



making roofs secure.

CLIENT: HAMSON BARRON SMITH

REF NO: B215766

PROJECT NAME: THE CARNEGIE

ROOF AREA NAME: AREAS 1 & 2 (INSULATED OVERLAY)

DATE: 11/01/2022

'Safe2Torch' advice:

The application of torch-on materials to or in the vicinity of combustible deck materials does not conform to the recommendations of BS8217:2005, clause 7.3.2.1, paragraph 3, or the advice given in the 'Safe2Torch' document produced by the National Federation of Roofing Contractors. When encountering an area which contains combustible material a minimum 900mm deep zone of the flat area around the material and any detail flashing to the material itself there is a requirement for 'Torch-Free' detailing. In these instances an appropriate alternative Bauder self-adhesive membrane should be used as described in: 'TORCH-FREE' & 'SAFE TO TORCH' ZONES - ALTERNATIVE MEMBRANES AND APPLICATION. The 'Torch-Free' & 'Safe to Torch' zone detailing and method of application will be described in the Additional Items section and the 'Torch-Free' & 'Safe to Torch' zones section of this specification and further detailed in the Bauder 'Torch-Free' & Bauder Bituminous detail drawings. This specification should be read in conjunction with the Bauder Roof Survey Report.

This specification should be read in conjunction with the Bauder Roof Survey Report (supplied separately) and the 'TORCH-FREE ZONES REPORT' attached.

SYSTEM CONSTRUCTION

Waterproofing System: Bauderflex System – Warm roof construction

Substrate: Overlaying Felt

Roof Fall: Assumed to be 0°. Roof falls to be provided by the tapered insulation scheme.

It is imperative that should this information change for whatever reason, then **Bauder** should be contacted so that the specification can be amended accordingly.

EXISTING FELT OVERLAY

Carefully remove all chippings, debris, etc. Star cut and fully bond down all loose areas of the upper layer of felt. All the existing waterproofing must be removed from upstands, edge details, outlets, etc. and the exposed areas prepared to receive the new waterproofing. Cut and seal all loose areas of the remaining felt system i.e. blisters etc.

Where it has not been possible to ascertain whether there is existing insulation; should it be discovered that existing insulation is found within the ceiling void space, there may be a requirement for this to be removed to prevent interstitial condensation forming. Please contact **Bauder** in order that the build-up and proposals are assessed before works commence/continue.

PRIMER

Bauder Activator-Primer (Canister), APR01-Black. All areas receiving the new self-adhesive membranes to be thoroughly primed with **Bauder Activator-Primer (Canister), APR01-Black.**

Purpose: substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of **Bauder** self-adhesive bitumen membranes.



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Before application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.

Application method: Spray Applied to provide even and full coverage. Avoid pooling. Never attempt torching within 10 min of primer application, even if the surface appears dry.

Application rate:

- 300mm wide spray
- Coverage: Approx. 96 g/m²
- Two coats may be required for very porous substrates.

Application temperature: +5 - +30°C

Drying time: Approx. 5 - 10 mins, dependent upon ambient temperature and material porosity.

Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.

Re-application: Necessary after 4 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.

Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.

OR

Bauder Quick Dry Primer. All areas receiving the new torch-on membranes to be thoroughly primed with **Bauder Quick Dry Primer**.

Purpose: Quick drying substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of **Bauder** bituminous waterproof membranes.

Before application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.

Application method: Apply a thin even coat using a brush or roller to provide full coverage. Avoid pooling.

Application rate: between 4-8m² per litre, dependent upon substrate porosity

Application temperature: 5-25°C

Drying time: 3-6 hours dependent upon ambient temperature and substrate porosity.

Coats: Fully bond. Allow volatiles to dry off thoroughly between coats. Never attempt torching within 30 min of primer application, even if the surface appears dry.

Re-application: Necessary after 24 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.

Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.

AIR AND VAPOUR CONTROL LAYER – ALL AREAS EXCEPT 'TORCH-FREE' ZONE

Bauder EVA 35, 3.5mm thick aluminium lined air and vapour control layer, fully bonded by torching. Laps to be 100mm, with all laps torch sealed to provide a continuous bitumen bead extrusion. The air and vapour control layer must be taken up all upstands, perimeter edges, high enough to form a waterproof layer, and later to form a seal with the underlayer.



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IMPORTANT NOTE

The **Bauder EVA 35** must be dressed up all upstands above the insulation to a height of 150mm minimum. This is to ensure that a 100mm lap is constructed above the urethane fillet. The contractor is to form all perimeter details in such a way that a 100mm lap is obtained between the air and vapour control layer and the underlayer.

