removal of the release sheet.
- Head laps to be 100mm and side laps 75mm minimum. Ensure the membrane is sufficiently adhered to the substrate, using a water filled pressure roller or similar. Enhanced adhesion is achieved by heating from above as the bitumen stripes are torched when adhering the insulation. The insulation should be, where possible, installed immediately after the vapour control layer to ensure adhesion of the membrane to the substrate.
- At all details, the vapour control layer membrane must be bonded to the field area VCL by a minimum 150mm and extend vertically to all upstands, kerbs and perimeter details, in accordance with BMI Icopal standard details and codes of practice.

680A Laying Warm Deck Insulation (Insulation Adhesive)

- Setting out:
- End edges: Adequately supported.
- Joints: Butted together.
- End joints: Staggered.
- Hard edge to be provided at all steps and board edges. Reduced thickness treated timber batten, outer edge chamfered at changes in level.
- Attachment: Insulation to be adhered in accordance with current instructions. Adhesive centres to be sufficient to resist wind uplift pressures of project site, in accordance with current version of BS EN 1991-1-4.
- Attachment:
- The roof boards should be placed into the adhesive ensuring full contact.
- Ensure insulation boards lie flat without rocking.
- Application to be in accordance with current datasheets and application guides.
- Completion: Boards must be in good condition, well-fitting and firmly fixed.

EXECUTION

701C Insulation Adhesive - PU Insulation Spray Adhesive

- Adhere the Insulation boards to the sanded VCL or packerboard if used using BMI Icopal Insulation Spray Adhesive in accordance with the current application guide.
- Apply minimum 30mm beads of adhesive at the required centres as required by the wind uplift calculation. Adhesive should always be applied across the width of the Insulation board.
- Lay the Insulation board immediately into the adhesive.
- Do not allow the adhesive to skin over as this will affect the bond strength. Initial bond will be achieved after 15 minutes after which time the boards are safe to walk on.
- Full bond strength will occur within 24 hours once the adhesive has cured.

WATERPROOF COVERINGS / ACCESSORIES

710A Laying Reinforced Bitumen Membranes Generally

- Direction of laying: Unrolled up the slope.
- Where practicable, install so that water drains over and not into laps.
- Seal using materials and method recommended by bitumen membrane manufacturer.
- Head laps: Offset.
- Successive layers: Apply without delay. Do not trap moisture.
- Strips of bitumen membrane for 'linear' details: Cut from length of roll.
- Completed coverings: Firmly attached, fully sealed, smooth, weatherproof and free draining.

730A Partial Bonding Of striped Reinforced Bitumen Membrane (Torch Applied)

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Partial bond first layer: Align and cut to length. Do not carry up angle fillets and vertical surfaces or through details.
 - Apply a layer of membrane with distinct partial bond stripes:
 - The membrane should be low flame torched to completely remove the plastic film and activate the advanced bitumen stripes on the underside and achieve the high strength partial bond.
- 740 Torch-On Bonding Of Reinforced Bitumen Membranes
- Bond: Full contact over the whole surface, with no air pockets.
 - Apply by roofers torch in an advancing manner, ensuring the heat dispersible film is completely removed by torching as work proceeds.
 - Membranes should be lapped by manufacturer's recommended minimum width. Following torching a continuous extrusion of bitumen must extrude from all laps.
 - All laps must be thoroughly checked for security as work proceeds.
- 742 Thermally-Activated Bonding Of Reinforced Bitumen Membranes
- Bond: Full over whole surface, with no air pockets.
 - Generally: Roll out membrane, whilst progressively removing release sheet from back of membrane and selvedge.
 - Ensure all air is expelled from beneath membrane during application.
 - Membrane is to be well rolled down.
 - Membrane should be lapped by manufacturer's recommended minimum width.
 - All overlaps must be thoroughly checked for security as work proceeds.
- 750 Laying Mineral Faced Reinforced Bitumen Membranes
- Lap positions and detailing of ridges, eaves, verges, hips, abutments, etc: Submit proposals.
 - Setting out: Neat, with carefully formed junctions.
 - Side and end joints:
 - Side Laps: Should follow the manufactured mineral-free selvedge.
 - End Laps (minimum): 150 mm.
 - Finished surface: Do not scorch.
- 771 Torch Safe Detailing
- To combustible substrates and other vulnerable details: Use TA thermally activated self-adhesive membranes as an alternative to torch applied membranes to comply with Safe2Torch requirements.
 - Exclusion Zone: A torch-free exclusion zone should be created a minimum 900mm from all areas considered at risk due to being constructed from combustible materials, or adjacent to details where there is a risk of fire due to debris, cobwebs or other flammable hazards; for example (and not limited to) timber upstands, details adjacent to existing pitched tiled roof areas or wall cladding, etc.
 - Within the exclusion zone: Where appropriate use a combination of thermally-activated membranes allowing combustible and sensitive substrates and details to be covered over using hot-air welding flame-free techniques, to encapsulate and protect the combustible materials and to keep all surfaces free from fire risk during application of any further torch-on membranes.
- 772 Fully Flame Free Detailing
- Use thermally-activated/self-adhesive capsheet in place of torch applied capsheet in locations where contractor deems fire risk from application of torch applied capsheet remains.
 - Detailing sheets to be applied completely flame-free using hot-air welding techniques and/or solvent-free waterproof adhesive to form secure and watertight detail flashings.
- 774 Upstand Detailing - Bitumen
- Ensure the upstand substrate on both the horizontal and vertical surfaces, are clean, dry and prepared as appropriate. Prime the surfaces with the specified detailing primer at the specified coverage rates.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Apply the specified detailing Vapour Control Layer (VCL) to the prepared primed surface of the upstand, installing in accordance with current product instructions and specification. Head laps should be a minimum of 150mm and side laps should follow the manufactured selvedge and be minimum 75mm. The VCL must be bonded to the field area VCL by a minimum 150mm and extend vertically to the required upstand detail height. Ensure the membrane is sufficiently adhered to the substrate. Ensure all laps have a consistent visible extrusion of bitumen.

