SPECIFICATION

System	Bauderflex System
Project plan	New Build
Structural deck	Concrete
Roof construction	Inverted
Origination	Generic BIM Specification
Reference	G0105-Bauder_JVPM-JFRI200-K4E-EGV35_V2

Bauder Generic BIM Specifications are offered on the condition that the specifier accepts responsibility for ensuring that each specification is appropriate for its intended purpose, that conditions for its use are suitable, and that it meets current building regulations.

Please note that changes made to the content of this document may impact suitability and eligibility to meet Bauder Limited's requirements for guarantee.

Our support
This specification is not bespoke and therefore will need further input from Bauder to meet project specific requirements. Consequently, we strongly recommend contacting your local Bauder technical manager for individual project advice to ensure this specification meets the requirements of your project and importantly, remains eligible for guarantee as Bauder Limited cannot be held liable for any errors or omissions.

To ensure you get the right roof package, our fully compatible accessory items such as rooflights, rainwater outlets, and trims etc. are readily available and can be incorporated into the specification. We can also provide photovoltaic array systems with compatible mounting.

Registering your project
By registering your project with us prior to tender, we can confirm the suitability of this specification and at the same time allow implementation of our project monitoring service and procedures. At this stage the guarantee duration and terms and conditions can be confirmed.

Bauder Ltd reserves the right to amend information and product specifications without prior notice.

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REF No: **PROJECT NAME:**

NBS SECTION J41 - DESCRIPTION OF WORKS

Section J41 deals with the installation of the Bauder Waterproofing System, comprising coverings of multiple layers of reinforced bituminous membranes laid and jointed using self-adhesive and/or torch application as required. It includes where required, the vapour control layer, thermal insulation, underlayer and capping sheet membranes (root resistant for green roof systems) and presumes the deck substrate and roof falls as stated within the specification below. Accessories are included where relevant.

It is intended for use on projects where the detailed design is completed by the specifier (architect or landscape architect) with technical assistance from the manufacturer as required and should be read in conjunction with any project specific drawings provided.

'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 (as per clause 773) - 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 shown in the Bauder 'Torch-Free' & Bauder Bituminous detail drawings.

SCOPE OF WORKS

This section includes:

- The Bauder waterproofing system.
- Related Bauder system accessories
- Thermal insulation that meets the required U Value.
- Surfacing (ballast)

This section does not include:

- Construction of the structural deck.
- Proprietary rainwater drainage / plumbing – refer NBS section R10
- Lightning protection – refer NBS Engineering Services, Section W60.
- Latchways Constant Force Post System – refer NBS Section N25.

J41 REINFORCED BITUMEN MEMBRANE ROOF COVERINGS

To be read with Preliminaries/ General Conditions.