AIR AND VAPOUR CONTROL LAYER – 'TORCH-FREE' / 'SAFE TO TORCH' ZONE

BauderTEC KSD Mica, 2.5mm thick, aluminium lined, self-adhesive elastomeric bitumen air and vapour control layer, cold applied by removing the peel off release film. Side laps to be 100mm and head laps to be 100mm and staggered and sealed by hot air welding/torching and rolling (depending on 'Torch-Free' & 'Safe to Torch' zoning), to extrude a continuous bead of bitumen. Care should be taken to ensure adhesion when the temperature is below +5°C. At all abutments and details the bitumen bead must be extruded from the lap joints to ensure a seal.

Please note: Areas where a self-adhesive AVCL is used, should be primed with **Bauder Activator-Primer (Canister), APR01-Black**.

For 'Torch-Free' & 'Safe to Torch' the self-adhesive AVCL is to finish 150mm higher than the finished height of the insulation. Where combustible materials extend beyond this then the remainder of the upstand detail receives SA underlay. This is lapped 100mm onto the AVCL and taken to completely encapsulate the upstand and / or capping detail. This is installed at the AVCL stage to complete the entire roof area. The underlay on top of the insulation then laps onto this upstand by 100mm above the top edge of the angle fillet. Please see Bauder 'Torch-Free' drawings.

FA TAPERED INSULATION

Product: BauderPIR FA Tapered

Description: Foil faced, rigid urethane tapered insulation.

Thickness: Average Thickness TBC*.

Performance: Zero ODP.

Before installing: No insulation boards should be laid on site without a copy of the current **Bauder** Tapered Insulation Layout drawing to hand. Contractors should always refer to the Layout Drawing for the recommended start point and layout of boards. If contractors are unsure whether the correct Layout Drawing is on site, they should contact the **Bauder** Technical Department before commencing installation. For installation guidance, Contractors should refer to the **BauderPIR FA Tapered** Installation Guide.

Deck Suitability: **Bauder** cannot be held responsible for the drainage performance of tapered insulation schemes applied to an inappropriate deck surface and it is the responsibility of the installing contractor to check the roof deck surface and report any discrepancies.

Thermal performance: Refer to **Bauder** Tapered Insulation Layout drawing for details of the 'U' values achieved by this scheme and clause 230.

Wastage: All off-cuts are considered usable and are included as such within the insulation Layout.

Protection to exposed edges of insulation: Reduced thickness treated timber hard edge as clause 640 (or equivalent plywood construction), suitably sized and 10mm less in

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thickness than the insulation to accommodate the build-up of the waterproofing layers – all securely fixed to the deck. Outer edges chamfered at changes in level.

Setting out: Installation must be carried out following the **BauderPIR FA Tapered** Installation Guide and laid strictly in accordance with the correct **Bauder** Tapered Insulation Layout drawing and installation instructions. The **BauderPIR FA Tapered** boards should be laid with the **Bauder** number / arrow / grid pattern facing upwards.

- Long edges (where relevant): Fully supported.
- End edges: Fully supported.
- Joints: close butted together.
- End joints: Stagger.

Bedding: BauderPIR FA Tapered boards are to be bonded to the upper surface of the Air and Vapour Control Layer (AVCL) (unless where a base-layer is required – please see Multiple-layer tapered schemes below) using suitable Bauder Polyurethane Insulation Adhesive:

- **Bauder PU Insulation Adhesive - Tin** or **Bauder PU Insulation Adhesive – Twin Cartridge** applied in strips following the direction of the board length giving 4No. continuous and equally spaced adhesive beads within each board width (increase to 6No. at the roof perimeter) *
- **Non-FA Tapered insulation board types:** Where **BauderPIR Tapered** Insulation (Unfaced 1:80 / 1:40 boards) or **BauderPIR Flatboard** Insulation (tissue faced boards) are included within the Bauder Tapered Insulation Layout, these boards are to be bonded to the upper surface of the Air and Vapour Control Layer (AVCL) using either **Bauder PU Insulation Adhesive - Tin** or **Bauder PU Insulation Adhesive – Twin Cartridge**, applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width as below:
 - 600mm width insulation boards - 2 no: (increase to 3 no. at roof perimeter)*
 - 800mm width insulation boards - 3 no: (increase to 4 no. at roof perimeter)*

Multiple-layer tapered systems: Where the total thickness of tapered insulation required is greater than can be achieved by a single layer, base-layer board(s) of **BauderPIR FA-TE Flatboard** can be adhered to the AVCL/previous layer(s) to make up the total thickness required before the uppermost layer of **BauderPIR FA Tapered** boards are installed.