- Install the specified Insulation, mechanically fixed or adhered as appropriate to the vertical surface of the upstand. The insulation board should be a minimum height of 300mm from the deck top of the structural deck level to limit possible cold bridging in accordance with Approved Documents Part L or local building regulations. The thickness of the insulation boards should match the thermal performance of the main roof area or to satisfy client instructions. All joints should be close butted and cross joints staggered to minimise cold bridging. Insulation boards should be covered immediately by the waterproofing system.

- Install the specified Angle Fillets at the junction of the horizontal and vertical surfaces. Ensure they are securely fixed using appropriate fixings or insulation adhesive as per the installation instructions.

- Apply a layer of the specified detailing underlay to the prepared, primed upstand detail. An angle fillet should be used at the junction of the horizontal and vertical surfaces. Fully bond the membrane by careful torching ensuring the thermofusible film is completely removed from the underside as work proceeds. Head laps to be a minimum of 150mm and side laps 75mm minimum. Ensure there is a continuous visible extrusion of bitumen from all laps. The underlay should overlap onto the field area by a minimum of 150mm. The underlay should overlap onto the field area by a minimum of 150mm. Ensure the membrane is sufficiently adhered to the substrate.

- Apply a layer of the specified Mineral capsheet to the detail, fully bonded to the underlay by careful torching ensuring the thermofusible film is completely removed from the underside as work proceeds. All side laps to be 75mm minimum and all overlaps onto the field area to be a minimum 150mm. The capsheet must be installed in accordance with the main specification and the products data sheet and installation guide. Ensure a continuous visible extrusion of bitumen is present at all laps. Cap sheet and Underlay should be staggered to prevent a build up of bitumen at the side laps.

- The cap sheet should be installed so that it extends out onto the field area by a minimum of 300mm. At the top edge of the bitumen membrane it should be secured as specified to ensure a watertight termination. Colour to match the main field area membrane.

774A Weltd Drip Detailing - Bitumen

- Form a weltd drip detail from the specified detailing cap sheet, reinforced using strips of external grade minimum 6mm WBP Plywood fixed to a treated timber drip batten at 150mm staggered centres using minimum 20mm x 3.0mm galvanised smooth clout nails. Turn the cap sheet back onto the roof a minimum 150mm and fully bond onto the roof underlay before application of the main field area cap sheet. There must be a continuous visible extrusion at all laps. Please refer to the products datasheet, BMI Group UK Ltd. drawing details and installation guides for further information.

774G Rooflight Detailing - Bitumen

- Install specified Thermazone Fillets, 50x50mm, angle fillets at the junction of the horizontal and vertical surfaces, securely fixed.

- Apply a layer of specified underlay to the prepared, primed, parapet, fully bonded by careful torching ensuring the thermofusible film is completely removed from the underside as work proceeds. Head laps to be 100mm minimum and side laps 75mm minimum. All details to be formed in accordance with current codes of practice as separate items. Ensure a continuous visible extrusion of bitumen from all laps.

5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Apply a layer of specified capsheet to the detail. Install the membrane following removal of the release sheet and with the use of a hot air gun. The capsheet is to be installed in accordance with the main specification and as separate items. Ensure that there is a continuous extrusion of bitumen visible at all laps as work proceeds. Upstands more than 225mm high should be regarded as vertical work, and it will be necessary to mechanically fasten the membrane at the top edge. Head laps should be nailed, with large-headed galvanized clout nails, or screwed with appropriate washer plate and screw fastener, placed at 75 mm centres in two rows, with 50 mm between rows, to prevent slippage of bituminous membranes.

783 Rooflights - Dalite Standard

- Install Dalite Standard rooflight, ensure installation is in accordance with the manufacturer's current installation instructions.
- Please see the separate rooflight quotation document for specifics on the style and sizes of the modular rooflights on the project.
- Product Code: 20000305

COMPLETION

910A Inspection

- For BMI 'Insured System Plus, and 'Product Plus & Workmanship' guarantees inspections of the project by a BMI Group UK Technical representative are a mandatory requirement.
- For BMI Icopal Product Plus and Workmanship Guarantees a bi-weekly inspection is required.
- For BMI Icopal Insured System Plus Guarantee a weekly inspection is required.
- Access to the roof area should be maintained in place until the BMI Inspector has inspected the roof works and completed a final inspection.
- The BMI approved installer should ensure attendance at the final inspection by the BMI inspector.
- Any defects, must be completed prior to a final inspection being issued.
- A BMI Guarantee will only be issued when the completed BMI roofing system has been inspected and is deemed to be in compliance with the waterproofing specification.
- Other requirements: Refer to preliminaries/general conditions of guarantee offer.

920A Electronic Roof Integrity Test

- This may be a requirement under the terms of the BMI Icopal 'Insured System Plus' Guarantee, or/and where the waterproofing system is to be buried, eg beneath a green roof or ballast.
- Testing authority: UKAS approved laboratory.
- Timing of test: Prior to covering over or/and on completion of waterproofing system. Ideally, testing should be not be carried until all associated follow-on trades are complete and the roof areas are clear from all debris and temporary protection layers.
- Condition of roof prior to testing.
- Complete to a stage where integrity can be tested.
- Test results and warranty: Submit on completion of testing.

940A Completion - General

- Roof areas: Clean.
- 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.

950A Maintenance

- All roofs should have an annual maintenance schedule, with visits twice a year; in late autumn to assure that the roof is ready for the upcoming winter, and in spring to detect winter related roof damage.
- If regular roof access for plant maintenance etc. is required then the waterproofing should be protected with either a designated walkway or temporary protection boards as necessary.
- An inspection should also be carried out following any works on the roof by other trades or contractors, or following installation of any new roof equipment, etc.
- Consideration must also be made in relation to enabling regular safe access for maintenance staff, and it is important that adequate fall protection measures are put in place to allow for safe inspection and maintenance of the roof.

Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



5.10134951.1 SPECIFICATION - CONTINUED - Blackley Crematorium Office and Chapel Roofs

- Failure to adequately maintain the roof system may affect the validity of the guarantee.

5.10134951.2 SAFE2TORCH PLAN -

BMI Group UK Limited have pledged support to the National Federation of Roofing Contractors (NFRC) 'Safe2Torch' campaign. 'Safe2Torch' is an NFRC initiative, developed in partnership with contractor and manufacturer members of the NFRC, which seeks to significantly reduce the risk of roof fires when using gas torches, either to dry out roofs or when used to install torch-on membranes.

