



SPECIFICATION

System	Bakor System
Project plan	New Build
Structural deck	Concrete
Roof construction	Inverted
Origination	Generic BIM Specification
Reference	G0501-Bauder_JVPM-JFRI200-AP1-Bakor_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.

NBS SECTION J31 - DESCRIPTION OF WORKS

Section J31 deals with the installation of the Bauder Bakor Hot Melt roof system comprising monolithic membrane (incorporating reinforcement), access/protection/root resistant layers as required and including insulation and vapour permeable/filter layers where specified. Surface finishes of paving slabs or gravel are included where required. We presume the deck substrate 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.

To be read with Preliminaries/ General conditions, Bakor QA Manual, Bauder fixing instructions and specifications.

'Safe2Torch' advice:

The application of a torch-on underlayer to or in the vicinity of combustible materials does not conform to the recommendations and the advice given in the 'Safe2Torch' document produced by the National Federation of Roofing Contractors. Care should be taken if torch drying damp substrates.

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 to provide assistance in the assessment of the risks where the use of a gas torch is being considered.

SCOPE OF WORKS

This section includes:

- The Bauder Monolithic Hot Melt waterproofing system.
- Related Bauder system accessories (edge trims, linear drains etc.).
- 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

J31 LIQUID APPLIED WATERPROOF COATINGS

To be read with preliminaries/ General Conditions

130 ROOF COATING TO: Roof Area Name

- **Substrate:** Structural Concrete Deck, constructed level with no hollows or back-falls, wood float finished and fully cured.
 - **Preparation:** As clauses 615A, 710, 740.
- **Waterproof coating:** BAUDER BAKOR MONOLITHIC MEMBRANE ROOF SYSTEM

REF No:**PROJECT NAME:**

- **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
- **Primer type and application:** Bauder Polymer Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 720B.
- **Preliminary local reinforcement:** as clause 750.
- **Coating reference:** Bakor790-11 hot melt rubberised bitumen.
- **Application:** As clause 722, 760.
- **Reinforcement:** Bauder Polyester reinforcing.
- **Thickness (nominal):** 6 mm in two 3 mm coats, plus protection sheet / surfacing as described below.
- **Upstands and details:** Upstand detailing to be formed in Bakor 790-11, as clause 770A.
- **Coating protection layer to all upstands/details:** Bauder AP1, glass tissue based, modified bitumen, sand finished membrane to be used as the access layer on concealed upstand detailing. For any areas of detailing that is exposed, Bauder K4E charcoal grey slate finished membrane must be used. Installation as Clause 770C.
- **Coating protection layer:** Bauder AP1, glass tissue based, modified bitumen, sand finished membrane. Installation as Clause 780A.
- **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 membrane:** Bauder JFRI vapour permeable membrane (loose laid). Installation as Clause 816A.
- **Surfacing:** 20-40 mm grade washed stone ballast (supplied by others), as Clause 365. Installation as Clause 820.
- **Accessories:**
- **Additional requirements:** Refer clauses 210, 310, 410, 411, 412,413, 415A, 910, 920, 930, 940.
- **Guarantee information:** 950H.

PERFORMANCE**210 ROOF PERFORMANCE**

- **General:** Firmly adhered, free draining and completely weather tight.

230 INSULATION

- **Thermal transmittance (U-Value) of roof:** 0.15 W/m²K
- **Finished Surface:** Suitably even, stable and robust to receive roof covering.
- **Insulation compliance:** To relevant British Standard or Agrément certified.

PRODUCTS**310 ANCILLARY PRODUCTS AND ACCESSORIES**

REF No:

PROJECT NAME:

- **Types:** Recommended by coating manufacturer.

365 STONE BALLAST

- **Type:** Washed, round aggregate.
- **Size:** Graded 20-40 mm and free from fines and sharps.