Bedding: As stated above. Surface should be clean and free of debris before application of the additional layer(s)

Additional Layer(s): Each additional layer of insulation board(s) should be laid off-set and staggered with the layer below and should be bonded together using the following adhesives:

- **Foil to Foil (e.g. FA-TE to FA-TE): Bauder Foil Contact Adhesive (Canister) FCA01-Yellow** spray applied to the surface of both layers or **Bauder PU Insulation Adhesive – Twin Cartridge** applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above).
- **Foil to tissue Faced/unfaced boards (e.g. FA-TE to 1:80 tapered boards): Bauder PU Insulation Adhesive - Tin** or **Bauder PU Insulation Adhesive – Twin Cartridge**. Applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above).

Tapered Layer (Uppermost layer): The **BauderPIR FA Tapered** board layer should be bonded using **Bauder Foil Contact Adhesive (Canister) FCA01-Yellow** spray applied

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to the surface of both layers or **Bauder PU Insulation Adhesive – Twin Cartridge** applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above). **BauderPIR FA Tapered** boards should be laid with the Bauder number/arrow/grid pattern facing upwards. Boards should be laid off-set and staggered with the layer below. **Ridge & Valley Infills:** The **BauderPIR Ridge & Valley Infills** should be bonded using **Bauder Foil Contact Adhesive (Canister) FCA01-Yellow**, spray applied to the tapered board and bottom of the infill giving continuous full coverage of the infill and the area where the infill is to be placed.

Completion: Boards must be in good condition, well-fitting and stable.

IMPORTANT NOTES:

- Adhesive bead widths, spray patterns and coverage rates are stated on the appropriate product label and datasheet.
- **Bauder Activator-Primer (Canister), APR01-Black, must be applied to the uppermost surface of insulation prior to installation of the self-adhesive underlayer.**
- Foil to Foil installation (e.g. FA-TE to FA-TE) must not be carried out using **Bauder PU Insulation Adhesive – Tin.**
- Foil to AVCL installation (e.g. FA Tapered directly to KSD Mica) must not be carried out using **Bauder Foil Contact Adhesive (Canister).**
- **BS EN 1991-1-4 uses the following guidance to calculate perimeter zones. Buildings up to and including 10m in height have a perimeter zone of not more than 2m. Buildings over 10m, uses the calculation of $2 \times \text{the building height} \div 10$. These are general guidance rules and do not take into account all of the information used in a full wind uplift calculation, they are therefore superseded by a project specific calculation.*

PRIMER TO UPPER SURFACE OF ALL INSULATION / INSULATED UPSTANDS

Bauder Activator-Primer (Canister), APR01-Black. All areas of the uppermost layer of insulation receiving the new self-adhesive underlayer to be thoroughly primed with **Bauder Activator-Primer (Canister), APR01-Black.**

Purpose: substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of **Bauder** self-adhesive bitumen membranes.

Before application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.

Application method: Spray Applied to provide even and full coverage. Avoid pooling. Never attempt torching within 10 min of primer application, even if the surface appears dry.

Application rate:

- 300mm wide spray
- Coverage: Approx. 96 g/m²
- Two coats may be required for very porous substrates.

Application temperature: +5 - +30°C

Drying time: Approx. 5 - 10 mins, dependent upon ambient temperature and material porosity.

Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.

Re-application: Necessary after 4 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.

Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.

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UNDERLAYER

BauderTEC Sprint DUO, 2mm thick, 200g/m² glass grille reinforced, self-adhesive elastomeric bitumen underlayer, fully bonded by removing the peel off release film.

Please note that Bauder Activator-Primer (Canister), APR01-Black, must be applied to the uppermost layer of Bauder Insulation prior to installation of the self-adhesive underlayer.

The side laps are to be 100mm and must be **laid red over blue**, and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) and rolling with the **Bauder Long Handled Lap Roller** to extrude a continuous bead of bitumen. Head laps to be 100mm and staggered, side laps to be 80mm and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) to extrude a continuous bead of bitumen. The underlayer must be taken up all upstands, edge details, in accordance with current British Codes of Practice, and fully heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) with the air and vapour control layer by a minimum 100mm.

Optional underlayer for detail work

For detailing to un-insulated abutment upstands, where the waterproofing is to be applied to rough or uneven non-combustible surfaces i.e. brickwork or concrete, it is permissible for the installing contractor to use **Bauder EGV 3.5** underlayer where this product is considered to be better for application to these surfaces. For all other situations, and particularly to vertical insulation, the Sprint Duo underlayer must be used.

CAPPING SHEET

Bauder K4E, 4mm thick, 250g/m² polyester reinforced, elastomeric bitumen capping sheet, charcoal grey slate finish, fully bonded to the underlayer by torching in the approved **Bauder** manner. Head laps to be 100mm, side laps to be 80mm, torch sealed to provide a continuous bitumen bead extrusion from all laps.

IMPORTANT NOTE: The mineral slate finish is a natural product, so the raw material may differ in colour and shade, over which **Bauder** has no control. There may also be colour variations between each roll of membrane.