The roof plan below denotes the areas where naked flames are or are not permitted, a list of areas considered to be at risk under the Safe2Torch guidance may be found on

<https://www.nfrc.co.uk/safe2torch>

Plan View - Blackley Crematorium Office and Chapel Roofs

Visual impression of the areas where it is not Safe2Torch

■ No Naked Flames

■ Safe2Torch



This plan is based on the findings of the BMI Icopal roof survey. The installing roofing contractor must also make their own assessment of the roof area prior to commencement of any hot works to ensure all "at risk" areas have been identified. If any additional areas of concern are identified please contact your BMI Icopal representative prior to the commencement of works so the specification may be revised.

Areas with flammable substrates should be treated as Non Safe2Torch areas. To the areas with a flammable roof deck (shaded red areas on map) the specification will allow for the use of either a Thermally Activated VCL or Thermally Activated Underlay to protect the deck. As long as all flammable substrates have been encapsulated the remainder of the system can be torch applied. Non-flammable deck/substrates (green areas) can be installed using a torch on method. Flammable details (solid red areas on map, non-exhaustive) require a complete flame free installation. Please follow detailing as per the specification.

Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
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6. MATERIAL SCHEDULE

PRIMER

Siplast Primer

A high penetration solvent based quick drying elastomeric bitumen priming solution for the preparation of dusty and porous surfaces prior to the application of bituminous waterproofing membranes.

Size: 25 Litre.

Product Code: 10035722

Application Rate: 0.1-0.35 litres/m².

BMI Icopal S.A. Spray Primer

A high performance polymeric, quick drying solvent based primer for the preparation of variety of substrates prior to the application of thermically activated bitumen waterproofing membranes. It provides an outstanding bond and has been formulated to allow for simple application and its spray on nature gives exceptional coverage rates, providing a bond that exhibits high adhesive and cohesive strength and good flexibility.

Canister Size: 23kg. Product Code: 20000722.

Coverage: 300 m².

Additional Products:

BMI Icopal S.A. Spray Primer Application Field Gun - Product Code: 20000723.

BMI Icopal Braided Hose, Length: 3.6m - Product Code: 20000719.

BMI Icopal Hose & Gun Cleaning Adaptor - Product Code: 20000720.

BMI Icopal Hose & Gun Cleaner. Size: 500ml. - Product Code: 20000721.

VAPOUR CONTROL LAYER

TorchSafe T.A. VCL - Sanded

A SBS-modified bituminous membrane reinforced with an extra strong glass fibre fleece with a PET film.

Topside: Sand.

Underside: Heat-activated self-adhesive bitumen with pull-off release sheet.

Roll Size: 15m x 1m.

Roll Weight: 31kg.

Rolls Per Pallet: 30.

Product Code: 10001443.

ADHESIVE

BMI Icopal Insulation Spray Adhesive

BMI Icopal Insulation Spray Adhesive is a single component polyurethane foam adhesive for bonding of thermal insulation boards to a range of substrates on flat roofs.

Insulation Adhesive Canister:

Size: 22L

Product Code: 20000717.

Insulation Spray Adhesive Gun:

Nozzle length: 470mm

Product Code: 20000718.

Braided Hose:

Hose Length: 3.6m

Product Code: 20000719.

Hose & Gun Cleaning Adapter

Product Code: 20000720.

Hose & Gun Cleaner

Size: 500ml

Product Code: 20000721

Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



6. MATERIAL SCHEDULE

INSULATION

Thermazone Torch-on Board 130mm

High performance rigid urethane CFC/HCFC free insulation board specially designed for use in high performance partial-bond torch-applied warm roof waterproofing system applications.

Thermal conductivity: Core: 0.024-0.026 W/m²K.

Upper Face: Bitumen coated glass tissue finished with a thermofusible polypropylene fleece.

Lower Face: Mineralised glass tissue.

Board Size: 1200mm x 600mm.

20000370 Thermazone Torch-on Board – 130mm

UNDERLAY

Total Torch Vapour Dispersion Layer

A glass reinforced SBS-modified bituminous membrane with special vapour pressure release stripes.

Topside: Thermofusible PE film.

Underside: Low melt bitumen stripes/Sand finished with thermofusible PE film.

Roll Size: 8m x 1m.

Roll Weight: 32kg.

Rolls Per Pallet: 30.

Product Code: 10001152.

CAPSHEET

Thermaweld FireSmart Mineral Capsheet

A high performance SBS modified bitumen membrane with a strong polyester reinforcing fleece intended for use as a top sheet within a built-up roof waterproofing system.

The addition of FireSmart bitumen provides enhanced fire protection to the roof build up.

Topside: Mineral Granules.

Underside: Thermofusible PE film.

Roll Size: 7m x 1m.

Roll Weight: 42kg.

Rolls Per Pallet: 25.

Product Code: 10001243 Thermaweld FireSmart Charcoal.

Other colours available on request. (Minimum Order Quantity)

