

SPECIFICATION for Blackley Office & Yard

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- ACOUSTIC FENCE

BUILDING REGULATIONS APPROVAL

The Contractor shall ascertain and comply with the current requirements of the Building Regulations, Constructional Standards 1997, Government Codes and Regulations, Fire Regulations, Safety Regulations CDM Regulations and any other statutory requirements relating to the work. The Contractor must prepare the necessary documentation, details, calculations, drawings etc. to ensure that all Building Regulations / Environmental Health Officer's approvals are obtained for the works. This documentation is to be handed to the client at the completion of all works and weekly site meeting.

Submit if requested, by the Building Control Officer / Environmental Health Officer an original signed copy of each test report upon components and/or materials.

Prepare and submit if required by the Building Control Officer / Environmental Health Officer, additional information / documentation. Report to the client all submissions / dates / revisions / approvals, relevant to the statutory approval.

The Contractor is entirely responsible for achieving or surpassing the performance and installation criteria of all components, assemblies and workmanship described in this specification. The Contractor is fully responsible for the design and for obtaining all necessary approvals in the design criteria of all components. The Contractor is accepting the same responsibility in respect of indemnities as any professional architect or designer of a building. The Contractor is responsible for ensuring the system achieves or surpasses the water tightness, air tightness and integrity specified and for the thermal and acoustic performance of the completed installation.

Ground water level (if any) on the site is not known. Make all necessary enquiries concerning ground water level and allow for variations from that level. Verify with which existing fences, gates, walls, roads, paved areas and other site features are to be removed. Materials arising are to be removed from site.

Excess excavations that are wider than required with material specified for backfilling and deeper than required with well graded granular material or lean mix concrete.

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Do not import or use fill materials which would, either in themselves or in combination with other material or ground water, give rise to a health hazard, damage to building structures or instability in the filling?
Soluble sulphate content of imported materials for filling must not exceed 1 g/litre when tested to BS 1377: Part 3, clause 5, using a 2:1 water-soil extract. Keep excavations free from water until foundations and below ground constructions are completed.
A completion certificate is to be obtained by the main contractor to prove that all conditions have been satisfied, each stage of inspection has been notified to the building inspector who is satisfied that the work complies with the Building Regulations.

Inspection Regime

Agreement to undertake the following inspections, (subject to receiving confirmation), All site works require a site visit at the stage listed and the site is open and accessible for inspection.

Contact the designated Building Control Officer to discuss or amend the inspection regime.

Completion certificates

One of the most important documents issued by Building Control is the Completion Certificate. This is the final stage in the application procedure, completing the process.

Building Control Surveyors carry out on-site inspections at various stages of construction. On satisfactory completion of the works, a Completion Certificate is issued. This Certificate gives the date of the final inspection carried out and states that, as far as can be reasonably ascertained, the work carried out conforms to the Building Regulations.

As the final part of the process, a Completion Certificate is forwarded to the applicant and all interested parties following a satisfactory final inspection. Further copies may be issued on request which may be subject to a charge.

The importance of a Completion Certificate cannot be over-emphasised. It verifies that a property complies with legal guidelines and has been subject to Building Regulations inspections carried out by independent and impartial professionals. For this reason, it reassures all those with interests in the conveyancing process such as house owners, solicitors, banks, building societies and purchasers.

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Site Inspection	Works to be assessed	Period of notice required
Commencement	To enable the proposed works to be discussed	Same day when requested before
Excavation	To ensure foundations are excavated to a satisfactory depth	Same day when requested before
Concrete in foundations	To ensure that the concrete has been laid correctly	Same day when requested before
Damp-proof course	To ensure that the DPC has been laid correctly	Same day when requested before
Concrete oversite	To check the preparation for the oversite concrete	Same day when requested before
Drains	Drains laid and before covering	Same day when requested before
Drains inspection and test	Testing of drains for water tightness after covering	Same day when requested before
Occupation of building	Check prior to occupation	24 hours
Final completion	Final check	Within 5 days of completion
Before covering any structural timbers, steelwork or concrete	This is not a mandatory inspection but is recommended	Same day when requested before 10.00am, otherwise 24 hours
Before covering electrical installation (only required if electrics are not installed by a Competent Electrician)	To check correct installation of cables in walls, floors and ceilings	48 hours

MATERIAL/PRODUCT SUBSTITUTION.

Any proposal for use of an alternative material or product must also include proposals for substitution of compatible accessory products and variation of details as products and variation of details as necessary, with evidence of equivalent durability, function and appearance of the construction as a whole.

If such substitution is sanctioned, and before ordering products, the contractor must provide revised drawings, specification and manufacturer's guarantees as required.

Materials /products can only be ordered after issue of an AI, or client instruction. However, if the Contractor wishes to offer for consideration alternatives and options to the requirements of this specification then provide an accompanying letter fully detailing them and quote the price adjustment to the Tender sum.

The phrase "or equal and approved" means that the CA/client may approve the alternative, but is not obliged to approve it.

If an alternative product is proposed during the course of the project, sufficient time must be given to the CA/client to consider this alternative, without jeopardising the programme. A minimum of one month before materials need to be ordered, after appropriate documents have been submitted it is suggested.

Appropriate documents could include:

- Technical literature
- Performance specification
- Test results
- Specification
- Drawings
- Method statements
- COSHH sheets
- Life cycle costing
- Environmental impact statements.

SCAFFOLD

Clarify when a scaffold design is required and what level of training and competence those erecting, dismantling, altering, inspecting and supervising scaffolding operations are expected to have.

Scaffold design

It is a requirement of the Work at Height Regulations 2005 that unless a scaffold is assembled to a generally recognised standard configuration, e.g., NASC Technical Guidance TG20 for tube and fitting scaffolds or similar guidance from manufacturers of system scaffolds, the scaffold should be designed by bespoke calculation, by a competent person, to ensure it will have adequate strength, rigidity and stability while it is erected, used and dismantled.

At the start of the planning process, the user should supply relevant information to the scaffold contractor to ensure an accurate and proper design process is followed. Typically, this information should include:

Site location

Period of time the scaffold is required to be in place Intended use

Height and length and any critical dimensions which may affect the scaffold

Number of boarded lifts

Maximum working loads to be imposed and maximum number of people using the scaffold at any one time

Type of access onto the scaffold e.g., staircase, ladder bay, external ladders

Whether there is a requirement for sheeting, netting or brick guards

Any specific requirements or provisions e.g., pedestrian walkway, restriction on tie locations, inclusion/provision for mechanical handling plant e.g., hoist)

Nature of the ground conditions or supporting structure and Information on the structure/building the scaffold will be erected against together with any relevant dimensions and drawings

Any restrictions that may affect the erection, alteration or dismantling proc

Prior to installation, the scaffold contractor or scaffold designer can then provide relevant information about the scaffold. This should include:

Type of scaffold required (tube & fitting or system)

Maximum bay lengths

Maximum lift heights

Platform boarding arrangement (i.e., 5 + 2) and the number of boarded lifts that can be used at any one time

Safe working load / load class

Maximum leg loads

Maximum tie spacing both horizontal and vertical and tie duty

Details of additional elements such as beamed bridges, fans, loading bays etc, which may be a standard configuration (see note 1 ref tg20:13) or specifically designed

Information can be included in relevant drawings if appropriate

Any other information relevant to the design, installation or use of the scaffold

Reference number, date etc. To enable recording, referencing and checking

All scaffolding must be erected, dismantled and altered in a safe manner. This is achieved by following the guidance provided by the NASC in document SG4 'Preventing falls in scaffolding' for tube and fitting scaffolds or by following similar guidance provided by the manufacturers of system scaffolding.

For scaffolds that fall outside the scope of a generally recognised standard configuration the design must be such that safe erection and dismantling techniques can also be employed throughout the duration of the works. To ensure stability for more complex scaffolds, drawings should be produced and, where necessary, these may need to be supplemented with specific instructions.

Any proposed modification or alteration that takes a scaffold outside the scope of a generally recognised standard configuration should be designed by a competent person and proven by calculation.

Scaffold structures that normally require bespoke design

Includes:

All shoring scaffolds (dead, raking, flying)

Cantilevered scaffolds [1](#)

Truss-out scaffolds

Façade retention

Access scaffolds with more than the 2 working lifts [2](#)

Buttressed free-standing scaffolds

Temporary roofs and temporary buildings

Support scaffolds

Complex loading bays

Mobile and static towers

Free standing scaffolds

Temporary ramps and elevated roadways

Staircases and fire escapes (unless covered by manufacturer's instructions)

Spectator terraces and seating stands

Bridge scaffolds

Towers requiring guys or ground anchors
Offshore scaffolds
Pedestrian footbridges or walkways
Slung and suspended scaffolds
Protection fans
Pavement gantries
Marine scaffolds
Boiler scaffolds
Power line crossings
Lifting gantries and towers
Steeple scaffolds
Radial / splayed scaffolds on contoured facades
System scaffolds outside manufacturers guidance
Sign board supports
Sealing end structures (such as temporary screens)
Temporary storage on site
Masts, lighting towers and transmission towers
Advertising hoardings/banners
Rubbish chute

Any scaffold structure not mentioned above that falls outside the 'compliant scaffold' criteria in tg20 or similar guidance from manufacturers of system scaffolds.

The above list is not exhaustive and any scaffold that is not a standard configuration or does not comply with published manufacturers' guidelines will require a specific design produced by a competent person.

Note

1. TG20:13 provides compliant scaffolds for a limited range of cantilever scaffolds, loading bays, static towers, use of rakers, bridges and protection fans.
2. TG20:13 provides a range of compliant scaffolds, which can be boarded at any number of lifts, but only two platforms can be used as working platforms at any one time.

Competence and supervision of scaffolding operatives

All employees should be competent for the type of scaffolding work they are undertaking and should have received appropriate training relevant to the type and complexity of scaffolding they are working on.

Employers must provide appropriate levels of supervision taking into account the complexity of the work and the levels of training and competence of the scaffolders involved.

As a minimum requirement, every scaffold gang should contain a competent scaffolder who has received training for the type and complexity of the scaffold to be erected, altered or dismantled.

Trainee scaffolders should always work under the direct supervision of a trained and competent scaffolder.

Operatives are classed as 'trainees' until they have completed the approved training and assessment required to be deemed competent.

Erection, alteration and dismantling of all scaffolding structures (basic or complex) should be done under the direct supervision of a competent person. For complex structures this would usually be an 'Advanced Scaffolder' or an individual who has received training in a specific type of system scaffold for the complexity of the configuration involved. Scaffolding operatives should be up to date with the latest changes to safety guidance and good working practices within the scaffolding industry. Giving operatives job specific pre-start briefings and regular toolbox talks is a good way of keeping them informed.

Guidance on the relevant expertise of Scaffolders and Advanced scaffolders including details of which structures they are deemed competent to erect can be obtained from the [Construction Industry Scaffolders Record Scheme \(CISRS\) website](#) .

Scaffold inspection

It is the scaffold users / hirer's responsibility to ensure that all scaffolding has been inspected as follows:

Following installation / before first use

At an interval of no more than every 7 days thereafter

Following any circumstances liable to jeopardise the safety of the installation e.g., High winds.

All scaffolding inspection should be carried out by a competent person whose combination of knowledge, training and experience is appropriate for the type and complexity of the scaffold. Competence may have been assessed under the CISRS or an individual may have received training in inspecting a specific type of system scaffold from a manufacturer/supplier. A non-scaffolder who has attended a scaffold inspection course (e.g., a site manager) could be deemed competent to inspect a basic scaffold structure.

The scaffold inspection report should note any defects or matters that could give rise to a risk to health and safety and any corrective actions taken, even when those actions are taken promptly, as this assists with the identification of any recurring problem.

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INJECTED CAVITY WALL INSULATION

PRODUCTS

Supply and Install Energy store Superbead EPS Bead injected cavity wall insulation to all areas as indicated on DWG24606.102 and DWG24606.104. Insulation is to be installed from the external leaf of the building as per manufacturers requirements.

Agrément certified as suitable for the purpose and exposure situation.

Supply and Install EPS Bead cavity wall insulation in to all existing masonry cavity wall areas to the office section of the building.

Note: No DPC is visible to the Chapel Walls or Yard, as such it is unlikely that a guarantee can be gained in this area and as such is not recommended for insulation.

See drawing 24606.107 for areas of insulation

Third-party certification	KIWA Certificate BAF-18-042-S-A-UK, BRE Green Guide A+ rating, LABC warranty, ISO9001, ISO14001, ISO45001 certificates.
Beads	Bonded.
Thermal conductivity (maximum)	0.033 W/m.K.
Fire performance	Achieves REI45 fire resistance in accordance with BS EN 1363. Euroclass E to BS EN 13501-1.
Dry density	12 kg/m³.
Water absorption	WS (Doesn't exceed 1.0 kg/m²).
Standards	To BS EN 1363.
Sustainability data	
Contains Red List materials	No
Country of material origin	United Kingdom

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Country of product manufacture	United Kingdom
Embodied carbon A1-A3 (production stage) as defined in <u>BS EN 15804</u>	3.25 kg CO ₂ eq/unit

Recycled content As defined in clause 7.8 of <u>BS EN ISO 14021</u>	0 %
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EXECUTION

Suitability of walls

Check: Before and during filling of cavities.

Standard: To BS 8208-1.

Defects: Report immediately.

Remedial work: Obtain approval before starting insulation work.

Preparation

Gaps/ Openings into cavity: Seal to prevent loss of fill.

Method: Mineral wool packed tightly or approved sleeve to keep opening permanently clear.

Air bricks/ grilles of untrunked vents: Remove. Seal openings into cavity.

Injection holes

Arrangement: Form injection holes neatly.

Pattern: Regular.

Size: Recommended by cavity fill manufacturer.

Before commencing filling of each wall: Form all holes in that wall.