TYPES OF COVERING

REF No: **PROJECT NAME:**

120 BUILT-UP REINFORCED BITUMEN MEMBRANE INVERTED ROOF COVERING

- **Roof area:**
- **Substrate:** New Concrete deck, designed and constructed to provide a minimum finished slope of 1-4°.
  - **Preparation:** As clause 610C.
- **Primer type and application:** Bauder Multi-Purpose Primer or Bauder Quick Dry Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660A.
- **Waterproof covering:** BAUDERFLEX SYSTEM
  - **System manufacturer:** Bauder Limited, 70, Landseer Road, Ipswich, Suffolk, IP3 0DH. **Tel:** 01473 257 671. Fax: 01473 230 761. **Email:** technical@bauder.co.uk **Web:** www.bauder.co.uk
  - **Underlayer:** Bauder EGV 3.5, 3.5 mm thick, 100g/m² glass-fibre reinforced, elastomeric torch applied bitumen underlayer. **Attachment:** As clauses 710, 740A.
  - **Top layer / Cap sheet:** Bauder K4E, 4 mm thick, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet, charcoal grey finish. **Attachment:** As clauses 710, 750A.
  - **Flashings and detail work:** Bauder K4E capping sheet, charcoal grey finish. Install as clauses 773, 775A & 777.
- **Insulation:** 240mm thick, BauderJFRI(200) Inverted Insulation for flat roofs subject to permanent loads of up to 60KPa, to achieve the required 'U' Value – refer clause 230. This product has zero ODP and a Green guide rating of 'A+'. Installation as Clause 810A.
- **Insulation to upstands:** To all vertical upstand abutments and changes in level to be insulated, including builders kerbs (but excluding proprietary insulated integrated rooflight units), use **Bauder JFRI HP Inverted Insulation**, in combination with **60mm Bauder JFRI HP Upstand Insulation GRP facing, colour Slate Grey**, to the external face, to make up the total thickness required. Installation as clause 811B.
- **Vapour permeable layer:** Bauder JFRI vapour permeable membrane. Installation as clause 816A.
- **Surface protection:** N/A
- **Surfacing:** 20-40 mm grade washed stone ballast (supplied by others), as clause 460. Installation as clause 820.
- **Accessories: -**
- **Additional Requirements:** 210, 230, 515, 520, 560, 561, 562, 910, 940.
- **Guarantee information:** Refer clause 950C.

PERFORMANCE

210 ROOF PERFORMANCE

- **General:** Secure, free draining and weather tight.

230 INSULATION

- **Requirement:** Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:
  - **Thermal transmittance of roof (maximum):** 0.15 W/m²K
  - **Finished Surface:** Suitably even, stable and robust to receive roof covering.
  - **Insulation compliance:** To relevant British Standard or Agrément certified.

REF No: **PROJECT NAME:**

PRODUCTS

460 STONE BALLAST

- **Type:** _____.
- **Supplier:** _____.
- **Size:** Graded 20-40 mm, free from fines and sharps.
- **Colour:** _____.

EXECUTION GENERALLY

515 ADVERSE WEATHER

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

520 INCOMPLETE WORK

- **End of working day:** Provide temporary seal to prevent water infiltration.
- **On resumption of work:** Cut away tail of membrane from completed area and remove from roof.

560 GENERAL WORKMANSHIP REQUIREMENTS

- Installation of the Bauder waterproofing system may only be carried out by trained and certified operatives approved by Bauder Ltd and who carry current ID badges. These should be available for inspection at all times.
- Workmanship must comply with Codes of Practice BS 8217:2005 (or alternatively Bauder Ltd.'s specification where otherwise stated). Non-compliant workmanship will not be permitted, even if the system is watertight. The client will be told that all such faults must be remedied, before the Guarantee is issued.
- All waterproofing materials and system components must be supplied by Bauder Ltd, unless otherwise stated. Any sub-standard materials or un-authorised alternatives will be rejected. Any building work which is the responsibility of the roofing contractor and has a bearing on the life of the Bauder System must be carried out by properly trained and qualified tradesmen.
- Any structural damage, peculiarities or details discovered that might affect the performance of the Bauder system, should be reported immediately to the client's representative and Bauder Limited in order that they may assist in overcoming the problem.
- 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.
- 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 or the Bauder nominated Independent surveyor until all associated trades are complete and the roof areas are clear from all debris and protection layers.
- It is imperative that the Bauder Approved Contractor conforms to the workmanship criteria as listed above. Any deviation will result in the contract being considered unguaranteeable.
- 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 re-commissioned on completion of the roofing works in accordance with the client's detailed specification.

- 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 waterproofing.
- 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 on all sides. In the case of heavy items it may be necessary to introduce a load-spreading slab, please contact Bauder for further advice.
- All lead work to be carried out by skilled tradesmen and in accordance with current codes of practice and the recommendations of the Lead Sheet Association.

561 SITE INSPECTIONS

- Bauder Site Technicians will carry out regular inspections of the project during the course of the works. 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 standing water that may remain can be addressed.
- Bauder must be notified when the roof is ready for final inspection and all related works and snagging complete. See also clause 910.