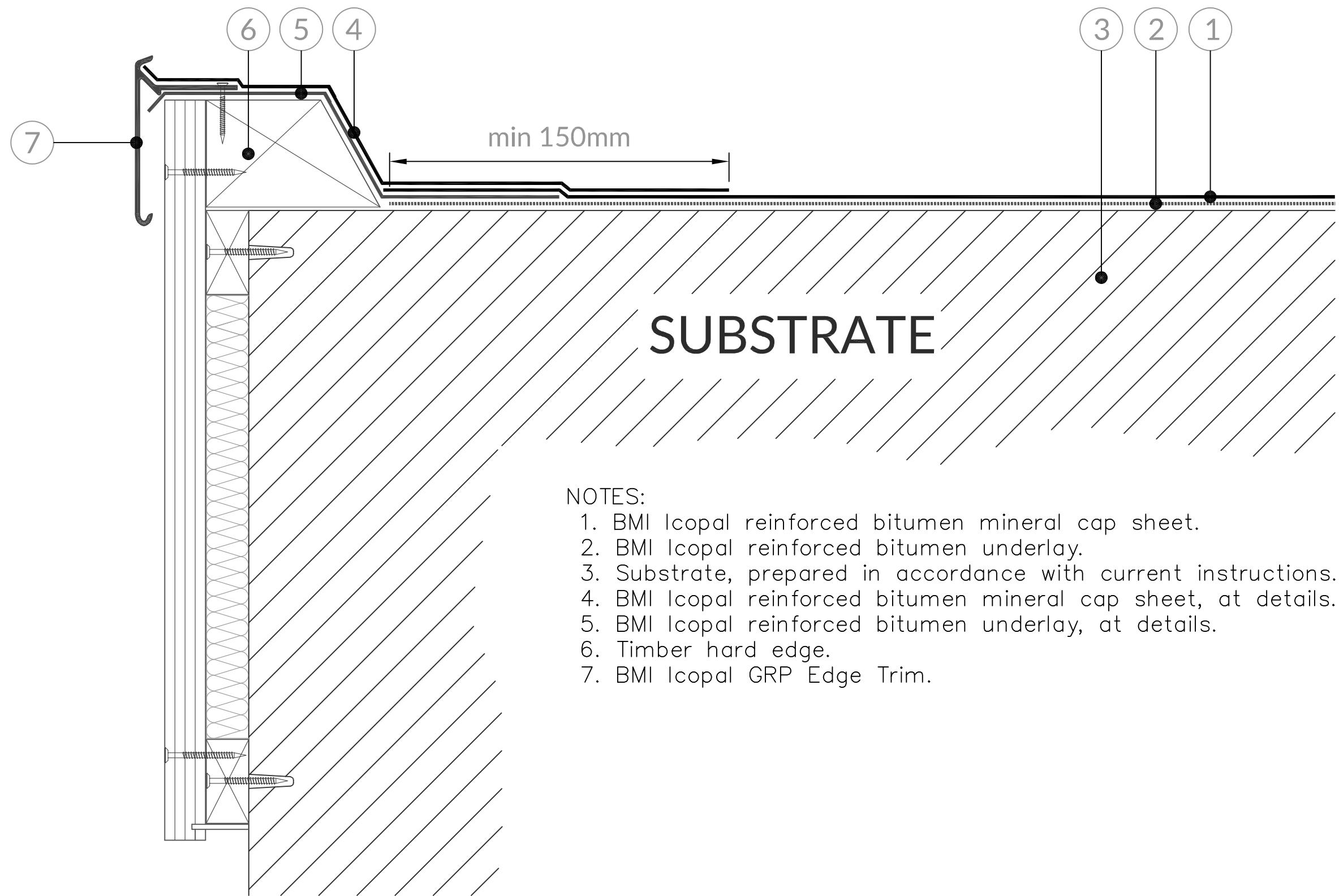
Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



7. DRAWINGS -

Drawing Reference Number**	Description of Drawing
Blackley Crematorium Storage Roof	
T-C-03-101 - Watercheck With GRP Edge Trim	T-C-03-101 - Watercheck With GRP Edge Trim
T-C-04-101 - Eaves Detail With Welled Drip	T-C-04-101 - Eaves Detail With Welled Drip
Blackley Crematorium Office and Chapel Roofs	
T-W-01-101 - Warm Roof Upstand To Abutment with Flashing	T-W-01-101 - Warm Roof Upstand To Abutment with Flashing
T-W-03-101 - Watercheck with GRP Edge Trim	T-W-03-101 - Watercheck with GRP Edge Trim
T-W-04-101 - Eaves Detail With Welled Drip	T-W-04-101 - Eaves Detail With Welled Drip
T-W-06-104 - Dalite Standard Rooflight with Edge Kerb	T-W-06-104 - Dalite Standard Rooflight with Edge Kerb

**Please refer to the Drawings at the end of this Specification using the Reference number(s) quoted above



NOTES:

1. BMI Icopal reinforced bitumen mineral cap sheet.
2. BMI Icopal reinforced bitumen underlay.
3. Substrate, prepared in accordance with current instructions.
4. BMI Icopal reinforced bitumen mineral cap sheet, at details.
5. BMI Icopal reinforced bitumen underlay, at details.
6. Timber hard edge.
7. BMI Icopal GRP Edge Trim.

Notes

Substrate Preparation

i. The substrate is to be prepared in accordance with current instructions and should comply with all current standards. Where a BMI Icopal project specification has been provided these drawings should be considered as part of the project specification and together these take precedence over other instructions. Please consult BMI Technical Department for detailed guidance or queries.

Construction Notes

i. This drawing is intended to demonstrate the recommended detailing of BMI Icopal waterproofing membranes and systems.

ii. Building details shown are intended to be an indication of typical construction only and may vary to actual site and project conditions. Please refer to the principal designer for project details in this regard.

Additional Notes

i. For roofing product references please see BMI Icopal specification where applicable.

ii. Continuity of waterproof covering must be maintained for a minimum vertical height of 150mm above finished roof level, in accordance with the current version of BS:6229, BS:8217 and BS:5250.

iii. Upstands (for reinforced bitumen) of more than 250mm high should be regarded as vertical work, and it will be necessary to mechanically fasten the membrane at the top edge, in accordance with the current version of BS8217. Upstands for single ply and liquid membranes must be terminated as per the BMI Icopal instructions.

iv. BMI Group UK Limited provides this indicative detail in good faith and takes no responsibility for the sufficiency or otherwise of the drawing.



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Drawing Title: Uninsulated System To Watercheck With GRP Edge Trim

System: Reinforced Bitumen Membranes - Two Layer System

Dwg. No: T-C-03-101

Date:

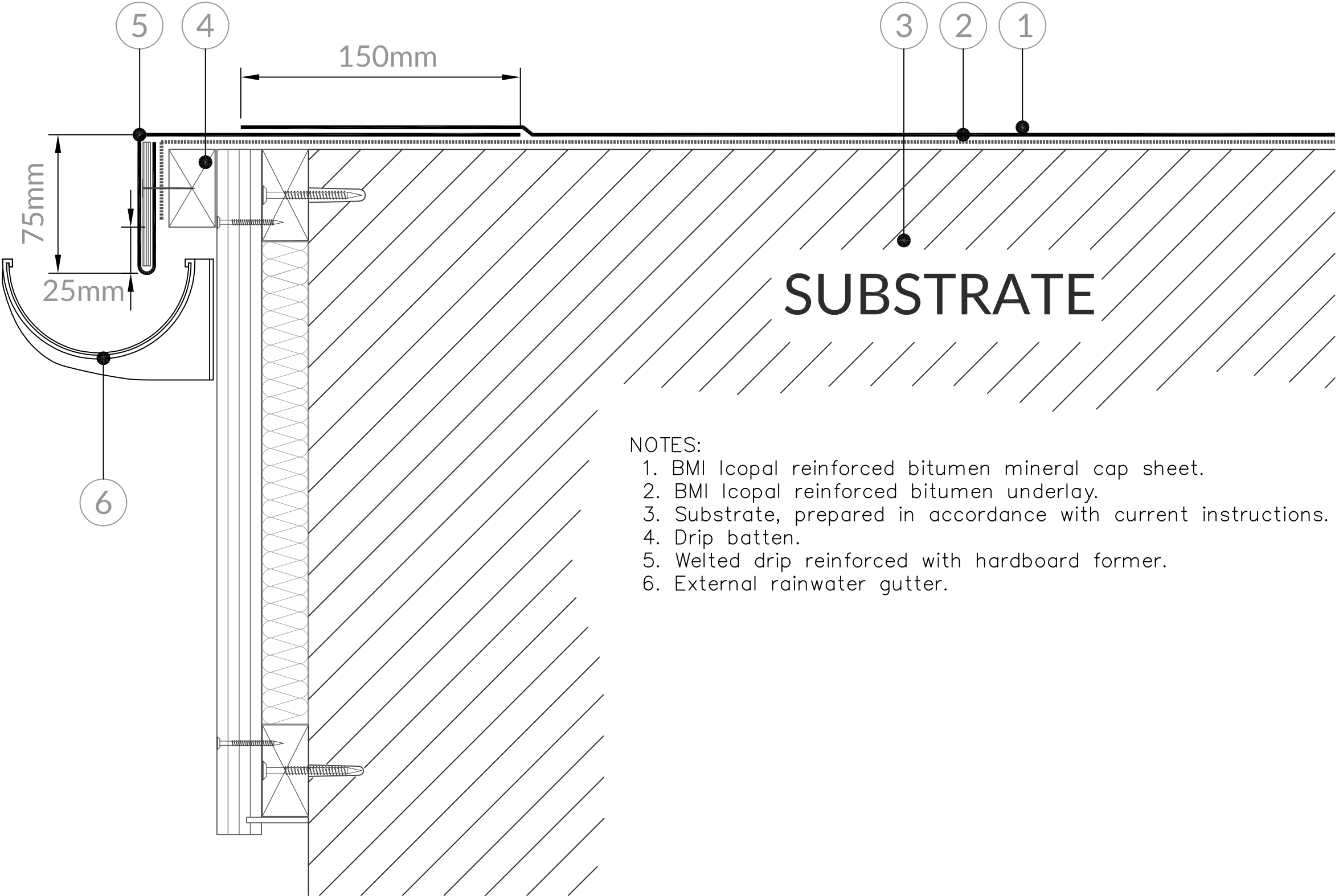
31/08/2022

Scale

NTS

This drawing has been prepared for general information purposes only. This details drawing is to recommend the correct procedure for installing BMI products. All other building details are indicative and are not to be used for building construction. (Do not scale- use figured dimensions only)

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- NOTES:
- 1. BMI Icopal reinforced bitumen mineral cap sheet.
 - 2. BMI Icopal reinforced bitumen underlay.
 - 3. Substrate, prepared in accordance with current instructions.
 - 4. Drip batten.
 - 5. Weltded drip reinforced with hardboard former.
 - 6. External rainwater gutter.

Notes

Substrate Preparation

i. The substrate is to be prepared in accordance with current instructions and should comply with all current standards. Where a BMI Icopal project specification has been provided these drawings should be considered as part of the project specification and together these take precedence over other instructions. Please consult BMI Technical Department for detailed guidance or queries.

Construction Notes

i. This drawing is intended to demonstrate the recommended detailing of BMI Icopal waterproofing membranes and systems.

ii. Building details shown are intended to be an indication of typical construction only and may vary to actual site and project conditions. Please refer to the principal designer for project details in this regard.

Additional Notes

i. For roofing product references please see BMI Icopal specification where applicable.

ii. Continuity of waterproof covering must be maintained for a minimum vertical height of 150mm above finished roof level, in accordance with the current version of BS:6229, BS:8217 and BS:5250.

iii. Upstands (for reinforced bitumen) of more than 250mm high should be regarded as vertical work, and it will be necessary to mechanically fasten the membrane at the top edge, in accordance with the current version of BS8217. Upstands for single ply and liquid membranes must be terminated as per the BMI Icopal instructions.

iv. BMI Group UK Limited provides this indicative detail in good faith and takes no responsibility for the sufficiency or otherwise of the drawing.