Dpcs, cavity trays, flues, etc: Do not damage.

Debris: Prevent from falling into cavity.

Proprietary cavity fill

Installer: Approved in accordance with the British Board of Agrément Surveillance Scheme.

Installing urea-formaldehyde foam

Installer: To hold a current BSI Certificate of Registration of Assessed Capability.

Installation: To BS 5618. Fill cavity completely.

Foam spillage: Remove as it occurs and before curing.

Polyurethane foam

Installer: Approved in accordance with the British Board of Agrément Surveillance Scheme.

Installation: To BS 7456.

Making good

Blockages: Remove from vents and refix or replace any air bricks.

Injection holes: Fill, replacing existing materials where possible.

Finish: Close match of colour and texture with existing surface.

Drees & Sommer 1.06, South Harrington Building, 182 Sefton St, Liverpool L3 4BQ

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Sample area: Complete the first few holes and obtain approval before completing remainder.

Flues

With no appliance: Remove blockages.

- Inspection/ testing: Give notice. Carry out a smoke test if a full inspection cannot be made, with an appliance fitted: Remove blockages.
- Testing: Give notice. Test before and after filling cavities.

Records

General: Keep a detailed record of the installation including survey results, materials, weather conditions and unusual features.

Documentation

Copies of certificates, records, guarantees and other documents: Submit on completion.

WINDOWS AND EXTERNAL DOORS

To be read with Preliminaries/ General conditions.

GENERAL INFORMATION/ REQUIREMENTS

EVIDENCE OF PERFORMANCE

Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

SITE DIMENSIONS

Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.

Designated items: All windows on ground floor and first floor levels.

CONTROL SAMPLES

Procedure: Issue flat sample of colour coating or section in required colour for approval by LPA

Finalise component details.

Fabricate one of each of the following designated items as part of the quantity required for the project.

Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.

Designated items: Window comprising opening and fixed light

ALUMINIUM WINDOWS AND DOORS

Drawing references: 24606.102, 103, 104, 105, 106, 107

Window Reference

Type A.3 - W17, W18, W19, W20, W21, W22

Type E - W23

Reynaers' SlimLine 68 Aluminium Framed windows with 43mm triple glazed window system. Specifically designed to meet the demand for an outward-opening window with ultra slim profiles.

Reynaers Aluminium, 111 Hollymoor Way, Northfield, Birmingham B31 5HE

Tel. 0121 421 1999

email reynaersltd@reynaers.com

<https://www.reynaersathome.co.uk>

Black RAL 9005

Third party certifications:

- ISO 14001 Environmental Management Systems
- ISO 9001 Quality Management

Performance

Energy

Thermal insulation - Uf	1.1 W/m ² K	Uw Dependencies	Based on triple glazing, with windows size and configuration as per BS EN 14351
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Comfort

Air tightness	Class 4 (600Pa)	Acoustics - Rw(C;Ctr)	47(-2;-7) dB
Water tightness	Class E1200 (1200Pa)	Opening & closing resistance	Class 3
Wind load resistance	Class C5 (2000Pa)		

Safety

Burglar resistance	PAS 24
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Properties

Max. dimensions &
weight

Min. height of vent	300 mm	Max. width of vent	1300 mm
Max. height of vent	1500 mm	Max. weight of vent	50 kg
Min. width of vent	500 mm		

Sightlines

Min. frame width (outward opening)	38 mm	Depth frame	78 mm
Min. frame-vent width (outward opening)	65 mm	Depth Vent	68 mm
Min. width T-profile	56 mm	Depth frame-vent	78 mm

Glazing

Rebate height	18 mm	Max. glass thickness - frame/element	43 mm
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Glazing method	Dry glazing-Internal glazing-Glazing bead	Min. glass thickness - vent	26 mm
		Max. glass thickness - vent	43 mm
Min. glass thickness - frame/element	16 mm		
Obscure Glass	See elevations	To clients choice	

Window Reference

Type A.1 W01, W02, W03, W04, W05, W06, W07, W08

Type B - W09, W10, W11

Type A.2 - W12, W13, W14, W15, W16,

Reynaers SlimLine 68 Aluminium Framed window with 28mm double glazed window system. Specifically designed to meet the demand for an outward-opening window with ultra slim profiles.

Reynaers Aluminium, 111 Hollymoor Way, Northfield, Birmingham B31 5HE

Tel. 0121 421 1999

email reynaersltd@reynaers.com

<https://www.reynaersathome.co.uk>

Black RAL 9005

Third party certifications:

- ISO 14001 Environmental Management Systems
- ISO 9001 Quality Management

Performance

Energy

Thermal insulation - Uw	1.5 W/m²K	Uw Dependencies
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Comfort

Air tightness	Class 4 (600Pa)	Acoustics - Rw(C;Ctr)	47(-2;-7) dB
Water tightness	Class E1200 (1200Pa)	Opening & closing resistance	Class 3
Wind load resistance	Class C5 (2000Pa)		

Safety

Burglar resistance	PAS 24
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Properties

Max. dimensions & weight

Min. height of vent	300 mm	Max. width of vent	1300 mm
Max. height of vent	1500 mm	Max. weight of vent	50 kg
Min. width of vent	500 mm		

Sightlines

Min. frame width (outward opening)	38 mm	Depth frame	68 mm
Min. frame-vent width (outward opening)	65 mm	Depth Vent	78 mm
Min. width T-profile	56 mm	Depth frame-vent	78 mm
Profile design slope	25 degrees		

Glazing

Rebate height	18 mm	Max. glass thickness - frame/element	43 mm
Glazing method	Dry glazing-Internal glazing-Glazing bead	Min. glass thickness - vent	26 mm
		Max. glass thickness - vent	43 mm
Min. glass thickness - frame/element	16 mm		

Window Reference

Type GW.1, GW.2, GW.3

Reynaers Concept Wall 50 Aluminium Framed Architectural Glazing with 43mm triple glazing

Reynaers Aluminium, 111 Hollymoor Way, Northfield, Birmingham B31 5HE

Tel. 0121 421 1999

email reynaersltd@reynaers.com

<https://www.reynaersathome.co.uk>

Black RAL 9005

Third party certifications:

- ISO 14001 Environmental Management Systems
- ISO 9001 Quality Management

Performance

Energy

Thermal insulation - 0.56 W/m²K
Uf

Comfort

Air tightness	AE 1950 (1950Pa)	Wind load resistance	E2400 (2400Pa)
Water tightness	RE1950 (1950Pa)	Acoustics - Rw(C;Ctr)	47(-2;-6) dB

Safety

Burglar resistance	RC2-RC3	Fire resistance	E 60-EI 30-EI 60-EW 30
Impact resistance	I5-E5		

Properties

Max. dimensions & weight

Max. weight of glass	700 kg	Max. inertia transom - lx	552 cm ⁴
Min. inertia mullion - lx	14 cm ⁴	Min. inertia transom - ly (glass load)	8 cm ⁴
Max. inertia mullion - lx	2690 cm ⁴	Max. inertia transom - ly (glass load)	57 cm ⁴

Min. inertia transom 4 cm⁴
- lx

Sightlines

Min. width T-profile	50 mm	Min. depth mullion	42 mm
Min. visible width (interior view)	50 mm	Max. depth mullion	300 mm
Min. visible width (exterior view)	50 mm	Min. depth transom	5 mm

Glazing

Glazing method	Dry glazing- External glazing- Pressure plate glazing-Structural Glued Glazing Structural clamped glazing	Max. glass thickness - frame/element	60 mm
Min. glass thickness - frame/element	6 mm		

Reynaers Concept System 77 Aluminium Doors

D01 - Type D.1

D02 - Type D.2

GW.1 – Door Only

GW.3 – Door Only

Performance

Energy

Thermal insulation - Uf	1.8 W/m²K	Uw Dependencies	Frame-vent: Ug 1.0W/m²K, warm edge spacer, @1.23x1.48m (102mm sight line), 36mm glass
Thermal insulation - Uw	1.3 W/m²K		

Comfort

Air tightness	Class 4 (600Pa)	Acoustics - Rw(C;Ctr)	42(-2; -4) dB
Water tightness	Class E900 (900Pa)	Opening & closing resistance	Class 3
	Wind load resistance	Class C5 (2000Pa)	

Safety

Burglar resistance	PAS 24-RC2-RC3	Bullet resistance	FB4-FSG- Kalashnikov
Fire resistance	El ₁ 30-El ₂ 30-El ₂ 60- EW 30		

Properties

**Max. dimensions &
weight**

Min. height of vent	600 mm	Max. width of vent	1200 mm
Max. height of vent	2800 mm	Max. weight of vent	170 kg
Min. width of vent	450 mm		

Sightlines

Min. frame width (inward opening)	51 mm	Min. frame-vent width (outward opening)	93.5 mm
Min. vent width (inward opening)	33 mm	Min. width T-profile	76 mm
Min. frame-vent width (inward opening)	89 mm	Depth frame	68 mm
Min. frame width (outward opening)	17.5 mm	Depth Vent	77 mm
Min. vent width (outward opening)	76 mm	Depth frame-vent	77 mm

Glazing

	25 mm	Max. glass thickness - frame/element	52 mm
Glazing method	Dry glazing- Siliconized glazing- Internal glazing- External glazing- Glazing bead	Min. glass thickness - vent	4 mm
Min. glass thickness - frame/element	4 mm	Max. glass thickness - vent	63 mm

Handles

Robust, durable and highly resistant to corrosion
Easy to clean and resistant to cleaning products
Combines safety components with a modern look
Only available in Stainless steel

Finish

Powder coating to BS EN 12206-1.
Powder coating to APA Qualicoat standard.
Anodized to EWAA/ EURAS-Qualanod standard.
Anodized to BS 3987.

Ironmongery/ Accessories: trickle vents, friction stays, releasable restrictor catches, locking espag handles.

Fixing: lug or direct fixing in to prepared openings.

Design Manufacture and installation to be carried out by an authorised Reynaers approved installer.

INSTALLATION

PROTECTION COMPONENTS

General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.

Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

BUILDING IN : Not permitted unless indicated on drawings.

WINDOW INSTALLATION GENERALLY

Installation: Into prepared openings.

Gap between frame edge and surrounding construction:

Minimum: 6 mm.

Maximum: 10 mm.

Distortion: Install windows without twist or diagonal racking.

DAMP PROOF COURSES IN PREPARED OPENINGS

Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

FIXING OF ALUMINIUM FRAMES

Standard: As fixings & adhesives section.

Fasteners: lugs or stainless steel screw

Spacing: to be in accordance with manufacturers guide to installation

SEALANT JOINTS

Sealant: One part silicone

Manufacturer: Adshead Ratcliffe and Company Ltd.

Product reference: Arbosil.

Colour: to be confirmed from standard colour range.

Application: As section Z22 to prepared joints.

IRONMONGERY

Fixing: Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.

Checking/ adjusting/ lubricating: Carry out at Practical Completion and ensure correct functioning.

BRICKWORK

PRODUCTS

New bricks to match existing bricks: To BS EN 771-1.

If using reclaimed facing bricks to match the existing face work, then these need to be sound, free from mortar and deleterious matter.

EXECUTION

Workmanship generally

Standard: To BS 5628-3.

Bricks delivered warm from manufacturing process: Do not use until cold.

Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

Conditioning concrete bricks/ blocks

Use of water retaining mortar admixture: Submit details.

Laying generally

Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.

Bond where not specified: Half lap stretcher.

Vertical joints in facework: Even widths. Plumb at every fifth cross joint along course.

Adverse weather

General: Do not use frozen materials or lay on frozen surfaces.

Air temperature requirements: Do not lay bricks/ blocks:

- In cement gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.

Temperature of walling during curing: Above freezing until hardened.

Protect face work at all times from:

- Rain and snow.
- Drying out too rapidly in hot conditions and in drying winds.

Facework

Colour consistency of masonry units:

- Methods to ensure that delivered units are consistent and of an even colour range within deliveries: Submit proposals.

- Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.

- Finished work: Free from patches, horizontal stripes and racking back marks.

Appearance:

- Brick/ block selection: Do not use units with damaged faces or arrises.
- Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
- Quality control: Lay masonry units to match relevant reference panels.
- Setting out: To produce satisfactory junctions and joints with built-in elements and components.
- Coursing: Evenly spaced using gauge rods.
- Lifts: Complete in one operation.

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- Methods of protecting facework: Submit proposals.

Ground level: Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.

Putlog scaffolding: Not permitted in facework.

Toothed bond: New and existing facework in the same plane: Bond together at every course to achieve continuity of bond and coursing.

Cleanliness:

- Facework: Keep clean.
- Mortar on facework: Allow to dry before removing.
- Removal of marks and stains: Rubbing not permitted.

Mortar Pointing

Brickwork joints as indicated in DWG24606.104 require deep cut pointing are to be mechanically racked out using a brick mortar router to a depth of 40mm and repointed using a 1:4 mortar mix made up with matching colour mortar. A test panel should be carried out on site prior to commencement of main works which is to be approved by the Employer

MORTARS

Admixtures for site made cement gauged and hydraulic lime: sand masonry mortars

Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.

Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

CEMENTS FOR MORTAR

Cement: To BS EN 197-1 and CE marked.

- Type: Portland cement, CEM I. Portland limestone cement, CEM II/A-L or CEM II/A-LL. Portland slag cement, CEM II/B-S, Portland fly ash cement, CEM II/B.

- Strength class: 32.5, 42.5 or 52.5.

White cement: To BS EN 197-1 and CE marked.

- Type: Portland cement, CEM I.
- Strength class: 52.5.

Sulphate resisting Portland cement.

- Type: To BS 4027 and Kitemarked. To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
- Strength class: 32.5, 42.5 or 52.5.

Masonry cement: To BS EN 413-1 and CE marked, class MC 12.5.