EXECUTION GENERALLY

410 ADVERSE WEATHER

- **Do not apply coatings:**
 - In wet conditions or at temperatures below 5°C, unless otherwise permitted by coating manufacturer.
 - In windy conditions (wind speeds in excess of 7 m/s) unless adequate temporary windbreaks are erected.
- **Unfinished areas of roof:** Keep dry.

411 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 current industry Codes of Practice (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.
- 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.
- 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.

REF No:

PROJECT NAME:

- 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.

412 SITE INSPECTIONS

- Bauder Site technicians will carry out regular inspections of the project during the course of the works.
- The Approved Contractor must make provision for and arrange that the roof is independently electronically leak tested and provide a certificate to Bauder Ltd on completion, as a pre-requisite for guarantee.
- Bauder must be notified when the roof is ready for final inspection and the electronic leak test conducted and all related works and snagging complete.
- No insulation, ballasting or landscaping work should be installed until Bauder have carried out a final inspection to the waterproofing and have passed this as suitable for guarantee. In addition, electronic leak detection tests must have been carried out and the test reports provided to Bauder. It is the responsibility of the roofing contractor to advise and organise this inspection with Bauder. We cannot guarantee any waterproofing that has been insulated and/or landscaped without this inspection having been carried out and passed as acceptable.

413 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.

REF No:

PROJECT NAME:

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

415B LANDSCAPED INVERTED ROOFS - RELATED REQUIREMENTS

The following are vital to the accurate pricing, correct installation, and ultimately the long-term life of an inverted roof, and must, therefore, be included within the specification and tender documents: -

- It is assumed that the architect or his advisors have satisfied themselves that the roof structure and deck are suitable to receive the dead load of the proposed roof system, both during construction and on completion of the works.
- A planned or contractual delay between the installation of the waterproofing and insulation/ballast finish will almost certainly necessitate additional/increased protection to the waterproofing. This protection may be temporary or permanent. The responsibility and cost of this possible extra protection should be clearly included within the tender documents.
- Correct detailing design and construction is essential to the long-term life of the roof. It is essential, therefore, that detail drawings illustrating for the construction are included with the tender documents, in order to enable the contractor to tender accurately.
- The waterproofing should be taken up all abutment upstands, protrusions etc. a minimum of 150mm above finished surface level i.e. top of the ballast.

NEW SUBSTRATES / OVERLAY DECKING

615A SUITABILITY OF SUBSTRATE (CONCRETE)

REF No:

PROJECT NAME:

- **Surfaces to be coated:**
 - Firmly fixed, clean, dry, smooth, free from frost, contaminants, loose material, voids, protrusions and organic growths.
 - Compatible with coating system.
- **Preliminary work:** Complete (including formation of upstands, kerbs, box gutters, sumps, grooves, chases, expansion joints, and fixing of battens, fillets, anchoring plugs/ strips, etc.).
- **Moisture content and stability:** Must not impair integrity of roof.
- All concrete surfaces shall be cured a minimum of 14 days and shall be dry. All concrete placed into a profiled metal deck shall be cured a minimum of 60 days.
- Concrete Surfaces shall be to a wood float finish and uniform. Steel float finishes are too smooth and can produce laitance on its surface, which will need to be removed, prior to priming. Please refer to the manufacturer's Installation and Quality Assurance Manual for important information.
- 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.
- Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, curing compounds of any foreign matter detrimental to the adhesion of the hot applied rubberised bitumen system. Any scaling or laitant concrete shall be sandblasted off.
- Voids, cracks, holes, honeycombs and other damaged horizontal or vertical surfaces shall be repaired before application of the membrane.
- The contractor shall review all surfaces to receive the membrane and report any discrepancies prior to installing the waterproofing system.

ROOF COATING SYSTEM

710 ADHESION TESTS

- **Requirement:** Carry out a trial coating to determine priming requirements and/or system suitability.
- **Nature of test:** The contractor shall carry out a "peel" test to each roof area prepared for waterproofing, by applying Bakor 790-11 hot rubberised bitumen to the deck to test for proper adhesion. This must be carried out strictly in accordance with the manufacturer's requirements, as set out in the Bakor Installation and Quality Assurance Manual.
- **Test results:** Submit and arrange for inspection.

