



CLIENT: TUFFIN FERRABY TAYLOR LLP
REF No: B150009
PROJECT NAME: CAREY STREET, 60
ROOF AREA NAME: MAIN ROOF AND REAR LOWER LEVEL
DATE: 09.01.15

SYSTEM CONSTRUCTION

Waterproofing System: Bauder Total Roof System – Cold roof construction
Substrate: Asphalt Overlay
Roof Fall: 1°

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

ASPHALT OVERLAY

Carefully remove and set aside for reuse existing paving surface and insulation. Remove any surface chippings, debris etc. from the surface of the asphalt. Also Strip and/or remove any felt patch repairs, loose or flaking solar reflective paint, liquid overlays etc. Carefully cut away and remove the existing asphalt skirting from all upstands and perimeter edges and prepare the exposed surfaces to receive the new waterproofing.

Repair all cracks and blows in the asphalt and prepare to leave a smooth even surface. We recommend that deflected areas of asphalt be levelled up to minimise ponding. Prime all remaining areas receiving the new waterproofing with fast drying bitumen primer and allow to dry.

UNDERLAYER

BauderTEC KSA DUO, 3mm thick, 200g/m² glass grille reinforced, self-adhesive elastomeric bitumen underlayer, fully bonded by removing the peel off release film. The side laps are to be 100mm and must be laid red over blue, and sealed by torching and rolling with the Bauder Long Handled Lap Roller to extrude a 5-10mm bead. Head laps to be 100mm and staggered and sealed by torching and rolling to extrude a 5-10mm bead of bitumen. Care should be taken to ensure adhesion when the ambient temperature is below +5°C. At all abutments and details the bitumen bead must be extruded from the lap joint to ensure a seal. The underlayer must be taken up all upstands, edge details, in accordance with current British Codes of Practice.

UNDERLAYER INSPECTION

The Approved Contractor must give reasonable notice to **Bauder** of their intention to commence laying capping sheet. This will allow a discretionary inspection of the underlayer to take place, so that any remedial treatment necessary can be carried out prior to installing the capping sheet. This is particularly important when tapered insulation has been used to ensure that any areas of ponding water that may remain can be addressed.

CAPPING SHEET

Bauder K5K, 5mm thick, 250g/m² polyester reinforced, elastomeric bitumen capping sheet, **charcoal grey** finish, fully bonded to the underlayer by torching in the approved **Bauder** manner. Head laps to be 100mm, side laps to be 80mm. A 5mm to 10mm bead of bitumen must extrude from all laps.



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INSULATION

BauderJFRI(200) Inverted Roof Insulation, expanded polystyrene insulation for untrafficked and pedestrian trafficked (non-green) flat roofs subject to permanent loads of up to 60KPa, **50mm** to be loose laid directly over the capping sheet. Boards to be close butted and staggered.

VAPOUR PERMEABLE MEMBRANE

Bauder JFRI Vapour Permeable Membrane to be rolled out loose over the BauderJFRI Inverted Roof Insulation. The material is to be lapped a minimum of 300mm in a direction that helps shed water from the roof rather than beneath the membrane. The material should be dressed up all upstands and details to the height of the surfacing.

UPSTANDS AND DETAILING

Detail work to be carried out in Bauder K5K in accordance with current British Codes of Practice. Side laps to be 80mm, head laps to be 100mm.

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, counterflashings, window and door cills, 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.

Provision should be made by the installer for mechanically fixing the top leading edge of all upstand details in excess of 250 mm in height using appropriate fasteners. In the event of doubt, Bauder should be consulted regarding any specific requirement.

FIRE RISK DETAILING - ALTERNATIVE MEMBRANES AND APPLICATION

- For detailing application in areas constructed from or adjacent to potentially flammable materials, such as timber, plywood OSB/3 etc. or where considered appropriate to minimise fire risk.
- **Primers:** Bauder SA Bonding Primer 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: -
 - **Bauder G4E** to be replaced with **Bauder KSA Duo**
- **Capping sheets:** where appropriate, the installing contractor should use Bauder KSO SN capping sheet, applied to the Bauder self-adhesive/hot air applied underlayer using hot air hand tools suitable for use with bituminous systems. Please note that Bauder KSO SN is only available in one colour - natural slate.
- A list of permissible hot air detailing tools are shown below:

Hot air welding equipment

The equipment required to install the membranes must be manufactured by either **Leister** (contact Welwyn Tool Group, Tel 01707 331 111,



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<http://www.welwyntoolgroup.co.uk>) or **Sievert** (contact Lister Gas Pro, Tel 0800 801 046, ch300@lister.co.uk) and is available for hire or purchase.