UPSTANDS AND DETAILING

Detail work to be carried out in **Bauder K4E** in accordance with current British Codes of Practice. Side laps to be 80mm, head laps to be 100mm. A continuous bead of bitumen must extrude from all laps.

The minimum recommended height for constructing waterproofing details is 150mm from the top of the waterproofing. Special attention should be paid to all structures, such as rooflights, counter-flashings, window and door sills, etc. These may have to be raised to enable a 150mm high waterproofing detail to be formed. Bauder cannot take responsibility for water ingress over waterproofing details insufficiently high.

Separate flashings must always be formed. The capping sheet taken up a detail in one piece will not be permitted.

Level Thresholds: Acceptable, providing conforms to BS6229:2018 and current NHBC Standards, chapter, 7.1.

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Requirements:

- Minimum 75mm upstand height. (This must be taken from the waterproofing or top of the insulation if an inverted roof).
- Falls are directed away from the door cill.
- Waterproofing is dressed up and under the door cill.
- Door cill has a minimum 45mm overhang.
- Provision is made for emergency overflow to prevent water getting to the waterproofing and cill interface.

Any level threshold details not meeting this standard cannot be guaranteed by Bauder.

Note: Bauder recommends the installation of a linear drain (**Bauder KH-60 Linear Drain** is suitable for this purpose) in front of the access door threshold, to help prevent rainwater splash back and snow build-up.

ADDITIONAL FIXING OF BITUMEN MEMBRANES TO UPSTANDS

Screw fix through into the underlying substrate as per the requirements set out below and in accordance with the Bauder RBM Installation Guide.

Capping Sheets:

- **Fixing Requirement:** Upstand details in excess of 250 mm in height; the top leading edge of the capping sheet will need to be mechanically fixed using 5 no. fixings per sheet.
- **Fixing Pattern:** Set two fixings, one either side of the sheet set in 50mm from each edge. The three remaining fasteners equally spaced in between.
- **Cap sheet cover flashing:** A separate flashing of capping sheet will be required to cover the fixings.

Please note: Up to and including 250mm, it is permissible to use a **Bauder Termination Bar** to mechanically fix the top leading edge; however, Termination bars are not suitable for brickwork substrates. No additional cover flashing is required.

Underlayers:

- **Fixing Requirement:** Where the height of the insulated upstand is in excess of 500mm, make provision for mechanically fixing through the underlayer using 5 no. fixings per sheet, in a row across the sheet.
- **Fixing Pattern:** Set two fixings, one either side of the sheet set in 50mm from each edge. The three remaining fasteners equally spaced in between.
- **Midway point fastening up to 1200mm:** Fasten at the midway point of the upstand height, with the maximum upstand height for one row of fixings being 1200mm. Anything above 1200mm will require an additional row of fixings through the underlayer – please see below:

Upstand height:

- o 600mm: fix underlayer at 300mm and capping sheet at top leading edge.
- o 900mm: fix underlayer at 450mm and capping sheet at top leading edge.
- o 1200mm: fix underlayer at 600mm and capping sheet at top leading edge.
- o 1500mm: fix underlayer at 500mm and 1000mm and capping sheet at top leading edge.
- o 1800mm: fix underlayer at 600mm and 1200mm and capping sheet at top leading edge.

For upstand heights in excess of 1800mm, please contact **Bauder** for further advice.

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Mechanical Fastener Supplier

SFS Group Fastening Technology Ltd. 153 Kirkstall Road, Leeds, West Yorkshire. LS4 2AT

Tel: +44 (0)113 208 5500, Fax: +44 (0)113 208 5539, Email: uk.leeds@sfsintec.biz

Web: www.sfsintec.biz/uk

- Mechanical Fasteners (Cold /Inverted Roof Upstands):

Type: IWF-5.2x35 screws together with associated IFC/IW-82x40 galvanised pressed steel washer plates.

- Mechanical Fasteners (Warm Roof Upstands):

Type: Respective tube washers to be used for both membrane and insulation.

Product reference: Tube fastener - Tube size and fastener type for both membrane and insulation as recommended by supplier specifically for project and installed in accordance to their fixing plan. Please note that insulation tubes (round) differ from membrane tubes (rectangular 80 x 40 mm).

'TORCH-FREE' & 'SAFE TO TORCH' ZONES - ALTERNATIVE MEMBRANES AND APPLICATION

For detailing application in locations constructed from or within the 'Torch-Free' & 'Safe to Torch' zones to potentially combustible materials or otherwise where it is considered appropriate by the contractor necessary to minimise the potential risk.

Primers: Bauder Activator-Primer (Canister), APR01-Black, must be used when using Bauder self-adhesive membranes and a 'TORCH-FREE' application is required.

Underlayers:

It is permissible to use a **Bauder** self-adhesive membrane so long as this product is a recognised component of the system specified.