720B APPLYING PRIMER

- **Purpose:** Quick drying substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of the Bauder Bakor Hot melt waterproofing system.
- **Before application:** All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material. Smooth metal to be prepared using a wire brush.
- **Application method:** Bauder Polymer primer to be spray, brushed, or roller applied uniformly to all surfaces receiving the new waterproofing, avoiding excessive application. Ponding of the primer is not recommended.
- The primer shall be thoroughly dry before applying the hot melt rubberised bitumen coating. Allow to dry for a minimum of 30 minutes.
- **Application rate:** between 4-6 m² per litre, dependent upon substrate porosity
- **Application temperature range:** -40°C to 80°C

REF No:

PROJECT NAME:

- **Drying time:** Approx. 30 minutes, dependent upon ambient temperature and substrate porosity.
- **Coats:** Fully bond. Allow volatiles to dry off thoroughly between coats.
- **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.

722 MEMBRANE APPLICATION TO DETAILS (PRIOR TO FLAT AREA)

- The waterproofing is applied to structural details first i.e. upstands, outlets, cracks etc. before the main deck area is waterproofed.

Note there are optional build ups that can be applied to the details. The choice for any specific location will be dependant on a number of criteria i.e. project size, number of visits to site required by the waterproofing contractor, construction sequence etc. For specific details or features where the specified detailing is considered inappropriate and an alternative technique is required, then Bauder should be contacted first for approval.

740 MINOR MOVEMENT JOINTS IN SUBSTRATE

CRACKS 1.5 mm – 3.0 mm

- **Reinforcement Strip:** Bauder Polyester fabric reinforcement bedded in a preliminary application of Bakor 790-11 coating applied 3mm thick to a width of 100mm on each side of the crack. Apply reinforcement while coating is still hot to ensure full adhesion and partial bleed through of the bitumen. Smooth out wrinkles and press into coating to exclude air. Lap joints in length, ensuring a minimum 10 mm overlap. Polyester reinforcing strip should be coated with Bakor790-11 in the event of impending wet weather or if the waterproofing is not going to be applied same day.
- The Bakor790-11 system is then applied directly over the reinforcement strip as per specification.

CRACKS 3.0 mm – 12.00 mm

- **Reinforcement Strip:** Bauder Butyl Reinforcement bedded in a preliminary application of Bakor 790-11 coating applied 3mm thick to a width of 100mm on each side of the crack. Neoprene is also acceptable if Butyl is unavailable on site. Apply reinforcement while coating is still hot to ensure full adhesion. Smooth out wrinkles and press into coating to exclude air. Lap joints in length, ensuring a minimum 10 mm overlap.
- The Bakor790-11 system is applied directly over the reinforcement strip as per specification.

750 PRELIMINARY LOCAL REINFORCEMENT

- Appropriate 150 mm wide reinforcement strip (see below), applied centrally to the nick of the upstand i.e. taken 75 mm up the vertical and 75 mm out to the horizontal. Apply to all junctions at abutment upstands, penetrations and outlets, also to joints and fixings in discontinuous unit substrates. Bed in a preliminary application of Bakor hot melt coating. Smooth out wrinkles and press into coating to exclude air. Lap all joints between lengths.
- **Bauder Polyester reinforcing strip:** suitable with concrete decks where the upstand is either monolithically cast insitu, subsequently cast insitu or constructed from brick or block work.
- **Bauder Neoprene Reinforcement:** to be used in all other situations i.e. plywood or OSB substrates with abutment upstands or kerbs constructed from the same material, timber or metal sheeting. This reinforcement must also be used at all outlets, penetrations, fixings etc.