Equipment details

LEISTER

Side laps – one of the following:-

- **Leister Varimat or Bitumat** automatic hot air welder 240V/4600W with an 80mm Nozzle.
- **Leister Electron** hot air hand tool 240V/4500W with an 80mm nozzle.

Head laps and all detailing

- **Leister Electron** hot air hand tool 240V/4500W with an 80mm nozzle.

SIEVERT

Side laps – one of the following:-

- **Sievert TW5000** automatic hot air welder 240V/5000W with an 80mm nozzle.
- **Sievert TH1750** hot air hand tool 240V/2300W with an 80mm nozzle.

Head laps and all detailing

- **Sievert TH1750** hot air hand tool 240V/2300W with an 80mm nozzle.

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 PIR must be used at all right angled upstands. Under no circumstances must fillets of an alternative material be incorporated (i.e. cork, fibre, etc.) as this would invalidate the guarantee.
- [2] When the ambient temperature is below 5°C, care should be taken to ensure proper adhesion of the self-adhesive membranes. It may be necessary to gently warm the membranes with the gas torch whilst laying.
- [3] 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.
- [4] The contractor is to ensure water tightness of the roof at all times. Proper day joints must be formed at the end of each working day to provide a temporary seal. No mopping or loose covers will be permitted.
- [5] 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 independent surveyor until all associated trades are complete and the roof areas are clear from all debris and protection layers.
- [6] 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



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reinstated and recommissioned on completion of the roofing works in accordance with the client's detailed specification.

- [7] 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.

INTERNAL OUTLETS

- [1] Where the existing outlets are to be retained they must be carefully examined for damage and proper seating. Any faults must be rectified.
- [2] The contractor must ensure that the waterproofing is firmly sealed to the outlet.
- [3] The contractor must ensure that all outlets are unblocked during and at the completion of the contract.
- [4] The contractor is to provide suitable grilles/wire baskets to the outlets on completion of the contract.

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.

ADDITIONAL ITEMS

Provision should be made by the contractor to:-

- [1] Cut new chases into brickwork upstands. The chase is to be a minimum of 25mm deep and 150mm above the finished surface level. Install Code 4 lead counter-flashing, this is to be base clipped and lead 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 lead work should be carried out by competent tradesmen in accordance with current British Codes of Practice and Lead Development Association recommendations. [A1a]
- [2] Retain the existing counter-flashings by carefully lifting them to expose the upstand. Check for any degradation and repair or replace defective lengths as necessary. On completion, ensure that the counter-flashings are correctly re-



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- dressed over the new waterproofing. Check to ensure the counter-flashings are secured within the chase and repair or replace any defective pointing using **Bauder sealant primer** prior to the application of **Bauder sealant**. [A7]
- [3] Supply and fix a suitably sized soft wood tanalised timber drip batten to the top face of all perimeters which are designed to shed water. Fixings are to be screwed at 300mm centres, using plugs when fixing into masonry or concrete. A welted drip detail is to be formed in Bauder slate finished waterproofing stagger nailed at 50mm centres with large headed galvanised clout nails and turned back onto the roof by a minimum of 150mm. [C8a]
- [4] Temporarily remove existing paving slabs to allow for the new waterproof covering to be installed. Reinstall paving slabs upon completion. Broken or damaged slabs should be replaced to match existing. [H7]
- [5] 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 eliminate the possibility of damage to the waterproofing system. [H14]
- [6] Supply and install new U-Flow Aluminium Retrodrain outlets with combination leaf guards of suitable size to all drainage points. The outlet incorporates the patented U-flow seal providing a mechanical watertight connection. These outlets are available from:
Fixfast, Tinsley Lane North, Crawley, West Sussex, RH10 9FF. Tel: 01293 590970. [J6]
- [7] Provide purpose made, site fabricated Code 4 lead sleeve inserts to existing outlets. The sleeve should have a bonding flange of 100 mm minimum. Prime both sides of the flange with fast drying bituminous primer. The flange of the lead sleeve should be positioned between the underlayer and capping sheet. Once the underlayer is applied, heat the surface of the material to activate the bitumen surface and then insert the lead spigot into the existing outlet/downpipe and press down of the lead flange to create an adhesive seal. Heat and then fully bond the capping sheet, cutting and removing the material from the outlet orifice. Fit a proprietary wire basket or plastic leaf guard upon completion. [J10]
- [8] Supply and install site fabricated Code 4 lead sleeves to all cold pipes under 100mm diameter. A lead base flange must be incorporated to ensure that the new waterproofing forms a watertight seal. This flange must be situated on top of the Bauder underlay stage. A new fully welded cover flashing is to be installed above to protect the membranes. [K15]
- [9] Modify the existing cat ladders so as to allow for works to be carried out. It is recommended that the ladders be supported from adjacent walls and base fixed