Acceptable alternatives underlayers are listed below: -

- **BTRS: Bauder G4E** to be replaced with **BauderTEC KSA Duo**
- **BauderFlex: Bauder EGV3.5** to be replaced with **BauderTEC Sprint Duo**
- **BTRS Plus: N/A**
- **System Airtech: N/A**

NB: Where surface is uneven or not suitable for a self-adhesive membrane and where the surface is of a non-combustible material and is not required to be a 'Torch-Free' or 'Safe to Torch' zone – it is permissible to use a Torch Applied underlayer, so long as the product is a recognised component of the system specified.

Acceptable alternative underlayers are listed below:

- **BTRS: BauderTEC KSA Duo** to be replaced with **Bauder G4E**
- **BauderFlex: BauderTEC Sprint Duo** to be replaced with **Bauder EGV3.5**
- **BTRS Plus: N/A**
- **System Airtech: N/A**

Capping sheets: Where appropriate, the installing contractor can use **Bauder KSO-P SN / KSO SN** self-adhesive capping sheet, applied using the hot air hand tools approved for use with bituminous systems. Please note that **Bauder Activator-Primer (Canister), APR01-Black**, must be applied to the underlayer prior to installation of the self-adhesive capping sheet.

Bauder KSO-P SN is only available in one colour – Charcoal Grey.

Bauder KSO SN is available in two colours – Natural Slate or Brown.

Self-adhered membranes - For upstands using only self-adhesive membranes, these will need to be mechanically fixed at the top leading edge of the membrane with Bauder aluminium peel bar regardless of the upstand height. This will be for System Airtech and



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for areas referred to as 'Torch-Free' zones. Please refer to **Bauder** Bituminous Standard Detail Drawings.

Green Roof Notes: Please note it is strictly only permissible to use self-adhesive capping sheet for flashings and detailing work when installing **Bauder XF301 Sedum Blanket** or Hard landscaping finishes.

Approved Hot Air Equipment

The **Bauder KSO-P SN / KSO SN** membrane must be applied using the approved hot air hand tools. The list of permissible hot air electrical equipment suppliers for installing **Bauder** waterproofing membranes are stated below. These are available either for purchase or hire from the below companies:

HOT AIR WELDING EQUIPMENT

LEISTER

Contact: Welwyn Tool Group, Tel 01707 331 111, <http://www.welwyntoolgroup.co.uk>

SIEVERT

Contact: Lister Gas Pro, Tel 0800 801 046, ch300@lister.co.uk

NON-COMBUSTIBLE SURFACES - ALTERNATIVE DETAILING MEMBRANES

- For detailing to un-insulated abutment upstands, where the waterproofing is to be applied to rough or uneven non-combustible surfaces i.e. brickwork or concrete, it is permissible for the installing contractor to use the **Bauder** underlayer appropriate to the specified system where this product is considered to be better for application to these surfaces. For all other situations, and particularly to vertical insulation, the **Bauder** Self-Adhesive Underlayer appropriate to the specified system must be used.

TECHNICAL NOTES

1. 50mm x 50mm **BauderPIR angle fillets** must be used at all right-angled upstands. **Angle fillets will need to be installed using Bauder insulation adhesive**, or a suitable bitumen adhesive. Under no circumstances must fillets of an alternative material be incorporated (i.e. timber, cork, fibre, etc.) as this would invalidate the guarantee.
2. Against all insulation boards where the edge of the board is susceptible to mechanical damage, provision is to be made to supply and fix a timber protection batten 10mm thinner than the insulation. This to be suitably mechanically fixed to the roof deck. On internal details such as internal gutters/outlets it is permissible to use a metal hard edge angle.
3. When the ambient temperature is below 5°C, care should be taken to ensure proper adhesion of the self-adhesive membranes.
4. Any peculiarities or details discovered, which might affect the performance of the **Bauder** system, should be reported immediately to the specifier and **Bauder Limited** in order that they may assist in overcoming the problem.
5. At the end of each working day, the new waterproofing should be terminated with a secure and waterproof temporary seal, which will be left in situ, utilising **Bauder**

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self-adhesive underlayer material (e.g. **BauderTEC Sprint DUO**) to create the seal. The **Bauder** self-adhesive underlayer should be extended onto the flat AVCL by a minimum of 200mm from the exposed edge of the insulation and heat activate to ensure a satisfactory seal.

To ensure that no moisture contamination of the system can occur between each working period, it is essential that the night seal is properly and securely bonded.

No mopping or loose covers will be permitted.