760 APPLICATION OF ROOF COATINGS

REF No:

PROJECT NAME:

- Apply first layer of Bakor 790-11 hot melt rubberised bitumen coating at a working temperature of between 180°C - 200 °C, evenly to the deck to a minimum depth of 3 mm. This layer of coating must be lapped onto the previously installed detailing at all abutment upstands, outlets, protrusions etc., in order to achieve a monolithic coating over the entire deck area.
- Bauder Polyester reinforcing layer to be rolled out and bedded into the Bakor 790-11 while it is still hot, to ensure it is fully bonded and ensuring partial bitumen bleed through.
- Overlaps to be a minimum of 10mm wide, ensuring that a layer of hot melt membrane is present between the layers.
- Apply the second layer of Bakor 790-11 hot melt rubberised bitumen coating at a working temperature of between 180°C - 200 °C, evenly onto the polyester reinforcing layer to a minimum depth of 3 mm, providing a total minimum monolithic waterproofing layer of 6 mm.
- **Continuity:** Maintain full thickness of coatings around angles, junctions and features.
- **Rainwater outlets:** Form with watertight joints.
- **Drainage systems:** Do not allow liquid coatings to enter piped rainwater or foul systems.

770A SKIRTINGS/ UPSTANDS

- **Preliminary reinforcement strip:** The correct reinforcement strip must first be applied at all right angled abutments, penetrations, outlets and fixings etc before the application of the Bakor 790-11 detailing (except for when the alternative two-layer SBS membrane system is used). Please see clause 750. If unsure about the correct reinforcing material for any given situation, please refer to the Bauder Installation and Quality Assurance Manual or contact Bauder's Technical Department for confirmation or further information.
- **Waterproofing application:**
 - **First layer:** Bakor 790-11 hot melt rubberised bitumen membrane, applied 3mm thick up the upstands and out onto the deck a minimum of 200mm.
 - **Reinforcement:** Bauder Polyester reinforcing sheet to be embedded into the first layer of Bakor 790-11, up the upstands, and dressed down and out onto the flat by 75mm. Laps to be a minimum of 10mm. The reinforcing sheet must be applied when the hot melt rubberised bitumen is still hot in order to ensure a full adhesion and a partial bitumen bleed through.
 - **Second layer:** Bakor 790-11 hot melt rubberised bitumen membrane, onto the deck and upstand over the reinforcement layer, 3mm thick up the upstands and out onto the deck a minimum of 200mm ensuring to "feather" down towards the edge.
 - **Protection layer to upstands:** as specified above.
 - **Termination Bar:** Proprietary Termination Bar to be used to fix the waterproofing and access/protection which terminates on a vertical plane. Fixings to be at a minimum 300mm centres. Bauder Mastic Sealant to be applied in a neat bead both behind and along the top edge of the termination bar.
 - **Top edges of coatings:** Where not protected by flashings, apply into chases cut to a depth of not less than 10 mm.
 - **Completion of chases:** When coatings are fully cured, prepare chase by priming with Bauder Mastic Sealant primer and apply sealant as per manufacturer's instructions.
 - **Sealant:** Bauder Mastic Sealant.

770C COATING PROTECTION (UPSTANDS/DETAILING)

- **Location:** Upstands and details. Use only K4E for all exposed detailing.
- **Concealed areas of detailing - Material:** Bauder AP1, glass tissue based, modified bitumen sanded surfaced access sheet to be rolled into the second layer of Bakor 790-11 hot melt rubberised bitumen coating while it is hot, to ensure a full bond. A wide headed brush used when rolling in will assist in avoiding wrinkles and prevent entrapping air bubbles.
Laps: All laps to be a minimum of 75mm and properly sealed by ensuring that there is hot melt bitumen within the overlaps.

REF No:

PROJECT NAME:

- **Exposed areas of detailing - Material:** Bauder K4E charcoal grey, 4mm thick, polyester based, elastomeric bitumen mineral surfaced access/protection sheet to be rolled into the second layer of Bakor 790-11 hot melt rubberised bitumen coating while it is hot, to ensure a full bond. A wide headed brush used when rolling in will assist in avoiding wrinkles and prevent entrapping air bubbles.
- **Laps:** All laps to be 100mm and torch sealed, ensuring there is a continuous extrusion of root resistant bitumen from all laps.