Lime: sand for cement gauged masonry mortars

Ready mixed:

- Standard: To BS EN 998-2.
- Lime: Nonhydraulic to BS EN 459-1, type CL 90S.
- Pigments for coloured mortar: To BS EN 12878.

Site made:

- Permitted use: Where a special colour is not required and in lieu of factory made ready-mixed material.
- Lime: Nonhydraulic to BS EN 459-1, type: CL 90S.

24606 MCC Equans PSDS - Decarbonisation Scheme of Blackley Office & Yard

- Mixing: Thoroughly mix lime with sand, in the dry state. Add water and mix again. Allow to stand, without drying out, for at least 16 hours before using.

Retarded ready to use cement gauged masonry mortars

Standard: To BS EN 998-2.

Lime for cement:lime:sand mortars: Nonhydraulic to BS EN 459-1.

- Type: CL 90S.

Pigments for coloured mortars: To BS EN 12878.

Time and temperature limitations: Use within limits prescribed by mortar manufacturer.

- Retempering: Restore workability with water only within prescribed time limits.

Sand for lime: sand masonry mortars

Type: Sharp, well graded.

- Quality, sampling and testing: To BS EN 13139.

Sand for site made cement gauged masonry mortars

Standard: To BS EN 13139.

- Grading: 0/2 (FP or MP). Fines content where the proportion of sand in a mortar mix is specified as a range (e.g. 1:1: 5 – 6):

Lower proportion of sand, use category 3 fines. Higher proportion of sand, use category 2 fines.

Sand for facework mortar: Maintain consistent colour and texture. Obtain from one source.

EXECUTION

Making cement gauged mortars

Batching: By volume. Use clean and accurate gauge boxes or buckets.

- Mix proportions: Based on dry sand. Allow for bulking of damp sand.

Mixing: Mix materials thoroughly to uniform consistency, free from lumps.

- Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.

Working time (maximum): Two hours at normal temperatures.

Contamination: Prevent intermixing with other materials.

Ladders as shown on plan

Sö II PivotLoc folding ladders with arrest system, manufactured and supplied by Safety at Height Limited, Unit 1 Pennine View, Marple, Stockport, Greater Manchester, SK6 7JW

Phone: 0161 449 5615

Mobile: 07810 885323

Email: craig@safety-height.co.uk

Website: www.safety-height.co.uk

Ladders are manufactured to have an Open Width 500 mm and when closed 195 mm

Rung distance 280mm

It must be locked open or shut with the padlock

The brackets must be fixed on the pivot points of the rungs

The foldable ladder can be used combined with all type of ladders

The ladder is complete with arresting device, end-stop, recess, connector and side handles

The system also includes a stainless steel clamp that is used to insert a padlock

The ladders can be opened or folded closed. When the ladder is closed, it has a slim and unobtrusive profile. When open, the result is a high-quality ladder with Miller® fall protection.

The foldable ladder system prevents unauthorised use of the system in the same way as the cover plate. '

Connection to aluminium ladders Material: Anodised aluminium Weight: 1◆.0 kg/each Part no. 23193 Connection to steel ladders Material: Anodised aluminium Weight: 1◆.0 kg/each Part no 23281 (not shown)

PivotLoc Fall Arrest Folding Ladder System

Fall Arrest Access System Design

vertical fall arrest access systems are covered by BS EN 353-1:2014 "Guided Type Fall Arresters on a rigid line."

All such systems must be designed specifically for fall protection, must carry a CE Mark and bear identification of the year of manufacture, manufacturer's trademark and the batch or serial number of the component.

All systems should also be clearly marked by pictogram, or other clearly seen and understood markings, on or near the anchorage device clearly stating that the device is designed exclusively for the use of personal protective equipment.

A Top Extension Post with integrated EN795-A Eyebolt should be supplied to span the central fall arrest rail approx. 1.1m above the step off point and allow the Users safe access on and off the system.

GlideLoc Body Control 1 Fall Arrestor and Full Body harness is to be supplied for each user (2 Nr. required).

System to be installed in accordance with EN 353-1 and Manufacturers Recommendations by an installer approved by Safety at Height Limited. Systems installed by non-approved installers or sub-Installers shall not be covered by Manufacturer Warranty.

ROOFLIGHTS

Application

The Coxdome Trade Range Fixed Rooflight is suitable for installation onto flat roofs of both domestic and commercial buildings of all types.

COXDOME Ltd, Blyth Riverside Business Park, Spencer Road, Blyth, Northumberland NE24 5TG

Tel: 0121 530 4230

Email: sales@coxdome.co.uk

Email: sales@coxdome.co.uk

Website: www.coxdome.co.uk

Please Note: the structural opening size (hole in the roof) which needs to be cut is equal to the exact size of the Rooflight (i.e. 600 x 600 Rooflight = hole size in roof of 600 x 600 mm etc). The daylight size will be 200 mm smaller than the Rooflight size (i.e. 600 x 600 mm Rooflight would provide a daylight size of 400 x 400 mm etc).

General information

Color	White
Material	PVC-U Guidance for specification option: Unplasticized polyvinyl chloride (PVC-U). Polycarbonate
Shape	Square Rectangle
Length	600 mm 750 mm 800 mm 900 mm 1000 mm Show more
Width	600 mm 750 mm 800 mm 900 mm 1000 mm Show more
Warranty description	Ten year
Uniclass	Pr_30_59_72_31 Framed rooflightsPrimary
CAWS	L10/45 Rooflights L10/460 Rooflights
Product range	Rooflights and Ventilation

24606 MCC Equans PSDS - Decarbonisation Scheme of Blackley Office & Yard

Specification data - Framed rooflights

Form	Flat. Pyramid.
Size	600 x 600 mm. 600 x 900 mm. 600 x 1200 mm. 750 x 750 mm. 750 x 900 mm. 800 x 800 mm. 900 x 900 mm. 900 x 1200 mm. 1000 x 1000 mm. 1000 x 1500 mm. 1100 x 1100 mm. 1200 x 1200 mm. 1200 x 1800 mm.
Product performance	-
Fire performance	-
Reaction to fire	Class B-s1-d0; Class D-s3-d1. Guidance for specification option: Polycarbonate, upstand.
Whole window U-value	2.6 W/m²K.
Frame	-
Material	PVC-U.
Finish	-
Colour	White.
Glazing or infill	-
Type	Polycarbonate sheet. Guidance for specification option: The outer dome is manufactured from 3 mm impact resistant glazing.
Construction	Double skin.
Colour	Clear. Guidance for specification option: High visibility, and maximum light transmission. Diffused.
Coating	UV protected.
Operation	-
Type	Manual.
Ventilation	Not required. Manual hit-and-miss vent x 2. Manual hit-and-miss vent x 4.
Accessories/ Other requirements	Guidance for specification option: Consult manufacturer and insert requirements.
Impact resistance	>200 N/mm².

24606 MCC Equans PSDS - Decarbonisation Scheme of Blackley Office & Yard

Light transmission	77%.
Glass units and whole product U-values/ G-values	67%.
Sound reduction	20 dB.
Type	Splayed. Guidance for specification option: 150 mm. Manufacturer guidance Upstand type.
Profile width	25 mm. Manufacturer guidance Profile width type.
Upstand/ kerb finish	White.
Non-fragility rating	Class B.

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



BMI ICOPAL SITE SURVEY



PROJECT ADDRESS:

PROJECT NAME: Blackley Crematorium
Office and Chapel Roofs
POSTCODE: M9 8PJ
DATE PREPARED 11/7/2024

CLIENT

PREPARED ON BEHALF OF: Drees & Sommer UK Ltd



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Section 2	Project Observations
Section 3	Roof Details
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Section 6	Summary of Condition

1. PROJECT OVERVIEW

Project Name:	Blackley Crematorium Office and Chapel Roofs	Client Name:	Drees & Sommer UK Ltd
Project No:	10134951	Address:	182 Sefton Street Brunswick Business Pa
Address:	Victoria Avenue	Town:	Liverpool
Town:	Manchester	County:	
County:		Postcode:	L3 4BQ
Postcode:	M9 8PJ	Contact:	Glen Moody
		Tel:	
		Email:	glen.moody@dreso.com
Inspected By:	Paul Seel	Date of Inspection:	11/5/2024
Position:	Area Technical Manager	Weather during Inspection:	Dry(>0°C and <10°C)

Plan View - Blackley Crematorium Office and Chapel Roofs



2. PROJECT OBSERVATIONS

The following survey conducted is a Building Survey of the defined roof areas only. This survey deals with the materials of the building, its general physical condition including any factual evidence of deterioration or performance failure. The survey includes assessments based on the survey observations.

The client requested that a representative of BMI Group UK Ltd. undertake a roof condition survey with the intent of producing a report in order to determine the existing roof build, its condition and highlight any issues, potential issues and failings of the existing waterproofing system.

3. ROOF DETAILS

Roof Area Reference	Blackley Crematorium Storage Roof	Blackley Crematorium Office and Chapel Roofs
Roof Area(m2)	186	538
Building Use	Warehousing & Storage	Office
Building Height(Floors)	1	1
Building Access	Surveyors Ladder	Surveyors Ladder
Pitch	Pitch less than 5 Degrees	Pitch less than 5 Degrees
Drainage Method	To External Gutters	To Internal Gutters
Falls On Roof	Adequate	Adequate
Internal Ceiling	None	Suspended Ceiling Tiles
Void	None	
Structural Deck	Prescreeded Woodwool	Prescreeded Woodwool
VCL	Bituminous VCL	Bituminous VCL
Insulation Type	PUR/PIR	PUR/PIR
Insulation Thickness(mm)	100	100
Existing Waterproofing	Bituminous Membrane	Bituminous Membrane
Surface Finish	Mineral	Mineral
Repairs		

4.10134951 CORE SAMPLE ANALYSIS - Blackley Crematorium Storage Roof



4.10134951 Blackley Crematorium Storage Roof

Core Sample 1

Area Sample Taken: Adjacent to Perimeter Edge - Low Point of Roof

Waterproofing Type: Steel Reinforced, Pre-screeded Woodwool Deck, Bituminous VCL, 90mm PUR, Bituminous Built Up System with Mineral Finish.

Core Result: Dry

Moisture Probe Reading:



4.10134951 Blackley Crematorium Storage Roof

Core Sample 2

Area Sample Taken: Adjacent to Perimeter Edge - High Point of Roof

Waterproofing Type: Steel Reinforced, Pre-screeded Woodwool Deck, Bituminous VCL, 90mm PUR, Bituminous Built Up System with Mineral Finish.

Core Result: Dry

Moisture Probe Reading:



4.10134951 Blackley Crematorium Storage Roof

Core Sample 3

Area Sample Taken: Adjacent to Office Roofs

Waterproofing Type: Steel Reinforced, Pre-screeded Woodwool Deck, Bituminous VCL, 90mm PUR, Bituminous Built Up System with Mineral Finish.

Core Result: Dry

Moisture Probe Reading:

4.10134951 CORE SAMPLE ANALYSIS - Blackley Crematorium Office and Chapel Roofs



**4.10134951 Blackley
Crematorium Office and
Chapel Roofs**

Core Sample 1

Area Sample Taken: From Original Survey - Adjacent to Courtyard

Waterproofing Type: Pre-screeded Woodwool Deck, Bituminous VCL, 90mm PUR, Bituminous Built Up System with Mineral Finish.

Core Result: Dry

Moisture Probe Reading:



**4.10134951 Blackley
Crematorium Office and
Chapel Roofs**

Core Sample 2

Area Sample Taken: Adjacent to Perimeter Edge - High Point of Roof

Waterproofing Type: Pre-screeded Woodwool Deck, Bituminous VCL, 90mm PUR, Bituminous Built Up System with Mineral Finish.

Core Result: Dry

Moisture Probe Reading:

5.10134951/1 CONDITION REPORT - Blackley Crematorium Storage Roof



A visual and intrusive inspection has been undertaken of the roof area to determine the condition of the existing roof waterproofing system. The survey includes a number of core samples with their relevant moisture readings. Core samples give an indication of the roof build up and the existence of any moisture in the specific area cored only. BMI Group UK Ltd. take no responsibility for changes in the roof build up outside the immediate area inspected.



The underside of the roof has been painted but it appears the deck is in a visibly good condition at the area inspected.



All core samples taken indicated that the roof was dry and the existing waterproofing system has been successful. Image of moisture meter from Core Sample 1.

5.10134951/1 CONDITION REPORT - Continued



Small area of dirt indicates ponding water occurs in this area indicating possible deflection in the roof deck or inadequate roof falls. The presence of ponding water may have had a detrimental effect on the existing waterproofing system.



Pipe penetrations are evident across the roof area.



Existing drainage is to external gutters and downpipes.

5.10134951/1 CONCLUSIONS - Blackley Crematorium Storage Roof

Based on the survey findings the roof is in a good condition. The roof area is showing no wear and is clean and well maintained.

Small areas of dirt and debris were visible across the roof area during the survey, which suggest the roof is due for some seasonal maintenance.

Our conclusion is that the current waterproofing is in a suitable condition for a new waterproofing system to be overlaid onto it.

5A.10134951/1 RECOMMENDATIONS - Blackley Crematorium Storage Roof

Based on the conclusions of our survey we would recommend that a BMI Icopal high performance cold roof system is installed to your projects existing waterproofing.

5A.10134951/1 SAFE2TORCH PLAN -

BMI Icopal 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 offered in good faith and has been based on the findings of the Icopal roof survey, the installing contractor is to make their own assessment of the roof area prior to commencement of hot works to ensure all at risk areas have been identified. If any additional items of concern are identified please contact your Icopal representative prior to commencing 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 CONDITION REPORT - Blackley Crematorium Office and Chapel Roofs

These areas of roof have not been surveyed since January 2022, so we are assuming that the existing system is as per the original survey. Any amendments must be made clear to Icopal prior to commitment of the tender and prior to works commencing on site in case any changes of the specification are required.