562 HEALTH & SAFETY INFORMATION – ROOFING WORK

1. Follow the advice shown in the “Responsible Specification 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 firefighting 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 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

SUBSTRATES / VAPOUR CONTROL LAYERS / WARM ROOF INSULATION

610C SUITABILITY OF SUBSTRATES (CONCRETE)

- **Substrates generally:** Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions.
- **Falls:** Where provided, the falls/cross-falls should be designed to 1:40 to achieve minimum finished falls of 1:80 to comply with drainage requirements of BS 6229:2003 and current codes of practice BS 8217:2005. No deflections or back-falls present if the deck is designed to achieve a 0° level finished surface.
- **Preliminary work:** Complete including:
  - Grouting of deck slab joints, application of surface screed (including falls if specified).
  - Formation of abutment upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
  - Fixing of battens, fillets and anchoring plugs/strips as required.
- **Moisture content and stability of substrate:** Must not impair roof integrity. Please note that cast in-situ concrete decks with steel trapezoidal formers need 60 days to dry out and cure before they can be waterproofed. Otherwise, 30 days.

- **Preparation:** The new concrete/ screed deck to be allowed to cure thoroughly, remove rough edges, and surface defects. If the surface is very rough a skin screed of concrete to be applied to give a smooth surface.

660A APPLYING PRIMER

- **Purpose:** Bauder Multi-Purpose Primer, 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. 60 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

- **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 4-8 m^2 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

WATERPROOF COVERINGS/ ACCESSORIES

710 LAYING REINFORCED BITUMEN MEMBRANES GENERALLY

- **Direction of laying:** Unrolled up the slope.

- Where practicable, install so that water drains over and not into laps.

- **Side and end laps (minimum):** 100 mm, with the exception of mineral surfaced membranes, where side laps are 80 mm, but the head laps to remain 100 mm.
- **Head and side laps:** Offset.
- **Intermediate and top layer/Capping sheet:** Fully bond.
- **Successive layers:** Apply without delay. Do not trap moisture.
- **Strips of bitumen membrane for 'linear' details:** Cut from length of roll e.g. gutter sole pieces.
- **Detail flashings:** to be cut from width of roll.
- **Completed coverings:** Firmly attached, fully sealed, smooth, weather proof and free draining.

740A TORCH-ON BONDING OF REINFORCED BITUMEN UNDERLAYER

- **Bond:** Partially bonded in the approved Bauder manner.
- **Laps:** Head and side laps to be 100mm. All laps to upstands, edge details, flashings, etc., to be a minimum 100mm. All laps torch sealed to provide a continuous bitumen bead extrusion. The underlayer must be taken up all upstands, edge details, in accordance with current British Standards and Bauder's recommendations.
- **Alternative detailing membrane ('Torch-Free' & 'Safe to Torch' zones):** Please refer to clause 773.
- **Provision for prevention of wind uplift (where required):** Mechanically fix as per the corresponding project specific wind load calculation, using appropriate thermally broken fasteners (for cold roofs as clause 355A and for warm roof as clause 355B), fixed through to the deck.
- **Underlayer inspection:** The Approved Contractor must give reasonable notice to the nominated Bauder Site Technician 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.

750A LAYING MINERAL FACED REINFORCED BITUMEN TORCH-ON CAPPING SHEET - 'SAFE TO TORCH' ZONE

- **Bond:** Full over whole surface, with no air pockets.
- **Excess compound at laps of top layer/ capping sheet:** Leave as a continuous bitumen bead extrusion.
- **Laying top layer:** Fully bonded to the underlayer by torching in the approved Bauder manner. Head laps to be 100 mm, side laps to be 80 mm. All laps to upstands, edge details, flashings, etc. to be 100 mm.
- **Final Inspection:** The finished roof must be thoroughly inspected by the Bauder Site Technician. This is to ensure that any remedial treatment that is necessary can be carried out prior to issuing the guarantee. Failure to ensure the instigation of this inspection will result in the issuing of the Bauder guarantee being put in jeopardy.