6. Where building works are to be carried out by other trades, following completion of the waterproofing, the contractor must make adequate provision for supplying protection to prevent damage to the new membranes. The final inspection will not be carried out by the **Bauder** Site Technician until all associated trades are complete and the roof areas are clear from all debris and protection layers.
7. All mechanical and electrical work to plant and equipment should be carried out by competent mechanical and electrical qualified tradesmen. All plant is to be reinstated and recommissioned on completion of the roofing works in accordance with the client's detailed specification.
8. If any items of plant/equipment are to be situated on the finished roof, a sacrificial layer of **Bauder** capping sheet is to be loose laid beneath. This is to extend a minimum 25mm past the point of contact all round. In the case of heavy items it may be necessary to introduce a load spreading slab, please contact **Bauder** for further advice.

DRAINAGE CHUTES

- [1] All chute liners must be examined for damage and proper fixing. Any faults must be rectified.
- [2] The contractor must ensure that the waterproofing is firmly sealed to the chute liner.
- [3] The contractor must ensure that all chutes are unobstructed and hopper heads free from blockages during and at the completion of the contract.
- [4] The contractor is to provide suitable wire baskets to hopper heads on completion of the contract.
- [5] A sump must be created around all chutes by installing the correct thickness of insulation as shown on the Bauder tapered insulation drawing.

ADDITIONAL ITEMS

Provision should be made by the contractor to:-

- **New Chase & suitable flashing to Brickwork Upstand (A01)**
Cut new chases into brickwork upstands. The chase is to be a minimum of 25mm deep and 150mm above the finished surface level. Install suitable counter-flashing, this is to be base clipped and suitably plugged at 300mm centres. Lengths should not exceed 1.5 linear metres and laps should be not less than 150mm. All chases should be brushed clean and sealed using **Bauder sealant primer** prior to the application of **Bauder sealant**. All work should be carried out by competent tradesmen in accordance with current British Codes of Practice and the recommendations of the Lead Contractor Association.

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- **Apply New Trim To Parapet Wall (D05A)**

Prepare the parapet wall by mechanically fixing 19mm exterior grade plywood to the horizontal surface.

Bituminous Membranes:

- The first layer of membrane **must** be self-adhesive and dressed to the full extent of the detail using Torch-Free methods. This is to ensure that the detail is fully encapsulated to reduce the risk of fire to exposed combustible materials.
- Dress the underlayer up and over the perimeter detail to provide a 25mm overhang.

Please refer to Bauder standard detail drawings.

Trim:

- **Setting out:** 10mm gap between the back edge of the bottom of the drip to the fascia/wall and 3mm gap between abutting lengths of trim.
- **Fasteners:** Screw fasteners of type appropriate to kerb or deck substrate. Nail fixing is not permitted.
- **Fixing:** 30mm from ends and at 300mm (maximum) centres, stagger fixed. Can be used to retain the capping sheet where the capping sheet is taken to the full extent of the detail – please see Bauder detail drawing.
 - o 150mm deep trims (type 6) – 3no. additional fixings per length of trim. The fixings are to be face fixed with screws and positioned 75mm down from the top edge, one fixing 100mm in from each end and one in the centre and capped with coloured matched plastic weathering caps. *A fixed timber packer will be required behind the face of the trim to help facilitate ease of fixing.*
 - o *For roofs above 10 metres in height – the 100mm deep trim (type 4) will require face fixing, as per 150mm trim above. A fixed timber packer will be required behind the face of the trim to help facilitate ease of fixing.*
- **Jointing sleeves / bridging piece:** All lengths should be close butt jointed using an internal jointing sleeve. This must be provided to each joint.
- **Corner pieces:** Purpose made.

Completion:

- **Contact surfaces:** Prime with **Bauder Primer**.
- **Joints:** Cover with 200mm long pads of bitumen membrane, bonded to trim.

Completion of bitumen membrane:

- **Top layer/ Capping sheet:** Butt joint to rear edge of trim.
- **Cover strip:** Fully bond to trim and top layer/ capping sheet of bitumen membrane. Carry over roof edge upstand and lap 100 mm onto roof. The capping sheet is to be dressed tightly into the top lip of the trim, ensuring a bead of bitumen extrudes at the edge. Please see Bauder detail drawing.

Wall / kerb joints: The new trim must cover any open joint that may exist at the top of the kerb or wall, by a minimum distance of 20mm.

- **Apply New Trim To Parapet Wall (D05B)**

Prepare the parapet wall by mechanically fixing 19mm exterior grade plywood to the horizontal surface.

To be used on parapets and perimeter kerbs over 200mm in width – **must** not be used on its own as a check kerb.

Bituminous Membranes:

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-
- The first layer of membrane **must** be self-adhesive and dressed to the full extent of the detail using Torch-Free methods. This is to ensure that the detail is fully encapsulated to reduce the risk of fire to exposed combustible materials.
 - Dress the underlayer up and over the perimeter detail to provide a 25mm overhang.

Please refer to Bauder standard detail drawings.