5.10134951/2 CONCLUSIONS - Blackley Crematorium Office and Chapel Roofs

From the intrusive survey findings the current thermal performance of the roof does not meet current thermal performance regulations.

Our conclusion following discussions with the client is that the roof is stripped of its current waterproofing down to the vapour control layer and a new insulated flat roof waterproofing system installed.

5A.10134951/2 RECOMMENDATIONS - Blackley Crematorium Office and Chapel Roofs

Based on the conclusions of our survey we would recommend that a BMI Icopal high performance warm roof system is installed to the existing vapour control layer.

Offering total protection, our systems are able to meet every project need. Core elements include the waterproofing layer together with insulation, vapour control layers and accessories.

The following BMI Icopal specification proposes our recommendations for your project.

5A.10134951/2 SAFE2TORCH PLAN -

BMI Icopal 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 offered in good faith and has been based on the findings of the Icopal roof survey, the installing contractor is to make their own assessment of the roof area prior to commencement of hot works to ensure all at risk areas have been identified. If any additional items of concern are identified please contact your Icopal representative prior to commencing 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
Project Ref: 10134951



FLAT ROOFING SPECIFICATION



PROJECT ADDRESS:

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

CLIENT

PREPARED ON BEHALF OF: Drees & Sommer UK Ltd

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Section 2	Contact Details
Section 3	Specification Summary
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Section 5	Specification Build Up(s): 5.10134951.1 Blackley Crematorium Storage Roof 5.10134951.1 Blackley Crematorium Office and Chapel Roofs
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Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



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

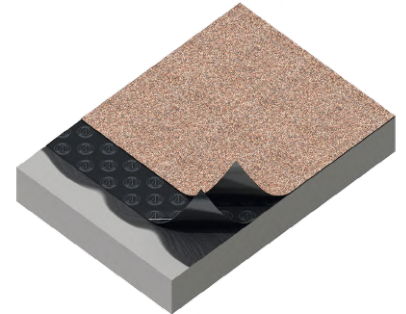
Client Details	
Client Company Name	Drees & Sommer UK Ltd
Client Address	182 Sefton Street Brunswick Business Pa Liverpool L3 4BQ
Contact Name	Glen Moody
Tel	
Email	glen.moody@dreso.com
Project Details	
Site Name	Blackley Crematorium Office and Chapel Roofs
Site Address	Victoria Avenue Manchester M9 8PJ
Icopal Contacts	
Name	Paul Seel
Position	Area Technical Manager
Tel	07970 455 073
Email	paul.seel@bmigroup.com
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

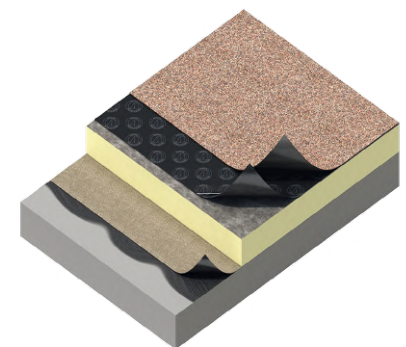


3. SPECIFICATION SUMMARY

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 Specified Sealoflex 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 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 Weltded Drip Detailing - Bitumen

- Form a weltded 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
Project Ref: 10134951



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)

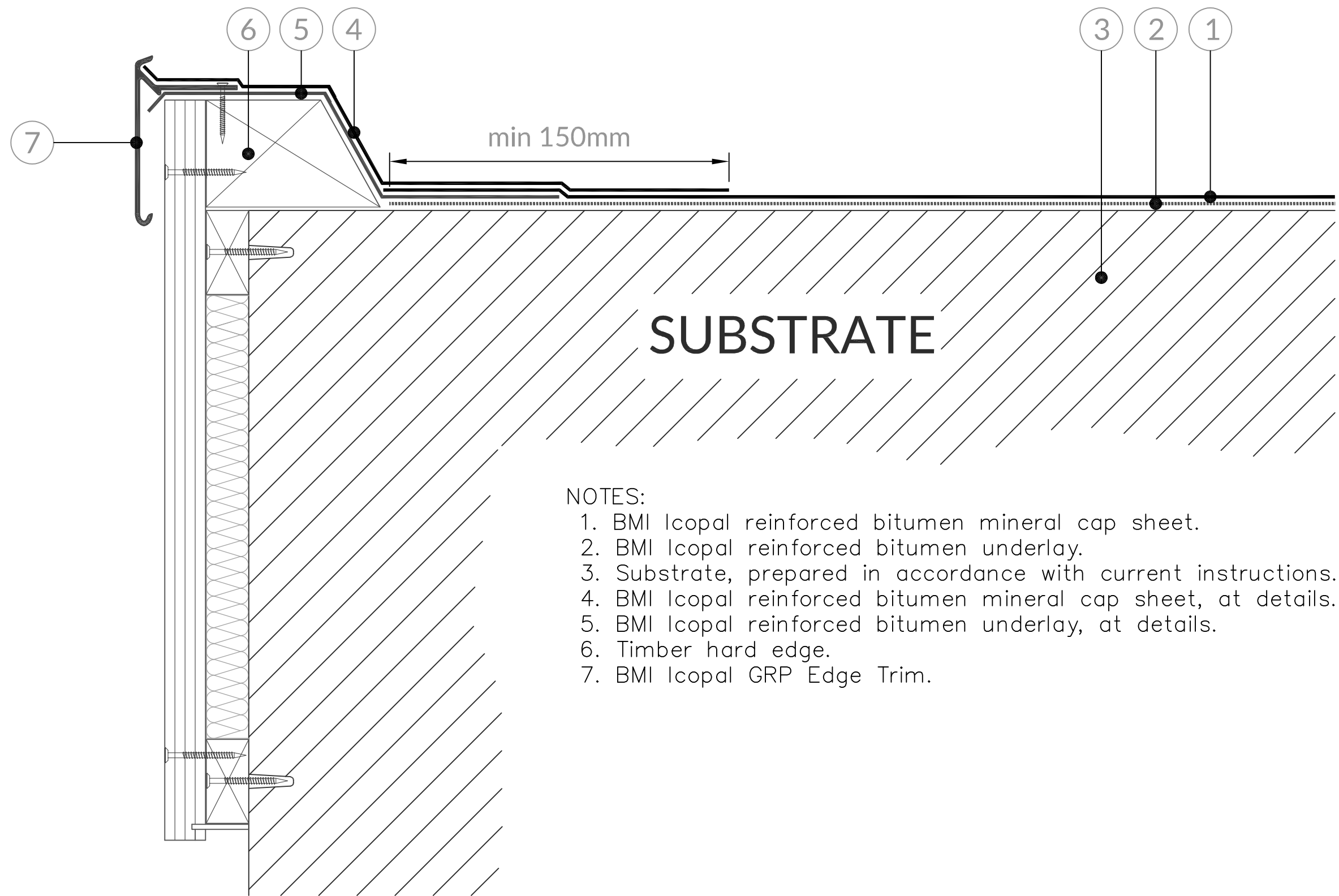
Client: Drees & Sommer UK Ltd
Project: Blackley Crematorium Office and Chapel Roofs
Project Ref: 10134951



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.

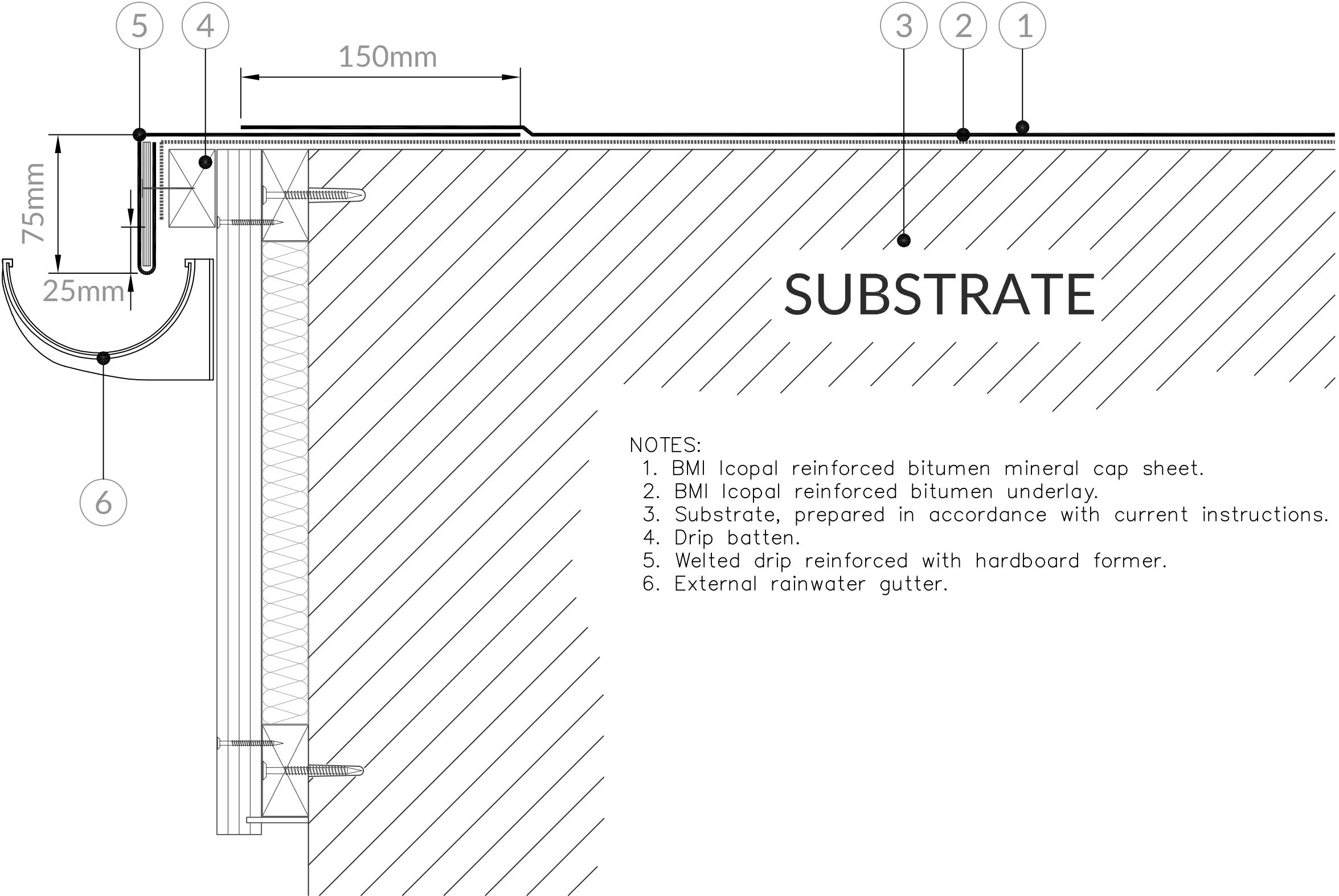


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Drawing Title:	Uninsulated System To Watercheck With GRP Edge Trim				
System:	Reinforced Bitumen Membranes - Two Layer System				
Dwg. No:	T-C-03-101	Date:	31/08/2022	Scale	NTS

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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. Weltd 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

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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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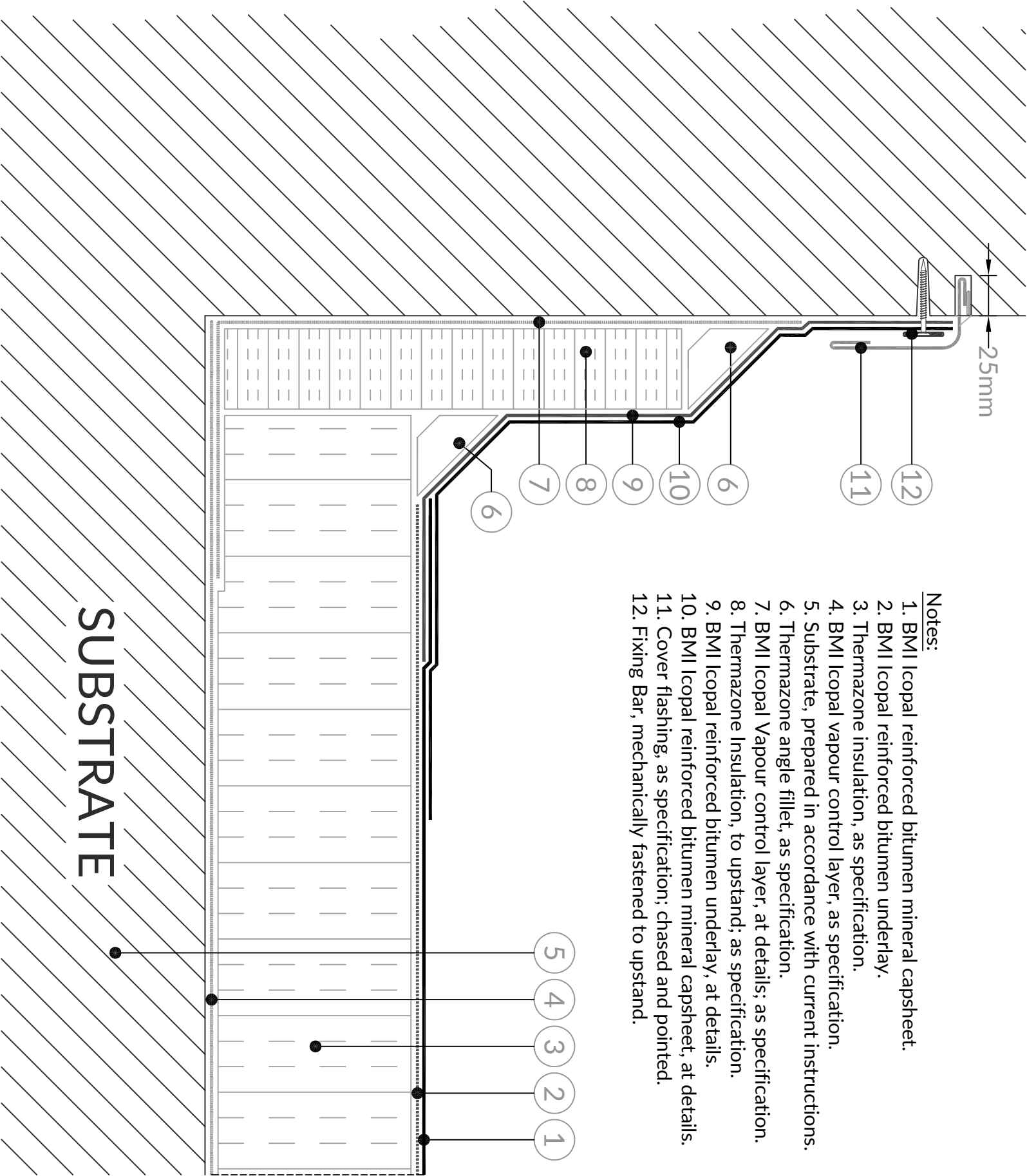


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Drawing Title:	Uninsulated System Eaves Detail With Weltd Drip				
System:	Reinforced Bitumen Membranes - Two Layer System				
Dwg. No:	T-C-04-101	Date:	31/08/2022	Scale	NTS

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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

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.