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to free standing cast concrete base plinths in preference to direct attachment to the structural deck, so as to minimise the number of penetrations through the new waterproofing system and avoid thermal bridging where the legs pass through the insulation. [Q4]

[10] Create a satisfactory change of level detail in accordance with current British Codes of Practice and **Bauder** recommendations. [S3]

[11] The bituminous system must be properly terminated by creating a seal between vapour barrier and underlayer (by using a timber frame if necessary) and properly sealed to the substrate so as to isolate the system prior to installing the Bauder cold liquid detailing products.

Product: Bauder LiquiDETAIL incorporating Bauder 110g Reinforcement Fleece

Location: Pipe penetrations, window to lower level, steel RSJ supports to m&e equipment.

Preparation: Ensure that the surface receiving the Bauder LiquiDETAIL is clean, dry and free from dust, laitance, grease, oil, and any other contaminants.

- **Protection:** Cover the completed bituminous / PVC membranes with a clean tarpaulin to protect from any spills and splashes.
- **Metal:** surfaces should be rubbed down thoroughly with Bauder PMMA Cleaner and allowed to evaporate for 20 minutes and over-coated within 60 minutes. All paint should be removed back to clean metal. Any rust should be treated with 'Hammerite No.1 Rustbeater' strictly in accordance with the manufacturer's instructions.
- **Plastics:** should be lightly abraded and rubbed down thoroughly with Bauder PMMA Cleaner, which must be allowed to evaporate for 20 minutes before carrying out adhesion testing.
- **Concrete, brick, timber, asphalt:** Apply **Bauder LiquiPRIME GP** in accordance with Bauder instructions and allow to cure prior to installing Bauder LiquiDETAIL.
- **Note:** Bauder PMMA Cleaner must not come into contact with bituminous membranes.

Application: Apply Bauder LiquiDETAIL incorporating Bauder 110g Reinforcement Fleece to specified areas, in strict accordance with the Bauder application instructions. Bauder will provide on-site training in the use of this product on request. The product must not be used in any areas of Bauder Roof Systems without prior consent of Bauder Limited. [S6]

[13] Rear lower level - Infill gap beneath low rendered upstand, dress the new Bauder membrane up the full height of the render and finish with new lead counter flashings into the brickwork.

[14] Dress the new membrane up and under existing lead capping detail to perimeter and finish with suitable termination bar and mastic sealant - Note termination bar IS NOT TO BE USED ON ANY BRICKWORK UPSTANDS.

[15] TO RAISED LEVEL - Cut and repair any slumping/blistered asphalt and recoat complete area with new solar reflective paint.



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WORKMANSHIP

- [1] The **Bauder** System must only be laid by properly certified operatives, who have been trained by **Bauder Limited** or approved by **Bauder Limited** and hold the certificate of approval.
- [2] The **Bauder** System must be laid with the use of roll bars, and Long Handled Lap Rollers as provided by **Bauder Limited**.
- [3] Workmanship that is incorrect will not be permitted, even if the system is watertight. The client will be told that all such faults must be remedied, before the guarantee is issued.
- [4] Any building work which is the responsibility of the roofing contractor and has a bearing on the life of the **Bauder Total Roof System**, must be carried out by properly trained tradesmen.
- [5] 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.

HEALTH & SAFETY INFORMATION – ROOFING WORK

- [1] Suitable precautions must be taken to prevent accidents occurring when roofing systems are being installed.
- [2] The contractor must ensure that adequate measures are taken to effectively prevent injury to members of the public and other persons using the premises.
- [3] 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.
- [4] 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.
- [5] 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.
- [6] 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 and a safe working place.

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, safety harnesses may be worn in exceptional circumstances where this is the only way of preventing falls.



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Means of access should be by fixed ladder, passenger hoist or scaffolding.

- [7] 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.
- [8] 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.
- [9] All persons working on the roof should be provided with, and wear, suitable personal protective equipment and wet weather gear. Training must be provided to all contract staff on the safe use of the equipment.
- [10] The installer must observe Product Safety Datasheets, relevant to the materials being used.
- [11] 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)
- [12] HSE guidance must be followed when carrying out any work involving interference with asbestos.
- [13] Current CDM Regulations, must be observed.

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 Ltd upon request. This system must be installed by a Bauder Approved Contractor, to be eligible for guarantee.

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.



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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. 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.