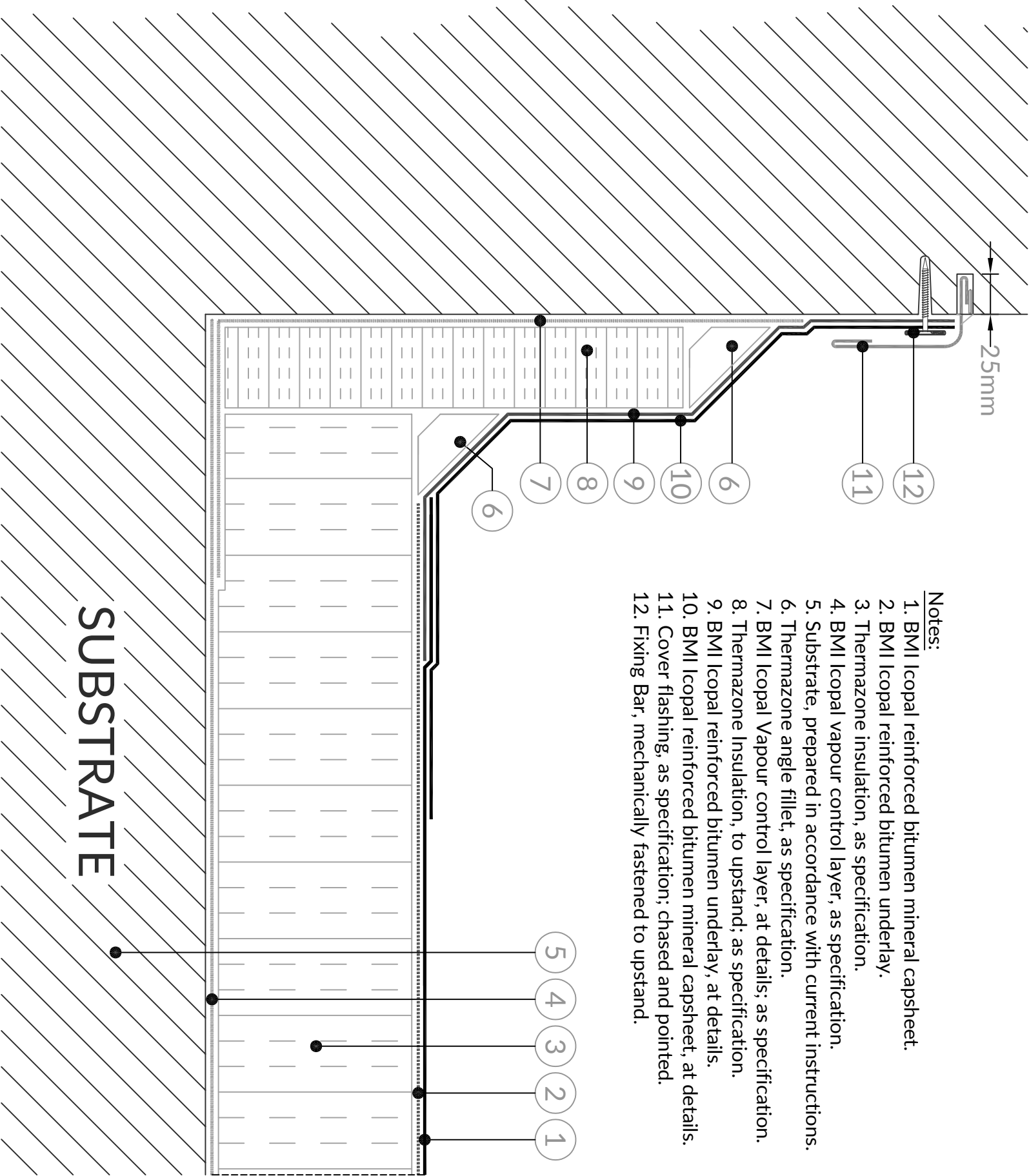


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Drawing Title:		Uninsulated System Eaves Detail With Weltded Drip			
System:		Reinforced Bitumen Membranes - Two Layer System			
Dwg. No:	T-C-04-101	Date:	31/08/2022	Scale	NTS

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- Notes:**
1. BMI Icopal reinforced bitumen mineral capsheet.
 2. BMI Icopal reinforced bitumen underlay.
 3. Thermazone insulation, as specification.
 4. BMI Icopal vapour control layer, as specification.
 5. Substrate, prepared in accordance with current instructions.
 6. Thermazone angle fillet, as specification.
 7. BMI Icopal Vapour control layer, at details; as specification.
 8. Thermazone Insulation, to upstand; as specification.
 9. BMI Icopal reinforced bitumen underlay, at details.
 10. BMI Icopal reinforced bitumen mineral capsheet, at details.
 11. Cover flashing, as specification; chased and pointed.
 12. Fixing Bar, mechanically fastened to upstand.

Notes

Substrate Preparation

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Construction Notes

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Additional Notes

i. For roofing product references please see BMI Icopal specification where applicable.

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iii. Upstands (for reinforced bitumen) of more than 250mm high should be regarded as vertical work, and it will be necessary to mechanically fasten the membrane at the top edge, in accordance with the current version of BS8217. Upstands for single ply and liquid membranes must be terminated as per the BMI Icopal instructions.