FLASHINGS AND DETAIL WORK

773 '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 Multi-Purpose Primer** or **Bauder SA Bonding Primer** must be used when using Bauder self-adhesive membranes and a 'Torch-Free' application is required.

REF No: **PROJECT NAME:**

- **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**

  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 permissable to use a Torch Applied underderlayer, so long as the product is a recognised component of the system specifed.
  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**
- **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 Multi-Purpose Primer** 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 only available in two colours – Natural Slate or Brown.
  Self-adhered membranes - Mechanically fix the top leading edge of all upstand details at 300mm centres using appropriate fasteners, and suitable termination bar if required. Please refer to Bauder Bituminous Standard Detail Drawings.
- **Green Roof Notes:** Please note it is strictly only permissable 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

775A SKIRTINGS AND UPSTANDS

- **Angle Fillets:** BauderPIR angle Fillets (50 mm x 50 mm) must be used at all right angled upstands, provisionally bonded in suitable Bauder Polyurethane Insulation Adhesive and subsequently retained once the underlay detailing is applied.
  Important note - under no circumstances must fillets of an alternative material be incorporated (i.e. timber, cork, fibre, etc.) as this would invalidate the guarantee.
- **Layers of bitumen membrane**: Carry in staggered formation up the upstand, with each layer fully bonded.
- **Upstands: -**

At ends of rolls: Underlay layer only - Form with specified bitumen membrane carried up without using separate strip.

- **Elsewhere:** Form with matching strips of bitumen membrane, maintaining laps.
- **Additional fixing of bitumen membranes**: Mechanically fix all upstands in excess of 250mm in height using appropriate fasteners. In the event of doubt, Bauder should be consulted regarding any specific requirement.
- **Upstand details (minimum height):** 150 mm minimum, taken from the surface of the finished landscaping. Special attention should be paid to all structures, such as rooflights, counter-flashings, window and door cills, pipes etc. Bauder cannot take responsibility for water ingress over waterproofing details constructed below the recommended minimum height.
- **Flashings:** Separate flashings must always be formed. Capping sheet taken up the upstand in one piece will not be permitted.
- **Green Roof Notes:** If the client should desire not to see a green mineral finish then it is permissible to install a piece of suitable coloured Bauder bituminous capping sheet membrane. The Bauder root resistant capping sheet must be taken a minimum 150mm from the finished landscaping surface*. The suitable coloured Bauder bituminous capping sheet must be lapped onto the Bauder root resistant capping sheet by a minimum 150mm, and lapped onto the structure by a minimum of 100mm.

777 SECONDARY WEATHERING (PIPES, DUCTING etc.)

- Provision must be made to supply and install a secondary weathering flashing above all waterproof upstand detailing to pipe penetrations, balustrade posts, cable entry pipes, ventilation ducting, sun pipes etc. This can take the form of a welded collar (where appropriate) or a bespoke galvanized cowling or hood sealed with a suitable sealant and fasteners. Solvent welded plastic collars fitted to plastic soil vent pipes.

SURFACING

810A LAYING INVERTED ROOF INSULATION (FIELD AREAS)

- **Preparation:** Clear roof of other trades.
- **Condition of substrate:** Clean.
- **Thermal requirements:** In compliance with Part L of the current Building Regulations.
- **Separating layer:** N/A
- **Setting out:** Loose lay insulation directly over the capping sheet to brick pattern with staggered joints. Minimize cutting and avoid small pieces at perimeters and penetrations. Dependent upon the total thickness required, it may be necessary to construct the insulation using two layers of board. The manufacturer/supplier can advise on the available combination options.
- **Joints:** Butt together.
- Projections, upstands, rainwater outlets, etc: Cut insulation cleanly and fit closely around.
- **Completion:** Boards in good condition, well-fitting and stable with no springing or rocking. Cover to prevent wind uplift and flotation as soon as practicable.
- **Loading over inverted insulation (minimum):** Ballast (landscaping) should be installed onto the vapour permeable/geotextile membrane to a minimum depth required to achieve a permanent minimum load of 80Kg/m², which prevents wind uplift and flotation of the insulation in high winds and/or heavy rainfall
- **Additional loading at perimeters:** On high buildings in more exposed areas, wind uplift may be a problem and in these instances paving slab ballast must be considered. Paving slabs should be a minimum of 50mm thick. The slabs should be laid on paving slab supports of minimum 175mm diameter (or equivalent base area).