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SUBSTRATE

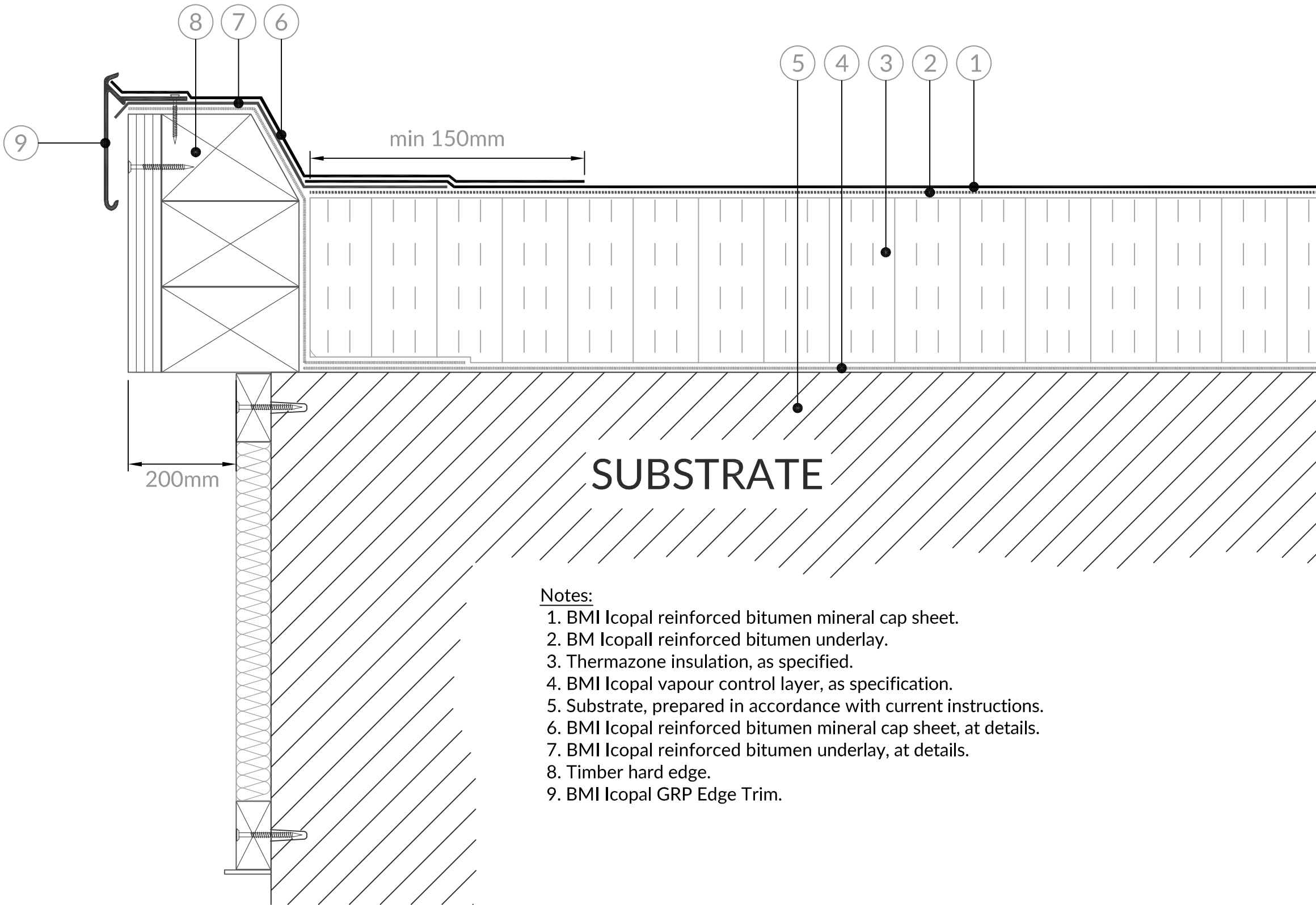


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Drawing Title:	Warm Roof Upstand To Abutment Wall with Cover Flashing				
System:	Reinforced Bitumen Membranes - Two Layer System				
Dwg. No:	T-W-01-101	Date:	15/06/2022	Scale	NTS

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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

- 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.

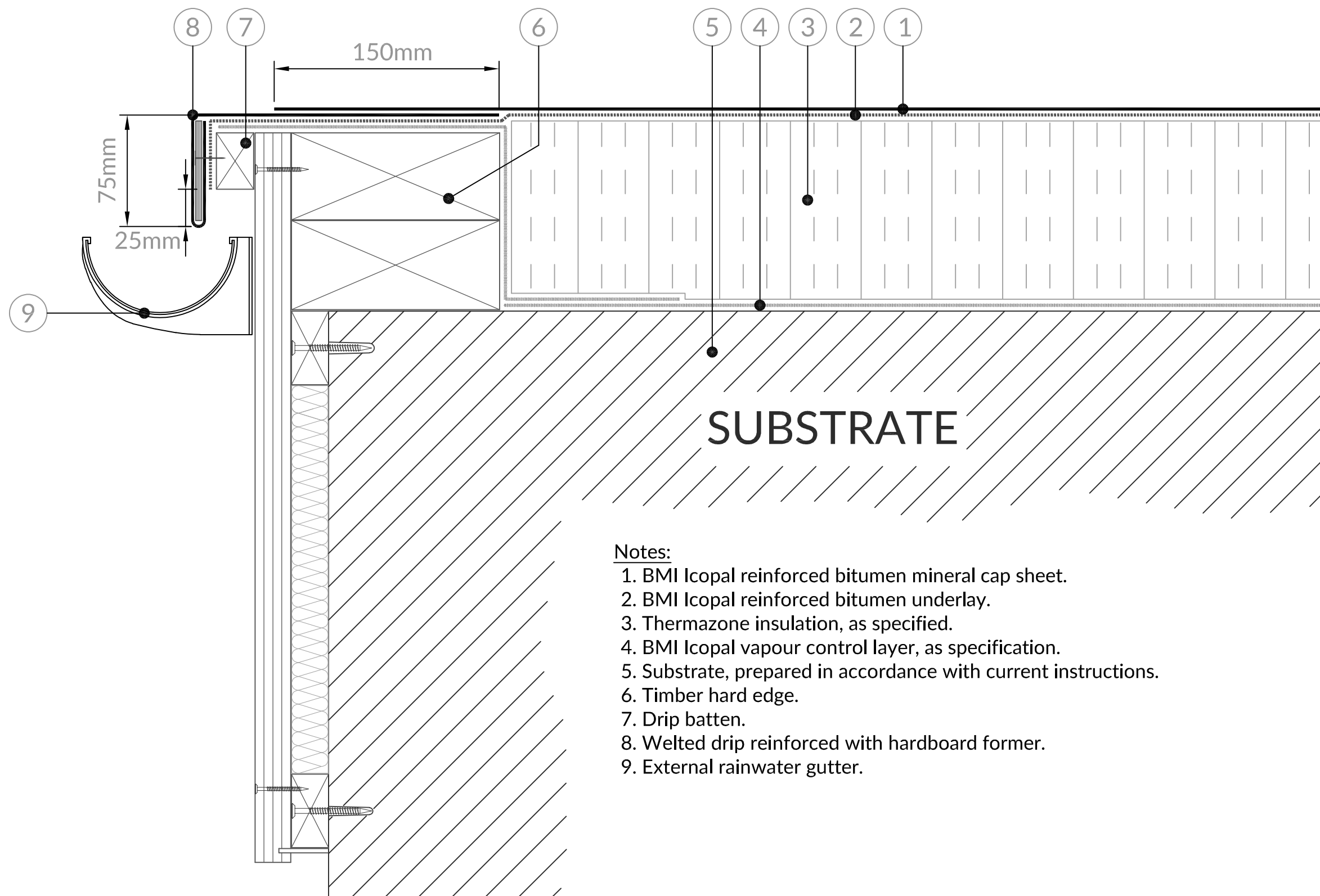


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Drawing Title:	Warm Roof To Watercheck with GRP Edge Trim				
System:	Reinforced Bitumen Membranes - Two Layer System				
Dwg. No:	T-W-03-101	Date:	16/06/2022	Scale	NTS

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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. Wetted drip reinforced with hardboard former.
9. 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

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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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Drawing Title: Warm Roof Eaves Detail With Welted Drip

System: Reinforced Bitumen Membranes - Two Layer System

Dwg. No: T-W-04-101

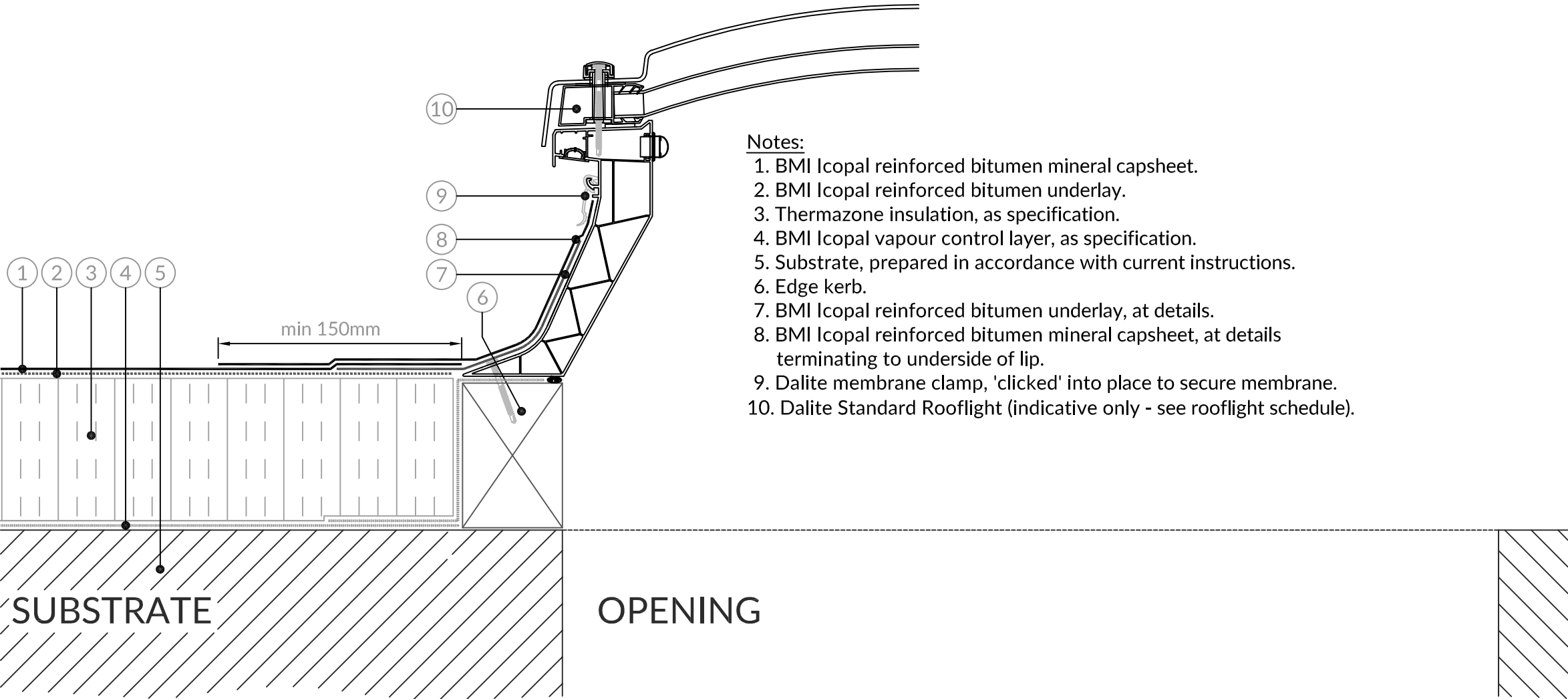
Date: 16/06/2022

Scale

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Notes

Substrate Preparation

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Construction Notes

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

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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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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

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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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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RAINWATER GOODS

Black upvc FloPlast Limited Castle Road Eurolink Business Park Sittingbourne Kent ME10 3FP UK Tel: +44 (0)1795 431731 Fax: +44 (0)1795 431188 Sales Office Direct Line: +44 (0)1795 421422 Email: sales@floplast.co.uk Website: www.floplast.co.uk

112mm Ø Black Half Round sat in RK1 Fascia Brackets, connected with RU1 Union Brackets, with RE1 Stop ends. Gutters to discharge in RO1 Running Outlet. Use RA1 Angles.