Trim:

- **Setting out:** The bottom inside lip of the drip to sit flush with the fascia/wall, leaving a 3mm gap between abutting lengths of trim.
- **Fasteners:** Screw fasteners of type appropriate to kerb or deck substrate. Nail fixing is not permitted.
- **Fixing:** 30mm from ends and at 300mm (maximum) centres, stagger fixed. Can be used to retain the capping sheet where the capping sheet is taken to the full extent of the detail – please see Bauder detail drawing.
- Jointing sleeves / bridging **piece:** All lengths should be close butt jointed using an internal jointing sleeve. This must be provided to each joint.
- **Corner pieces:** Purpose made.

Completion:

- **Contact surfaces:** Prime with **Bauder Primer**.
- **Joints:** Cover with 200mm long pads of bitumen membrane, bonded to trim.

Completion of bitumen membrane:

- **Top layer/ Capping sheet:** Butt joint to rear edge of trim.
- **Cover strip:** Fully bond to trim and top layer/ capping sheet of bitumen membrane. Carry over roof edge upstand and lap 100 mm onto roof. The capping sheet is to be dressed tightly into the top lip of the trim, ensuring a bead of bitumen extrudes at the edge. Please see Bauder detail drawing.

Wall / kerb joints: The new trim must cover any open joint that may exist at the top of the kerb or wall, by a minimum distance of 20mm.

- **Temporarily Remove Cladding (G01)**

Temporarily remove the existing cladding so as to allow the waterproofing to be dressed up the upstand to a minimum height of 150mm. Thoroughly inspect the area around the upstand and clear out any combustible material that may have accumulated there. Flammable sarking materials should be carefully lifted clear and secured. Damaged sarking membrane should be replaced/repared. Self-adhesive membranes that can be installed using Torch-Free methods to avoid the risk of fire **must** be used in this area. All cladding is to be inspected for damage or degradation and repaired/renewed where necessary and is to be securely replaced on completion. It should be noted that provision may have to be made for the cladding to be modified.

- **Support Slab/Paver Beneath Existing Equipment (H14)**

Temporarily remove all equipment so as to allow waterproofing to be installed beneath. Supply and install a concrete support slab/paver beneath all apparatus/equipment, positioned on a loose laid layer of **Bauder** capping sheet, which should extend 100mm beyond the slab/paver on all sides, so as to reduce the possibility of damage to the waterproofing system.

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- **New Lead Liner to Chute Outlets Through Perimeter Detail (J11)**

Supply new Code 4 lead chute liners to all drainage chutes. All chute liners are to be site fabricated to suit the individual details with all joints being lead burned. The chute liner should be manufactured to provide a minimum of 100 mm bonding area for the cap sheet waterproofing to lap onto the lead. The flange of the lead sleeve must be positioned between the underlayer and capping sheet to ensure best security. On completion, the lead liner must be turned down and dressed into the hopper head and the ears returned back and chased into the outer wall.

- **Extend SVP's (K04)**

Extend all soil vent pipes, flues, etc., using a suitable pipe material/ method of extension to ensure that the finished pipe height is a minimum of 150mm above the finished roof surface. A purpose made fabricated code 4 lead collar with base flange should be installed, incorporated between the waterproofing layers (underlayer/capping sheet) as per Bauder standard details drawings.

- **New Bauder Euroglaze Modular Rooflight/Access Hatch (L02)**

Supply and install new **Bauder Euroglaze** modular rooflight / access hatch units, as detailed on the forthcoming rooflight schedule.

This schedule will be accompanied by installation notes, which outline additional work required as part of the rooflight installation process.

The following items will always be included for refurbishment projects:

1. Remove existing redundant rooflights and dispose of in accordance with the clients detailed instructions.
2. Carry out any making good that may be required internally as a result of the installation of the new rooflight.
3. All works must be carried out strictly in accordance with the client's detailed specifications.
4. If a lightning protection system exists on the roof, provision should be made to incorporate the new rooflight into the system in accordance with BS EN 62305.

WORKMANSHIP

- [1] The **Bauder** System must be laid with the use of roll bars, as provided by **Bauder Limited** or equal and approved.
- [2] Any building work which is the responsibility of the roofing contractor and has a bearing on the life of the **Bauderflex Roof System**, must be carried out by properly trained tradesmen.
- [3] Consideration must be given by the contractor at all times to the aesthetic appearance of the roof, i.e.. alternate head laps to be in line and no unnecessary short pieces of capping sheet are to be used.