REF No: **PROJECT NAME:**

- All final details must to be confirmed with Bauder before proceeding.

811B LAYING INVERTED ROOF INSULATION TO VERTICAL UPSTANDS

- **General requirements:** Total thickness of insulation to meet same required thermal value as required for the flat areas, in compliance with Part L of the current Building Regulations. This to be achieved using two layers of insulation panel, but using 60mm Bauder JFRI Upstand Insulation (51mm+9mm) (magnesium based facing) insulation at all exposed abutment upstands. The upstand insulation to be installed before the flat areas, so they can be wedged in position by the boards applied to the flat area. The top leading edge of the vertical insulation must be retained by a suitable mechanically fastened metal flashing.
- **Upstand to insulated cavity wall abutments only:** 60mm Bauder JFRI upstand Insulation (51+9mm), to be used at all abutment upstands, with magnesium based facing exposed. The upstand insulation to be installed first, so it can be wedged in position by the boards applied to the flat area. The top leading edge of the insulation must be retained by a suitable mechanically fastened metal flashing.

816A VAPOUR PERMEABLE MEMBRANE

- **Setting out:** To be rolled out loose over the Insulation. The material should be dressed up all upstand abutments and details to the height of the surfacing.
- **Laps:** 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 ballast loading / landscaping should be applied immediately after the vapour permeable membrane to ensure it is secure against wind uplift.

820 LAYING STONE BALLAST

- **Gravel guards:** Fit to outlets.
- **Condition of substrate:** Clean.
- **Application:** Do not pile to excessive heights. Spread evenly.
- **Depth (minimum):** min.60 mm
- **Installation:** 20 – 40mm rounded washed pebbles to be installed onto the vapour permeable membrane to a minimum depth of 60mm, which prevents wind uplift and flotation of the insulation in high winds and/or heavy rainfall
- **Additional loading at perimeters:** On high buildings in more exposed areas, wind uplift may be a problem and in these instances paving slab ballast must be considered. Paving slabs should be a minimum of 50mm thick. The slabs should be laid on paving slab supports of minimum 175mm diameter (or equivalent base area). Accurate loadings (Kg/m^2) can be confirmed by carrying out project specific windload calculations – please contact Bauder Ltd.
- All final details must to be confirmed with Bauder before proceeding.

COMPLETION

910 INSPECTION

- **Interim and final roof inspections:** in accordance with the manufacturer's requirements for guarantee.
- **Notification:** It is the responsibility of the approved contractor to advise Bauder Ltd when the roof is ready for Final Inspection. The 'Final Inspection' of the waterproofing must be carried out and approved by Bauder Ltd prior to any landscaping products/materials being installed, otherwise a guarantee cannot be issued.
- **Other requirements:** Please also refer to preliminaries / general conditions.

REF No: **PROJECT NAME:**

- **If project needs to follow NHBC Requirements:** The waterproofing must be visually inspected and electronically tested for waterproofing integrity, faults rectified, and retested prior to the installation of any landscaping products. The results of the test(s) should be made available to the NHBC.

940 COMPLETION

- **Roof areas:** Clean.
- **Outlets:** Clear.
- **Work necessary to provide a weather tight 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.

950C GUARANTEE

- A 15 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 installed by a Bauder Approved Contractor, to be eligible for guarantee. The system comprises the waterproofing membranes, insulation, vapour control layer, and attachment of these products.