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SUBSTRATE

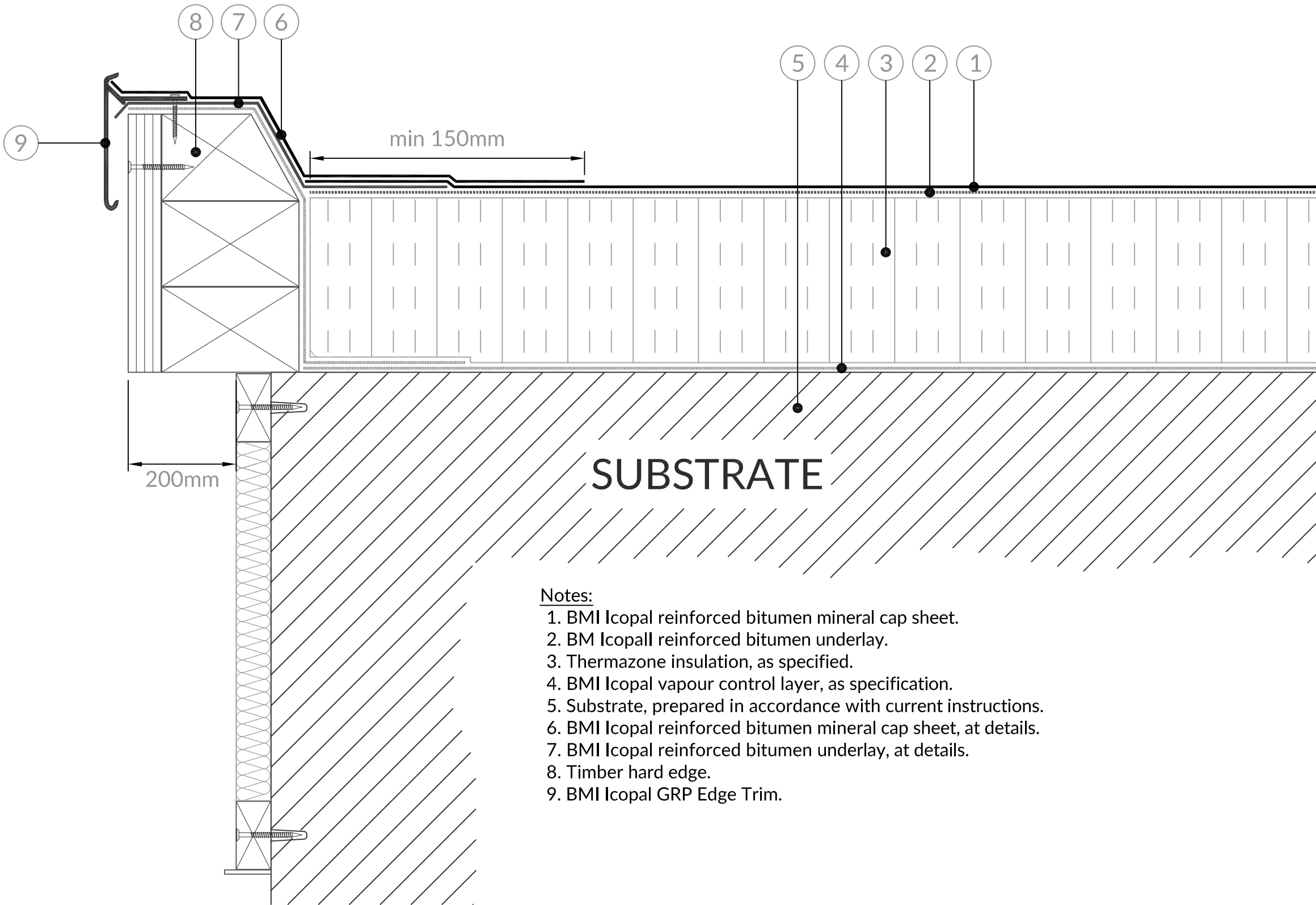


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Drawing Title:	Warm Roof Upstand To Abutment Wall with Cover Flashing			
System:	Reinforced Bitumen Membranes - Two Layer System			
Dwg. No:	T-W-01-101	Date:	15/06/2022	Scale
				NTS

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Notes:

1. BMI Icopal reinforced bitumen mineral cap sheet.
2. BM Icopall reinforced bitumen underlay.
3. Thermazone insulation, as specified.
4. BMI Icopal vapour control layer, as specification.
5. Substrate, prepared in accordance with current instructions.
6. BMI Icopal reinforced bitumen mineral cap sheet, at details.
7. BMI Icopal reinforced bitumen underlay, at details.
8. Timber hard edge.
9. BMI Icopal GRP Edge Trim.

Notes

Substrate Preparation

i. The substrate is to be prepared in accordance with current instructions and should comply with all current standards. Where a BMI Icopal project specification has been provided these drawings should be considered as part of the project specification and together these take precedence over other instructions. Please consult BMI Technical Department for detailed guidance or queries.

Construction Notes

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- ii. Building details shown are intended to be an indication of typical construction only and may vary to actual site and project conditions. Please refer to the principal designer for project details in this regard.

Additional Notes

- i. For roofing product references please see BMI Icopal specification where applicable.
- ii. Continuity of waterproof covering must be maintained for a minimum vertical height of 150mm above finished roof level, in accordance with the current version of BS:6229, BS:8217 and BS:5250.
- iii. Upstands (for reinforced bitumen) of more than 250mm high should be regarded as vertical work, and it will be necessary to mechanically fasten the membrane at the top edge, in accordance with the current version of BS8217. Upstands for single ply and liquid membranes must be terminated as per the BMI Icopal instructions.
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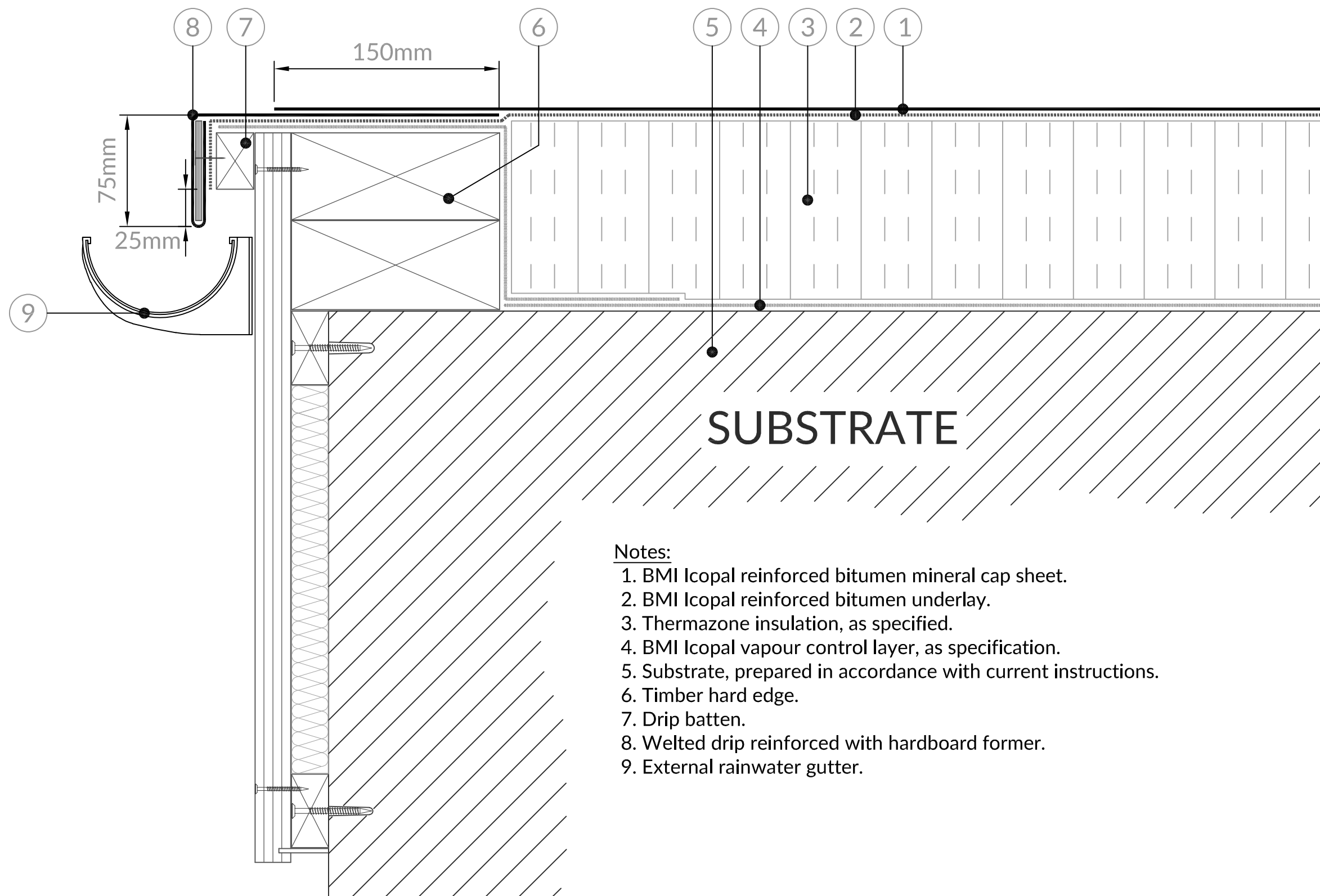