Use 68mm Ø Round RP2.5 Rainwater pipes with 112½° RB2 Offset Bends, RB3 Shoes and fixed with RC3 secret fix clips Pipe Clips

INSTALLATION GENERALLY

Ensure, that below ground drainage is ready to receive rainwater or that the discharge can be dispersed by approved means to prevent damage or disfigurement of the building fabric.

Any specified painting of surfaces which will be concealed or inaccessible is completed.

Install pipework/gutters to ensure the complete discharge of rainwater from the building without leaking.

Obtain all components for each type of pipework/guttering from the same manufacturer unless specified otherwise.

Provide access fittings and rodding eyes as necessary in convenient locations to permit adequate cleaning and testing of pipework.

Avoid contact between dissimilar metals and other materials which would result in electrolytic corrosion.

Do not bend pipes.

Adequately protect pipework/gutters from damage and distortion during construction. Fit purpose made temporary caps to prevent ingress of debris. Fit all access covers, cleaning eyes and blanking plates as the work proceeds.

Where not specified otherwise use plated, sherardised, galvanised or nonferrous fastenings, suitable for the purpose and background, and compatible with the material being fixed.

FIXING AND JOINTING GUTTERS:

Fix securely at specified centres and at all joints in gutters, with additional brackets near angles and outlets.

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Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.

Seal as specified to make watertight. Spread jointing compound evenly over jointing face of socket.

For gutters with bolted joints, tighten joints in the gutter sole before any other bolts. Fit suitable washers and spacers to prevent overtightening, unless specified otherwise.

Tighten fixing to squeeze out some compound. Remove surplus, squeezed out compound and neatly clean off.

Ensure that roofing underlay is dressed into gutter

SETTING OUT EAVES GUTTERS – TO FALLS

Set out to a true line and even gradient to ensure no ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50mm below the roof.

Position outlets to align with connections to below ground drainage, unless shown otherwise on drawings.

RAINWATER OUTLETS

Outlets are securely fixed before connecting pipework.

Junctions between outlets and pipework can accommodate all movement in the structure and pipework.

FIXING PIPEWORK:

Fix securely at specified centres plumb and/or true to line.

Make changes in direction of pipe runs only where shown on drawings unless otherwise approved.

Fix branches and low gradient sections with uniform and adequate falls to drain efficiently.

Fix externally socketed pipes/fittings with sockets facing upstream.

Provide additional supports as necessary to support junctions and changes in direction.

Fix every length of pipe at or close below the socket collar or coupling.

Provide a load bearing support for vertical pipes at not less than every storey level.

Tighten fixings as the work proceeds so that every storey is self-supporting and undue weight is not imposed on fixings at the base of the pipe.

Isolate from structure where passing through walls or floors and sleeve pipes

Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.

Fix expansion joint pipe sockets rigidly to the building and elsewhere use fixings that allow the pipe to slide.

JOINTING PIPEWORK/GUTTERS:

Joint using materials, fittings and techniques which will make effective and durable connections.

Joint differing pipework/gutter systems with adaptors recommended by manufacturer(s).

Cut ends of pipes to be clean and square with burrs and swarf removed. Chamfer pipe ends before inserting into ring seal sockets.

Ensure that jointing or mating surfaces are clean, and where necessary lubricated, immediately before assembly.

Form junctions using fittings intended for the purpose ensuring that jointing material does not project into bore of pipes, fittings and appliances.

Remove surplus flux/solvent/cement/sealant from joints.

ACCESS FOR TESTING AND MAINTENANCE:

Install pipework and gutters with adequate clearance to permit testing, cleaning and maintenance.

Position access fittings and rodding eyes so that they are not obstructed by other pipework, framing, etc.

COMPLETION CLAUSES

TESTING GENERALLY:

Inform the contractor administrator sufficiently in advance to give him a reasonable opportunity to observe tests.

Check that all sections of installation are free from obstruction and debris before testing.

Provide clean water, assistance and apparatus for testing as required.

Carry out tests as specified. After testing, locate and remedy all defects without delay and retest as instructed. Keep a record of all tests and provide a copy of each to the contractor administrator.

GUTTER TEST:

Block all outlets, fill gutters to overflow level and after 5 minutes closely inspect for leakage.

MAINTENANCE INSTRUCTIONS

At completion, submit printed instructions recommending procedures for maintenance of the rainwater installation including full details of the recommended inspection, cleaning and repair procedures.

IMMEDIATELY BEFORE HANDOVER:

Remove construction rubbish and debris from all roofs and gutters. Where possible, sweep and remove fine dust which may enter rainwater systems. Do not sweep or flush dust or debris into the rainwater system.

Remove swarf, debris and temporary caps from the entire rainwater installation.

Ensure that all access covers, rodding eyes, outlet gratings, etc., are secured complete with all fixings.

FLOPLAST PVC-U RAINWATER INSTALLATION

Applications

FloPlast Rainwater Systems are suitable for all applications and types of building, including domestic, commercial and industrial.

Composition

All products are manufactured from unplasticised polyvinyl chloride (PVC-U) and comply with the material requirements of either BS EN 12200-1:2000, BS EN 607:2004 or BS EN 1462:2004 as relevant.

Rainwater gutters and pipes are manufactured by a continuous extrusion process. Fittings are produced on high-pressure injection moulding machines. All fittings are manufactured to close tolerances allowing accurate incorporation of design features.

Accreditation

All of our profiles are manufactured to BS EN 607:2004 (Gutters and fittings), BS EN 12200-1:2000, BS EN 1329-1:2014 and BS 1453-1:2000 (Downpipes and fittings), BS EN 1462:2004 (Gutter brackets) within a quality management system assessed and registered by British Standards as meeting the requirements of BS EN ISO 9001:2000 (Certificate Number FM:501414).

Supply

Products are available from a national network of distributors and stockists. For details of your local stockist contact our Sales Office.

Specification, Technical Advice and Design Guidance

A free advisory service is available to offer technical assistance regarding product and installation details. Those involved with the building industry may take advantage of design services provided by the company for customers who have made a commitment to use or specify FloPlast products.

Installation

1. Plan your installation using the component diagrams to assist you in selecting the correct type and quantity of products required.
 - Fascia brackets should be spaced at a maximum of one metre apart on straight gutter runs. (800mm in the case of the Niagara system, 600mm in the case of the Xtraflo system). When using 80mm Round Downpipe with Hi-Cap and Niagara Systems, fascia brackets should be spaced at a maximum of 800mm intervals. In areas where there is the possibility of high levels of snowfall, fascia brackets should be spaced at a maximum of
2. Where necessary remove the old gutter and replace old fascia board with FloPlast low maintenance PVC-UE co-extruded fascia board.
3. Establish the position of the running outlet, usually over an existing drain, and fix securely to fascia board.
4. Fix a fascia bracket 100mm short of furthest point from the outlet. Allow for a fall to the outlet (1:350 is recommended) using a string line.
5. Fixings:
 - Fix fascia and union brackets at required intervals. Fascia brackets should be positioned so as to avoid the fixing screws splitting the top edge of any timber fascia board. All brackets should be secured to the fascia board with two 25mm x 5mm (1" x 10) screws or one 40mm x 5mm (1½" x 10) screw. The "Cast Iron" fascia brackets must have two fixings.
 - Unions should be fixed using a 25mm x 5mm (1" x 10) screw.
 - Outlets and Angles should be fixed using two 25mm x 5mm (1" x 10) screws.
 - In areas of heavy snowfall it is recommended that each fascia bracket is secured using two 25mm x 5mm (1" x 10) screws.
 - Rainwater downpipe clips should be fixed using two 40mm x 6mm (1½" x 12) screws.
 - Round head screws are the recommended style of screw, however counter sunk can be used as long as care is taken not to overtighten, particularly when using power tools.
6. Lubricate all gutter seals with FloPlast silicone spray lubricant to ensure an easy fit and to allow for movement caused by expansion and contraction.
7. Working from the running outlet insert the back edge of the gutter under the retaining lip of the wrap around clip. Using slight downward pressure on the gutter snap the front edge of the retaining clip over the front of the gutter. (Ensure that the marked expansion allowance is kept.)

400mm centres. For further information, view our snow loading statement on page 26.

- Angles and stopends should have a fascia bracket within 150mm of the fitting.
- A supporting pipe clip should be used on shoes, branches and bends where necessary.
- Support downpipes below offset and at maximum intervals of 1.8 metres.

- 8. Use a union bracket or angle to join to next gutter length in order to build up a gutter run. Use a stopend to complete the run.
- 9. Downpipe installation starts at the outlet. If an offset is required use two offset bends with or without a short piece of pipe, alternatively use an adjustable offset bend. Ensure a 6mm gap is left at the top of the downpipe for expansion.

Pipe connectors if required should be secured to the wall with a pipe clip.

At the base of the pipe, fit a shoe secured with a pipe clip or connect downpipe to underground drainage system using a 110mm x 68mm reducer (SP96/D96 or D97).

Capacity of Drainage

To select the gutter size appropriate to your requirements, two factors must be taken into consideration.

- Roof Area
- Gutter Flow Capacity

For further reference refer to BS 12056-3:2000 "Roof Drainage Layout and Calculation".

The capacity of a drainage system should be large enough to carry the expected flow at any point in the system. The flow of 'run-off' depends upon the area to be drained, (the 'effective roof area'), and the intensity of rainfall. It is accepted that 75mm an hour is the intensity of rainfall in the United Kingdom. For further information, see the FloPlast "Gutter calculator" at: www.floplast.co.uk

Roof Area

The effective roof area can be calculated by using the following formula:

$$(B + \frac{C}{2}) \times \text{length of Roof (A)} = \text{Area in M}^2$$

B = Half width of gable end or hip

C = Vertical measurement from eaves to apex

An alternative to the above method is the use of multiplication factors to establish effective roof cover.

Approved Document H of the Building Regulations shows the same method, although the options given below allow for greater accuracy of the effective roof area in m2.

Calculate the above using the following method: A x B x factors dependant on the angle of the roof pitch.

METHOD OF CALCULATING EFFECTIVE ROOF AREA																
Roof Pitch	10°	12.5°	15°	17.5°	20°	22.5°	25°	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°
Factor	1.088	1.111	1.134	1.158	1.182	1.207	1.233	1.260	1.288	1.319	1.350	1.384	1.419	1.459	1.500	1.547

For roofs of 50° or more and walls, the factor of 1.600 should be used.

Cleaning and Maintenance

Although PVCu rainwater systems are considered to be relatively maintenance-free it is important to clear gutter systems of fallen leaves and other debris at least once per year.

More frequent inspections may be necessary in areas of high pollution and where there are trees in the vicinity.

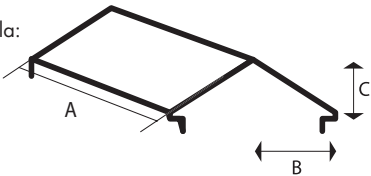
Inspection of the gutter and brackets is also advisable during and after periods of ice formation in the guttering system.

In some cases lighter coloured systems may require cleaning. Wash down with a solution of soapy warm water, in severe cases a non-abrasive kitchen cream cleaner should be used.

SNOW LOADING STATEMENT

Snow slippage is particularly evident where smooth roofing materials such as slate have been installed. For additional security FloPlast strongly recommend the installation of Snow Guard (see page 5) which facilitates the retention of snow, allowing slow melt, rather than slippage. In areas where there is the possibility of high levels of snowfall, fascia brackets should be spaced at a maximum of 400mm centres.

Several factors can come into play with the performance of rainwater systems, installation, overhang and style of the roof system (tiles/slates), pitch of roof, North or South facing, above or below 100 metres above sea level.



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PLASTER FINISH

British Gypsum, Head Office, East Leake, Loughborough, Leicestershire, LE12 6HX
T: 0115 945 1000 british-gypsum.com

Clean off all debris to existing brickwork/Blockwork inner leaf and roughen edges of damaged plaster, as backgrounds should be reasonably dry, clean and dust-free.

Apply Thistle® GypPrime, dilute if preferred using a ratio of no more than 1 part Thistle GypPrime to 5 parts water

Apply 9mm -10mm thick ThistlePro DuraFinish gypsum finish plaster to EN 13279-1:2008, Type B7/20/6 on low-suction backgrounds. Key surface with stiff brush

Apply 11mm thick Thistle® HardWall gypsum finish plaster to EN 13279-1:2008, Type B4/20/2 and C3/20. Apply the plaster with a firm pressure, and build it out to the required thickness without exceeding 8mm. Rule the plaster to an even surface and lightly scratch it to form a key for 2mm of Thistle finish plaster. Fix Thistle Plaster Angle Beads or Thistle Plaster Stop Beads to angles by embedding them in dabs of plaster. Follow good site practice as outlined in BS EN 13914 Code of Practice for Internal Plastering.

RIGID BEADS/ STOPS

Manufacturer: British Gypsum, Lafarge or equal approved
Material: galvanised steel to BS 6452-1.

INSTALLING BEADS/ STOPS

Fix Thistle Thin Coat Angle Beads to plasterboard angles by embedding them in dabs of plaster. To hold the bead in alignment as the plaster sets, it is recommended to use additional mechanical fixings like non-rusting nails, screws and staples. Wipe any surplus from corners before the plaster sets, as scraping it away later may damage the zinc coating.

Cutting: Neatly using mitres at return angles.

Fixing: Securely using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with background.

Finishing: After joint compounds/ plasters have been applied, remove surplus material while still wet from surfaces of beads which are exposed to view.

REPAIRS TO PLASTER

Repair Minor damage - Lightly sand the surface to remove burrs and fill flush with Gyproc Easi-Fill or Easi-Fill 45, or two applications of Gyproc Joint Cement. When dry, apply Gyproc Drywall Primer or Gyproc Drywall Sealer to leave the surface ready for decoration.