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HEALTH & SAFETY INFORMATION – ROOFING WORK

- [1] Follow the advice shown in the "Safe2Torch Checklist" produced by the National Federation of Roofing Contractors.
- [2] Suitable precautions must be taken to prevent accidents occurring when roofing systems are being installed.
- [3] The contractor must ensure that adequate measures are taken to effectively prevent injury to members of the public, contractors and any other persons who may be affected by the works including the public
- [4] Where microwave equipment is installed at roof level, care must be taken to prevent persons working on the roof from being exposed to large doses of microwave radiation.
- [5] Similarly, the contractor should liaise with the client to ensure that there are no extract outlets situated on the roof where noxious or harmful emissions could affect persons working. Suitable precautions will be necessary to prevent exposure where this situation arises.
- [6] The contractor is responsible for providing adequate fire fighting equipment in the form of extinguishers during work on the roof. These should be kept in easily accessible locations and be suitably signed.
- [7] Whenever possible, access to the roof should be made via internal staircases rather than by temporary means. Where this is not available, it is the responsibility of the contractor to ensure a safe means of access, egress and a safe workplace.

As far as roofs are concerned, edge protection in the form of scaffolding or a fixed structure should be in place to a height of 1.1 metres in accordance with the Workplace (Health, Safety and Welfare) Regulations 1992.

Failing this, the hierarchy of controls should be applied from the Work at Height Regulations 2005. Means of access should be by fixed ladder, passenger hoist or scaffolding.

- [8] The contractor must ensure that suitable written method statements and risk assessments are available for the work being undertaken. In particular, it is essential that manual handling methods be fully assessed as roofing materials are heavy and can cause serious injury.
- [9] The contractor must ensure that suitable information about the roof covering is provided to the Client at the end of the work to ensure that work in future can be carried out safely. This information will form part of the Safety File.
- [10] All persons working on the roof should be provided with, and wear, suitable

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personal protective equipment and wet weather gear. Training must be provided to all contract staff on the safe use of the equipment.

- [11] The installer must observe Product Safety Datasheets, relevant to the materials being used as well as completing and complying with COSHH risk assessments
- [12] We draw your attention to your duties under the Construction (Design and Management) Regulations 2015. Regulation 4, Client's duties in relation to managing projects states that the client must make suitable arrangements for managing a project, including the allocation of sufficient time and other resources. Regulation 5, Appointment of the Principal Designer and the Principal Contractor states that where more than one contractor will be working on a project at any time, the client must appoint a Principal Designer and a Principal Contractor.

Please note that although **Bauder** will assist with the roof waterproofing system design, we will not undertake the role of Principal Designer.

- [13] It is always the responsibility of the contractor to carry out a risk assessment on all aspects of the contract. The 'Safe2Torch' checklist is solely for guidance for the safe installation of torch-on reinforced bitumen membranes and use of gas torches in the workplace.
- [14] No work must be carried out on fragile roofs or where there are skylights unless suitable precautions have been taken to prevent persons falling through fragile roofs and openings. In particular, the following are likely to be fragile:
- Non reinforced fibre cement sheets e.g. asbestos
 - Corroded metal decking
 - Woodwool slabs
 - Rotten chipboard or similar
 - Stramit
 - Slates or tiles
 - Old roof lights
 - Glass (including wired)

Specifying non fragile rooflights will help reduce the risk of falls from height. A non-fragility rating is required by the HSE (Health and Safety Executive) in order to comply with CDM (Construction Design and Management) Regulations 2015.

- [15] HSE guidance must be followed when carrying out any work involving interference with asbestos.

IMPORTANT NOTE:

On sites where asbestos has or has possibly been detected, it is to be treated in accordance with the **Control of Asbestos Regulations 2012**.

Bauder specification documentation is subject to any revisions necessary pending the findings from the above.



making roofs secure.

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GUARANTEE

A 20 year product and workmanship guarantee is to be provided upon completion following a Final Inspection by **Bauder**. Details regarding the full terms and conditions are available separately from **Bauder Limited** upon request. This system must be installed by a Bauder Approved Contractor, to be eligible for guarantee. The system comprises the waterproofing membranes, insulation, air and vapour control layer, and attachment of these products.

IMPORTANT NOTE

It is imperative that the contractor conforms with the workmanship criteria as listed above. Any deviation from this will result in the contract being considered unguaranteeable by our insurers.

CONTACT INFORMATION

For further information contact Bauder Limited

Head office: T: 01473 257671 E: technical@bauder.co.uk

Area Technical Manager: Andrew Leggett – T: 07881 245022

Site Technician: Kane Riches – T: 07795 677620

Bauder reserves the right to amend information and product specifications without prior notice. All reasonable care has been taken to ensure that the information is current and correct at the time of issue. Please note that any future regulation changes could result in this specification requiring an update. In the case of a previous roof survey a new survey will be necessary to establish if the condition has further deteriorated and therefore if the specification requires amendment. The specifier is responsible for ensuring that this specification information is still current prior to issue, as Bauder Ltd can accept no liability for any resulting errors or omissions. Any deviation or modification to this specification without Bauder's consent may result in the system not achieving the stated Fire Performance or Guarantee Requirements.