780A COATING PROTECTION LAYER

- **Location:** All areas (but excluding upstands and details)
- **Material:** Bauder AP1, glass tissue based, modified bitumen access sheet to be rolled into the second layer of Bakor790-11 hot melt rubberised bitumen coating while it is hot, to ensure a full bond. A wide headed brush used when rolling in will assist in avoiding wrinkles and prevent entrapping air bubbles.
- **Laps:** All laps to be a minimum of 75mm and properly sealed by ensuring that there is hot melt bitumen within the overlaps.

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

811B LAYING INVERTED ROOF INSULATION TO VERTICAL UPSTANDS

- **Compliance with the Building Regulations:** To meet the current building regulations, the vertical Insulation thickness and thermal value must match that of the flat areas, except for wall abutments where wall cavity is insulated (see below). Typically this would apply to abutments at changes of level or roof openings such as roof lights, access hatches etc.

REF No:

PROJECT NAME:

- **Two layer construction:** 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.
- **Visual appearance:** Where the visual appearance of the upstand insulation (colour) needs to be concealed, 60mm Bauder JFRI HP Upstand Insulation GRP faced board should be used for the outer face and then additional JFRI upstand insulation board installed behind to make up the total thickness required to meet the specified thermal value.
- **Installation sequence:** The upstand insulation should be installed first, so it can be wedged in position at the base by the boards subsequently applied to the flat areas. The top leading edge of the insulation must be retained by a securely fixed metal counter-flashing.
- **Upstands formed at wall abutments with an insulated cavity only:** 60mm Bauder JFRI HP Upstand Insulation GRP faced board to be used at all abutment upstands. 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 securely fixed metal counter-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/m²) 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

- **Coating surfaces:** Check when cured for pinholes and discontinuities.
- **Defective areas:** Apply another layer of coating.
- **Interim and final roof inspections:** This is a requirement for guarantee and must to be carried out in strict accordance with the Bauder Limited requirements.
The final inspection of the waterproofing and the Electronic roof integrity test (refer clause 920) must be carried out and approved by Bauder prior to any landscaping being installed. This is mandatory for the issue of the guarantee.

REF No:

PROJECT NAME:

- **Notification:** It is the responsibility of the approved contractor to advise the Bauder Field Technician when the roof is ready for the Final Inspection.
- **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.
- **Other requirements:** Please also refer to preliminaries / general conditions.
- **Site contact details - Site Technician:** TBC
- **Technical Contact Details - Area Sales Manager:** TBC

920 ELECTRONIC ROOF INTEGRITY TEST

- **Timing of test:** immediately prior to installation of the landscaping.
- **Condition of roof prior to testing:**
 - **Coating:** Complete to a stage where integrity can be tested.
 - **Surface:** Clean.
- **Test results:** Copy of reports to be retained as part of the project records.
- **Waterproof integrity certificate:** On completion of successful testing confirming waterproofing integrity, submit copy to Bauder.

930 DOCUMENTATION

- **Timing:** Submit at handover.
- **Contents:**
 - Manufacturers' guarantees and warranties.
 - Procedures for maintenance of the green roof.
 - Record drawings showing the location of planting and associated features.
- **Number of copies:** As required by Clients representative.

940 COMPLETION

- **Roof areas:** Clean.
 - **Outlets:** Clear.
 - **Flashings:** Dressed into place.
- **Work necessary to provide a weather tight finish:** Complete.
- **Storage of materials on finished surface:** Not permitted.
- **Completed coatings:** Protect against damage from traffic and adjacent or high level working.

950H GUARANTEE

- A 15 year system 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. The Bauder products must be installed by a Bauder Approved Contractor and the completed roof subject to an electronic waterproofing integrity test by an approved and certified testing company that confirms the roof as issue free and successfully watertight, before the installation of any surfacing. A copy of the testing certification must be forwarded to Bauder Limited for approval prior to the guarantee being issued.

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.