Deep indents resulting from impact, apply a coat of Gyproc Easi-Fill or Easi-Fill 45, followed by the procedure for repairing minor damage as outlined above, once set/dry. Damaged core and/or broken edges (non-performance situations only) . Apply Thistle GypPrime or PVA to seal the core and surrounding liner.

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Bulk fill the hole with a stiff mix of Gyproc Easi-Fill or Easi-Fill 45, or Gyproc Joint Filler, and strike off flush. Apply Gyproc Easi-Fill or Easi-Fill 45, or two applications of Gyproc Joint Cement, once the filler is set/dry. When dry, apply Gyproc Drywall Primer or Gyproc Drywall Sealer (only suitable in non-performance situations).

CARPENTRY

Grading standard: To BS 4978 or BS EN 519 or another national equivalent and so marked.

Strength class to BS EN 338: C & BS 5268:Part 2: C16.

Treatment to specification and British Wood Preserving and Damp-proofing Association

Type/desired service life to be 40 years.

UNGRADED SOFTWOOD TO OPENINGS AND CASINGS:

Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.

Surface finish: Regularised for thickness.

Treatment to specification and British Wood Preserving and Damp-proofing Association

MOISTURE CONTENT

Moisture content of timber and wood based products at time of installation: Not more than:

Covered in generally unheated spaces: 24%.

Covered in generally heated spaces: 20%.

in continuously heated spaces: 20%.

MOISTURE CONTENT TESTING

Procedure: When instructed, test timber sections with an approved electrical moisture meter.

Test sample: Test 5% but not less than 10 lengths of each cross-section in the centre of the length.

Test results: 90% of values obtained to be within the specified range. Provide records of all tests.

MDF for SKIRTINGS, CILLS ETC

Caber Wood MDF Pro with high density for clean, smooth routing.

Reaction to fire (BS EN 1350-1): Class D.

Thermal conductivity: 0.13 W/m·K.

E1 low emission resin binders.

Profiled edges require no edge banding or lipping.

Sculptured or textured effects can be machined or embossed and narrow or small door frames can be produced from a single piece of board.

Caber Wood MDF has a smooth surface that is ideal for painting, grain printing or the application of paper foils and veneers.

In many respects Caber Wood MDF can be treated as a high quality timber, but without the inherent defects of knots and grains.

Perpendicular and moulded edges can easily be finished without the need for elaborate filling or the application of adhesive bonded edging materials.

This characteristic derives from the uniform density of Caber Wood MDF, and the absence of core voids which would require filling.

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Sanding after moulding or routing produces a much smoother finish.

The moulded edges can be sanded with any number of different profile sanders.

Various polyurethane based abrasive wheels are available to fit to spindle moulders or in line with a double end tenoner. These wheels can be shaped to the cutter profile using an abrasive paper glued to the desired edge profile.

Machining

Caber Wood MDF is a homogeneous wood fibre material ideally suited to modern machine tooling.

Caber Wood MDF can be worked easily with all conventional woodworking machines.

It saws cleanly and drills easily.

It also shapes and routs exceptionally well, without splintering or chipping.

Caber Wood MDF is equally suited for use with most hand tools.

The internal bond strength of Caber Wood MDF gives substantially better screw holding over other types of panel product.

Most types of screws can be used, but best results are obtained with parallel thread screws.

A high overall diameter to core ratio is desirable.

Where other methods of fixing are not practical, Caber Wood MDF can be fixed with nails.

Nails should be spaced 150 mm apart to reduce the risk of splitting and at least 70 mm from the corners. Nailing the edges of 9 mm and 12 mm Caber Wood MDF is NOT recommended because of the risk of splitting.

Caber Wood MDF can also be fixed using staples. For best results staples should not be inserted closer than 12 mm from the edges and 25 mm from the corners. This fixing method is only recommended for applications involving light loads. Close spacing of the staples is acceptable but the legs should be aligned at an angle of 15° to the plane of the board.

Dowels with multiple longitudinal or spiral groove patterns ensure uniform adhesive spread within the joint. Smooth dowels are not recommended.

For best results, dowels should be given a total glue coverage.

Adhesives such as Polyvinyl Acetate (PVA) or Urea Formaldehyde are preferred as they have good gap filling properties, and their high solid content counteracts absorption of adhesive into the machined edges of Caber Wood MDF.

Wood veneering and applied foil and paper finishes

The smooth surface of Caber Wood MDF provides a suitable substrate for the application of wood veneers and a variety of foil and paper finishes.

Facing and backing veneers must have approximately equal thickness and moisture content to ensure flatness.

Decorative finishes

The natural appearance of the MDF surface can be enhanced using a transparent stain with a clear lacquer topcoat. High gloss or matt finishes can be achieved.

The selection of the finishing system, on the basis of chemical type will depend on the scale of production, application equipment, drying facilities and the expected performance of the finish in relation to the conditions of use.

Modern combined systems are possible, e.g., UV sealers, basecoats and AC (acid catalysed) topcoat.

Norbord Europe, Hill Village, South Molton, Devon EX36 4HP Phone: +44 (0)1769 572 991

WORKMANSHIP GENERALLY

CROSS SECTION DIMENSIONS OF STRUCTURAL SOFTWOOD AND HARDWOOD TIMBER

Dimensions in this specification and shown on drawings are target sizes as defined in BS EN 336.

Tolerances: The tolerance indicators (T1) and (T2) specify the maximums permitted deviations from target sizes as stated in BS EN 336, clause 5.3:

Tolerance class 1 (T1) for sawn surfaces.

Tolerance class 2 (T2) for further processed surfaces.

CROSS SECTION DIMENSIONS OF NONSTRUCTURAL SOFTWOOD TIMBER

Dimensions: Dimensions in this specification and shown on drawings are finished sizes.

Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1:

Clause 6 for sawn sections.

Clause NA. 2 for further processed sections.

WARPING OF TIMBER

Bow, spring, twist and cup: Not greater than the limits set down in BS 4978 or BS EN 519 for softwood, or BS 5756 for hardwood.

SELECTION AND USE OF TIMBER

Timber members damaged, crushed or split beyond the limits permitted by their grading: Do not use.

Notches and holes: Position in relation to knots or other defects such that the strength of members will not be reduced.

Scarf joints, finger joints and splice plates: Do not use without approval.

PROCESSING TREATED TIMBER

Cutting and machining: Maximize before treatment.

Extensively processed timber: Retreat timber sawn lengthways, thickened, planed, ploughed, etc.

Surfaces exposed by minor cutting and/or drilling: Treat with two flood coats of a solution recommended by main treatment solution manufacturer.

PROTECTION

Generally: Keep timber dry and do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.

Timber and components: Store under cover, clear of the ground and with good ventilation. Support on regularly spaced, level bearers on a dry, firm base. Open pile to ensure free movement of air through the stack.

EXPOSED END GRAIN

Components: Seal exposed end grain with clear end grain sealer before delivery to site

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JOINTING TIMBER

Use fixing and jointing methods and types, sizes, quantities and spacings of fastenings which are suitable having regard to nature of and compatibility with product/material being fixed and fixed to. Follow recommendations of manufacturers of fastenings and manufacturers of components, products or materials being fixed and fixed to, -

Fastenings for materials and components forming part of external construction to be of corrosion resistant material or have a corrosion resistant finish.

GLUED JOINTS

Adhesive to be WBP and obtain manufacturer's confirmation that adhesive is compatible with preservative/ fire retardant treatment.

Glued structural components: Fabricate to BS 6446 in clean, controlled workshop conditions.

Anticipated equilibrium moisture content of timber in service: 16 %

Anticorrosion finishes for fasteners to be:-

Galvanizing to BS 7371-6, with internal threads tapped and lightly oiled following treatment.

Sherardizing to BS 7371-8, Class 1.

Zinc plating to BS EN ISO 4042 and passivated.

All timber to be treated to current edition of the British Wood Preserving and Damp proofing Association (BWPDA) Manual as follows.

Treatment application immediately after cutting and machining timber, and before assembling components.

Licensed by manufacturer of specified treatment solution.

For each batch of timber provide a certificate of assurance that treatment has been carried out as specified.

Preservative treatment solution strengths/ treatment cycles are to be select to achieve specified service life and to suit treatability of specified wood species. Copper-organic preservative treatment to contractor's choice of manufacturer, using high pressure impregnation. Moisture content of wood at time of treatment to be not more than 28%. After treatment allow timber to dry before using.

Copper Chromium based preservative treatment to contractor's choice of manufacturer, using high pressure impregnation. Moisture content of wood at time of treatment to be not more than 28%. After treatment allow timber to dry before using. Allow timber to dry for at least 14 days before using.

Organic solvent preservative treatment to contractor's choice of manufacturer, using high pressure impregnation. Double vacuum + low pressure impregnation, or immersion. Moisture content of wood at time of treatment all as specified for the timber component at time of fixing. After treatment, timber to be surface dry before use.

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Water based microemulsion preservative treatment to contractor's choice of manufacturer, using high pressure impregnation. Double vacuum + low pressure impregnation, or immersion. Moisture content of wood at time of treatment all as specified for the timber component at time of fixing. After treatment, timber to be surface dry before use.

Fire retardant treatment to contractor's choice of manufacturer, using high pressure impregnation. Double vacuum + low pressure impregnation, or immersion. Moisture content of wood at time of treatment all as specified for the timber component at time of fixing. After treatment, timber to be redried slowly at temperatures not exceeding 65°C to minimize distortion and degradation.

FINISHES

MAIN WALLS AND CEILINGS

Repaired walls and ceilings to receive two coats of Dulux Diamond vinyl Matt emulsion. First coat 50% diluted with water and second coat 100% emulsion. All to manufacturer's instructions, with colour to client's choice.

Seal new or bare surfaces with a thinned first coat of Dulux Trade Vinyl Matt. The normal finishing process is 2 full coats of Vinyl Matt, on previously painted surfaces in good conditions. Where similar colours are used 1 coat may be sufficient.

Paint manufacturer Dulux Trade paints, Wexham Road, Slough, Berkshire SL2 5DS Tel. 08444 817 818 www.dulux.trade-decorating.co.uk. An alternative to be before commencement of any coating work. All painting to be carried out in accordance with manufacturer's instructions

All Nibs, trowel marks and plaster splashes to be scraped off.
Over trowelled 'polished' areas to be lightly abraded
Depressions around fixings to be filled with stoppers/ fillers.
Plasterboard to have all joints filled over tape and feather out with materials recommended by textured coating manufacturer.

EXECUTION

Handling and storage of paint. Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number. Paint from more than one batch: Give notice. Store separately and allocate to distinct parts or areas of the work. Protection 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and client and to prevent damage to freshly applied coatings.

Preparation generally to BS 6150.

Remove all dirt, grease and oil provide notice if contamination of surfaces/substrates has occurred.

Surface irregularities: Abrade to a smooth finish.

Joints, cracks, holes and other depressions: Fill with stoppers/ fillers. Work well in and finish off flush with surface. Abrade to a smooth finish.

Remove all dust, particles and residues from abrasion.

Water based stoppers and fillers to be applied before priming unless recommended otherwise by manufacturer.

Junctions of walls and ceilings with architraves, skirtings and other trims to be filled with 5-6mm bead of water based acrylic caulk filler.

Doors to be eased, if necessary, before coating.

Prime resulting bare areas.

INTERNAL TIMBER

Existing MDF and Softwood to be reprimed , where they have been altered or modified .
Do not use any degraded or weathered surface woodwork.
Exposed resinous areas and knots: Apply two coats of knotting.

New MDF and Softwood to be fully factory applied primer in White
Exposed resinous areas and knots: Apply two coats of knotting.

Pre-primed wood:
All areas of defective primer, to be abraded back to bare wood and re-prime.
Thinning and intermixing of coatings is not permitted unless recommended by manufacturer.

Overpainting: Do not paint over intumescent strips or silicone mastics.
Priming coats: Thickness to suit surface porosity. Apply as soon as possible on same day as preparation is completed.

Finish is to be even, smooth and of uniform colour and free from brush marks, sags, runs and other defects. Cut in neatly.

Prime/ seal and coat bottom edges of external doors before hanging doors.
Before assembly, seal end grain of all timber with primer or sealer, as appropriate and allow to dry.

Apply all stains as recommended by manufacturer and apply in flowing coats and brush out excess stain to produce uniform appearance.
Bead glazed coated wood: Before glazing, apply first two coats to rebates and beads.
Allow glazing compound to set for seven days.

Within a further 14 days, seal with a primer as recommended by the glazing compound manufacturer. Fully protect glazing compound with coating system as soon as it is sufficiently hard.
Extend finishing coats on to glass up to sight line.

Apply two coats of Dulux gloss to all woodwork after priming undercoating

Paint manufacturer Dulux Trade paints, Wexham Road, Slough, Berkshire SL2 5DS Tel. 08444 817 818 www.dulux.trade-decorating.co.uk. An alternative to be before commencement of any coating work. All painting to be carried out in accordance with manufacturer's instructions

SEALANTS

Adshead Ratcliffe & Co Ltd, Derby Road, Belper, Derbyshire DE56 1WJ
T +44 (0)1773 826661 E arbo@arbo.co.uk

EXTERNAL WINDOW PERIMETER

Arbosil 1096 low modulus silicone sealant, suitable for perimeter sealing of polyester powder coated frames, including windows in swimming pool buildings and glass wall assemblies.

Not recommended for overpainting or for use with polycarbonate or acrylic sheeting.

Resistant to most alkalis and dilute acids; organic solvents may cause the sealant to swell and loose adhesion, but do not directly dissolve the material.

Burns, but will not readily ignite, so does not constitute a fire hazard.