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Drawing Title:	Warm Roof To Watercheck with GRP Edge Trim				
System:	Reinforced Bitumen Membranes - Two Layer System				
Dwg. No:	T-W-03-101	Date:	16/06/2022	Scale	NTS

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Notes:

1. BMI Icopal reinforced bitumen mineral cap sheet.
2. BMI Icopal reinforced bitumen underlay.
3. Thermazone insulation, as specified.
4. BMI Icopal vapour control layer, as specification.
5. Substrate, prepared in accordance with current instructions.
6. Timber hard edge.
7. Drip batten.
8. Welted drip reinforced with hardboard former.
9. External rainwater gutter.

Notes

Substrate Preparation

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Construction Notes

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ii. Building details shown are intended to be an indication of typical construction only and may vary to actual site and project conditions. Please refer to the principal designer for project details in this regard.

Additional Notes

i. For roofing product references please see BMI Icopal specification where applicable.

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iii. Upstands (for reinforced bitumen) of more than 250mm high should be regarded as vertical work, and it will be necessary to mechanically fasten the membrane at the top edge, in accordance with the current version of BS8217. Upstands for single ply and liquid membranes must be terminated as per the BMI Icopal instructions.

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Drawing Title: Warm Roof Eaves Detail With Welted Drip

System: Reinforced Bitumen Membranes - Two Layer System

Dwg. No: T-W-04-101

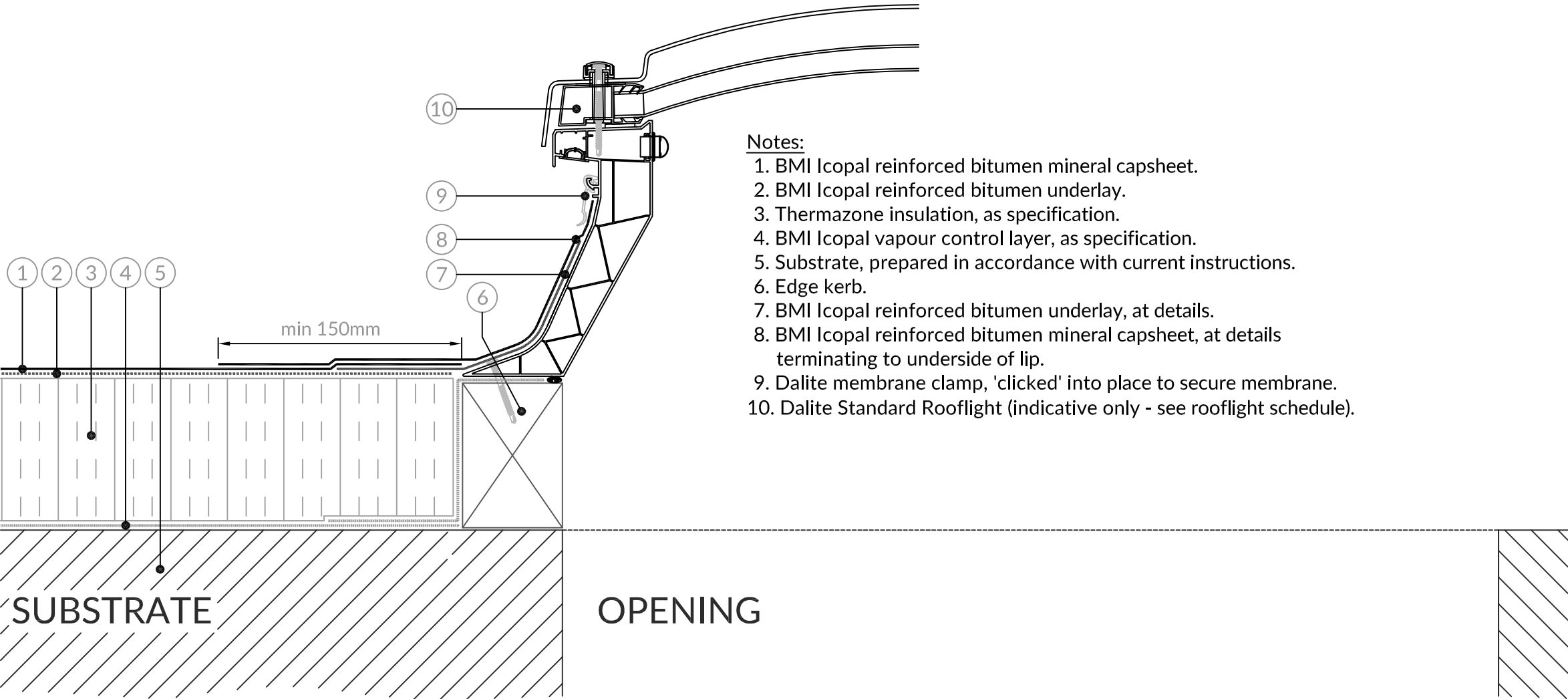
Date: 16/06/2022

Scale

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Notes

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Drawing Title:	Warm Roof to Dalite Standard Rooflight with Edge Kerb				
System:	Reinforced Bitumen Membranes - Two Layer System				
Dwg. No:	T-W-06-104	Date:	16/06/2022	Scale	NTS

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Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



The BMI Technical Services Team are on hand to support you with your specification and design requirements:

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