Should not cause migratory staining on porous surfaces, but dirt and dust washed into or around joints by rainwater may cause pattern staining. The sealant itself may discolour in contact with rubbers, bituminous or pitch-based DPCs, etc.

Contact with some metals may also cause discolouration.

Very good UV resistance.

Correctly applied, the sealant should not require maintenance, and has an anticipated life in excess of 25 years.

See technical literature for standards with which the sealant complies.

Health and safety: The product is labelled as harmful. Its use should be recorded in the project Health and Safety Plan.

Application temperature:

+5°C to +50°C.

Curing time:

7–14 days depending on joint configuration and atmospheric conditions.

Joint dimensions: Minimum 6 mm; maximum 25 mm (single application), 60 mm (multiple applications)

Porous substrates: Minimum 10 mm; maximum 15 mm.

Non-porous substrates: Minimum 6 mm; maximum 15 mm.

Joint backing:

A combined joint filler/ bond breaker, such as closed cell foam polyethylene rod, should always be used to ensure that the sealant adheres only to the joint faces and not to the back. Bond breaker tape should be used where the joint has been packed out with fibre-board.

A primer is not required for polyester powder coated surfaces, mill finished aluminium or anodized aluminium or glass. Primers are available to suit other substrates – refer to technical literature for details.

Primer: Arbo Primer 2402 . - Required for stainless and galvanized steel.

Primer: Arbo Primer 2650. - Required for brickwork, concrete and stained timber frames.

JOINTS

Presealing checks:

Joint dimensions: Within limits specified for the sealant.

Substrate quality: Surfaces regular, undamaged and stable.

Joints not fit to receive sealant: Submit proposals for rectification.

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INTERNAL JUNCTIONS

Where internal plasterboard finishes abut windows, skirtings, architraves etc use Arbocaulk - Water Based Acrylic Sealant, high quality decorators caulk which is one part Water Based Acrylic Sealant and is suitable for internal pointing applications.

Arbocaulk exhibits good adhesion to a wide variety of common construction substrates without the need of a primer.

PREPARING JOINTS

Surfaces to which sealant must adhere:

Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.

Clean using materials and methods recommended by sealant manufacturer.

Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or sealant.

- Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps. - Protection: Keep joints clean and protect from damage until sealant is applied.

APPLYING SEALANTS

Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.

Environmental conditions: Do not dry or raise temperature of joints by heating.

Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates. - Sealant profiles:

Butt and lap joints: Slightly concave.

Fillet joints: Flat or slightly convex.

Protection: Protect finished joints from contamination or damage until sealant has cured.

FIXINGS AND ADHESIVES

GENERAL

Definitions

In this section the following definitions are used:

- Fixing: The act of securing an object to another object or background, e.g. Fix A to B with screws at 200 mm centres.
- Fixings: Systems that fix objects together, composite connection items comprising, e.g. nuts, bolts, washers, spacers, cover caps.
- Fasteners: Components that fix objects together, e.g. screws, nails..

PRODUCTS

Fasteners generally

Materials: To have bimetallic corrosion resistance and atmospheric corrosion resistance appropriate to fixing location.

Appearance: Submit samples on request.

Packings

Material: Noncompressible, corrosion resistant, rot proof.

Area of packings: Sufficient to transfer loads.

Masonry fixings

Light duty: Plugs and screws.

Heavy duty: Expansion anchors or chemical anchors.

Pelleted countersunk fixings

Pellets: Cut from matching timber, grain matched.

Plugs

Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.

Adhesives generally

Standards:

- Hot-setting phenolic and aminoplastic: To BS 1203
- Thermosetting wood adhesives: To BS EN 12765.
- Polyvinyl acetate thermoplastic adhesive: To BS 4071.

Pelleted countersunk fixings

Pellets: Cut from matching timber, grain matched.

Powder actuated fixing systems

Types of fastener, accessories and consumables: As recommended by tool manufacturer.

Tools: To BS 4078-2, Kitemark certified.

Operatives: Trained and certified as competent by tool manufacturer.

EXECUTION

Fixing generally

Types, sizes and quantities of fasteners/ packings and spacings of fixings: Selected to retain supported components without distortion and loss of support.

Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.

Components, substrates, fixings and fasteners of dissimilar metals: Isolate with plastics washers/ sleeves to avoid bimetallic corrosion.

Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

Appearance: Fixings to be in straight lines at regular centres.

Fixing packings

Function: To take up tolerances and prevent distortion of materials/ components.

Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.

Locations: Not within zones to be filled with sealant.

Fixing cramps

Cramp positions: 150 mm (maximum) from each end of frame sections and at 600 mm (maximum) centres.

Fasteners: Fix cramps to frames with screws of same material as cramps.

Fixings in masonry work: Fully bedded in mortar.

Pelleted countersunk fixings

Finished level of countersunk screw heads: 6 mm (minimum) below timber surface.

Pellets: Cut from matching timber, match grain and glue in to full depth of hole.

Finished level of pellets: Flush with surface.

Plugged countersunk screw fixing

Finished level of countersunk screw heads: 6 mm (minimum) below timber surface.

Plugs: Glue in to full depth of hole.

Finished level of plugs: Projecting above surface.

Powder actuated fixing systems

Powder actuated fixing tools, method of use: To BS 4078-1.

Operatives: Trained and certified as competent by tool manufacturer.

Applying adhesives

Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.

Support and clamping during setting: Provide as necessary. Do not mark surfaces or distort components being fixed.

Finished adhesive joints: Fully bonded. Free of surplus adhesive.

ACOUSTIC FENCE

Air source heat pumps (ASHP) to have Acoustic enclosure as shown on drawing

This is to be *Jakoustic® Absorptive barrier which has a certified laboratory rating according to BS EN 1793- 2:1998; Category = B3. Rating according to BS EN 1793- 1:1998; Category=A3. Laboratory sound reduction 32dB. supplied and installed by specialist supplier and installer

All timber to have 25 year Jakcure® guarantee

Manufacturer: Jacksons Fencing

Web: www.jacksons-security.co.uk

Jacksons Fencing, Dragon Hall Whitchurch Rd, Tattenhall, Chester CH3 9DU

T: +44 (0) 1829 770 776

E: sales-chester@jacksons-fencing.co.uk

JAKOUSTIC® ABSORPTIVE

Service Life of Fencing

Timber and Steel fencing and gates designed and manufactured to be fit for purpose and providing a minimum 25 year guarantee, delivering the lowest whole life cost and significantly reduced carbon footprint.

Fencing & Posts:

2000mm High, Post Length 2900mm (2410mm Post Centres)

2500mm High, Post Length 3400mm with 2000mm Spur Post (2410mm Post Centres)

3000mm High, Post Length 3900mm with 2500mm Spur Post (2410mm Post Centres)

For heights above 3000mm please see Jakoustic® Commercial and Highway

For location and dimensions see drawing CWC-XX-EX-DR-M-5001

Construction:

Jakoustic® Absorptive takes the proven Jakoustic® Reflective design of heavy section planed timber boards with deep interlocking 'v' tongue and groove joint, coupled to tuning fork posts and adds an absorptive layer of a mineral Rockwool fibre and protective membrane to one side of the barrier. Offering up to 32dB* reduction in noise, it has been designed for faster installation times on site and can accommodate changes in site levels or profile.

Boards:

On one side, Jakcure pressure treated 34mm x 143mm x 4.8m (planed) boards with unique deep interlocking "V" tongue and groove joint

Posts:

Overlength timber tuning fork posts for setting in concrete as standard

Fixings:

Special fixings clamp the acoustic boards between posts

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Finish / Colour:

Absorptive face clad in black membrane with vertical timber battens as standard

Planed timber finish

General Installation:

- Alignment: Straight lines or smoothly flowing curves.
- Tops of posts: Following profile of the ground.
- Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.
- Fixings: All components securely fixed.

Competence

- Operatives: Contractors must employ competent operatives.
- Qualifications: Submit certification of training and experience in category 1 of Sector Scheme 2A for the design, supply, installation and repair of fences.

Setting out

Prefabricated wood panel fencing:

- Up to 1400 mm to top of panel: Minimum 300 mm square or 300 mm diameter (augured) post hole, minimum 500 mm depth in ground.
- Over 1400 mm to top of panel: Minimum 300 mm square or 300 mm diameter (augured) post hole, minimum 600 mm depth in ground.

Anti intruder fencing:

- Straining posts: 450 mm square or 450 mm diameter (augured) post hole, minimum 750 mm depth in ground.
- Struts: Minimum 300 mm wide x 450 mm deep hole, base of strut to be a minimum 450 mm depth in ground.
- Intermediate posts: 300 mm square or 300 mm diameter (augured) post hole, minimum 750 mm depth in ground.

Steel palisade fencing, general purpose (GP):

- Up to 1800 mm high (GP) fencing: Minimum 350 mm square or 450 mm diameter (augured) post hole, minimum 525 mm embedded length.
- 2100 mm high (GP) fencing: Minimum 350 mm square or 450 mm diameter (augured) post hole, minimum 625 mm embedded length.
- 2400 mm high (GP) fencing: Minimum 350 mm square or 450 mm diameter (augured) post hole, minimum 725 mm embedded length.
- 3000 mm high (SP) fencing: Minimum 450 mm square or 600 mm diameter (augured) post hole, minimum 925 mm embedded length.
- 3600 mm high (SP) fencing: Minimum 450 mm square or 600 mm diameter (augured) post hole, minimum 1125 mm embedded length.

Open mesh steel panel fencing:

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- Up to 1800 mm high general purpose (category 1) fencing: Minimum 450 mm square or 300 mm diameter (augured) post hole to allow not less than 75 mm concrete surround to post, minimum 600 mm depth in ground.
- Over 1800 mm high general purpose (category 1) fencing: Minimum 450 mm square or 450 mm diameter (augured) post hole to allow not less than 75 mm concrete surround to post, minimum 750 mm depth in ground.
- Gate posts: Minimum 450 mm square post hole, minimum 750 mm depth in ground.
- Abnormal ground conditions: Give notice.

Foundation/ surround to fencing posts set in concrete

Setting in: Position post/ strut and fill hole with concrete to not less than specified depth, well rammed and consolidated as filling proceeds.

Backfill: Backfill holes not completely filled with concrete with excavated material, well rammed and consolidated.

Exposed concrete: Compact foundations not subsequently covered by paving until air bubbles cease to appear on upper surface, weather to shed water and trowel smooth.

Chain link fencing (category 1, general purpose):

- Intermediate and straining posts: Minimum two thirds depth of post hole.
- Gate post holes: Completely filled with rammed concrete to 50 mm above adjacent ground level, weathered to shed water and trowelled smooth.

Cleft chestnut pale fencing (straining posts and intermediate posts):

- Concrete surround: Minimum half depth of post hole.

Close boarded wood fencing:

- Concrete surround: Minimum half depth of post hole.

Wood palisade fencing:

- Concrete surround: Minimum half depth of post hole.

Wood post and rail fencing (sawn or cleft posts):

- Concrete surround: Minimum half depth of post hole.

Mild steel vertical bar fencing:

- Concrete bed: Minimum 100 mm below post.
- Concrete surround: Full depth of post hole.

Anti intruder fencing:

- Concrete surround: Minimum two thirds depth of post hole.

Prefabricated wood panel fencing:

- Concrete surround: Minimum half depth of post hole.

Steel palisade fencing, general purpose (GP):

- Concrete surround: Full depth of post hole.

Open mesh steel panel fencing general purpose (category 1):

- Concrete surround: Minimum half depth of post hole.
- Gate post holes: Completely filled with rammed concrete to 50 mm above adjacent ground level, weathered to shed water and trowelled smooth.

Setting posts in earth

Post holes: Excavate neatly, with vertical sides and as small as practicable to allow refilling.

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Setting in: Position posts/ struts and replace excavated material, well rammed as filling proceeds.

Driving wood posts

Preparation: Posts pointed 225 mm length at base.

Protection: Minimize damage to heads of posts when driving and repair by neatly finishing post tops after installation.

Nailed rails to wood post and rail fencing

Minimum span: Not less than two bays with joints in adjacent rails staggered.

Nailing: Nail each length of rail to each post with two 100 mm galvanized wire nails.

Rails with split ends: Replace.

Cleft wood rails to wood post and rail fencing

Length: Maximum 3050 mm.

Mortice position: Centre line of 150 mm face of post.

Rail fixing: Shaped to adequately fill post mortice and fix to prick post with two 4 x 100 mm galvanized clenched wire nails.

Rails with split ends: Replace.

Arris rails

Rail end: Shaped to adequately fit the post mortice or recess.

Fixing to recessed posts: Bolted.

Top rails: Fixed at both ends.

Site cutting of wood

Site cutting: Keep to a minimum with no cutting where to be used below or near ground level.

Cut surfaces: Treat surfaces exposed by minor cutting and drilling with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

Completion

Conformity: Submit manufacturer's and installer's certificates in accordance with the appropriate part of BS 1722.

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INSTALLATION

Set out and erect:

In straight lines or smoothly flowing curves as shown on drawings.

With tops of posts following profile of the ground.

With posts set rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.

With correct fasteners and all components securely fixed.

COMPETENCE

Operatives: Contractors must employ competent operatives.

Qualifications: Submit certification in accordance with Sector Scheme 2A of training and experience in categories.

SETTING POSTS IN CONCRETE

Mix: To BS 5328, or to BS 8500-1 and -2 and BS EN 206-1, Designated mix not less than GEN1 or Standard mix not less than ST2.

Alternative mix for small quantities: 50 kg Portland cement to 150 kg fine aggregate to 250 kg 20 mm nominal maximum size coarse aggregate, medium workability.

Admixtures: Do not use.

Holes: Excavate neatly and with vertical sides.

Filling: Position post/ strut and fill hole with concrete to not less than the specified depth, well rammed as filling proceeds and consolidated.

Backfilling of holes not completely filled with concrete: Excavated material, well rammed and consolidated.

