

SPECIFICATION - "BAUDER GREEN ROOF SYSTEM"

H80

CLIENT: ERECT ARCHITECTURE

OUR REF: X1829

**CONTRACT: KILBURN GRANGE PARK
ADVENTURE PLAYGROUND**

DATE: 2/12/09

MAIN ROOF AREA

H80 BIODIVERSITY ROOF

The installer is to provide a 20 year warranty.

THE BAUDER XEROFLOR SEDUM BLANKET SYSTEM INCORPORATING 150MM BAUDER PIR FLATBOARD INSULATION OVER A NEW PLYWOOD DECK.

SITE CONDITIONS:-

The following specification proposal is based on the below-mentioned information provided at design stage:-

New plywood deck
Flatboard Insulation
5° - 19° Slope
Soft Landscaped Finish

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

NEW PLYWOOD DECK BY OTHERS SEE ALSO CLAUSE G20

The new deck to be supplied and installed according to the clients specification. The new 18 mm thick plywood deck should be BBA certified, and conform to BS5268 Part 2:2002 & CPD/CE compliant, fixed directly to either the joists or firings using recommended fasteners. The new deck should be thoroughly examined for any sharp protrusions i.e. screws, nails, staples, etc. All such items should be repaired as required to eliminate the possibility of puncturing the new waterproofing layer. The joints in the plywood should be taped with 200mm wide strips of **Bauder R333**. These can be retained in place with staples, clout nails or by mopping over with hot bitumen. Prime all upstands, edge details etc. thoroughly with fast drying bitumen primer and allow to dry

VAPOUR BARRIER

Bauder VB4-EXPAL, 3.5mm thick aluminium lined, elastomeric bitumen vapour barrier, fully bonded to the deck by torching. Laps to be 100mm. The vapour barrier must be taken up all upstands, perimeter edges, and high enough to form a waterproof layer, and later to form a seal with the underlayer.

IMPORTANT NOTE:

The **Bauder VB4-EXPAL** 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 vapour barrier and the underlayer.

PROVISION FOR MECHANICAL RESTRAINT OF THE WATERPROOFING

Treated timber support battens of the same thickness as the insulation are to be mechanically fixed to the deck using suitable fixings in positions which will correspond with

CLIENT: ERECT ARCHITECTURE**OUR REF: X1829****CONTRACT: KILBURN GRANGE PARK
ADVENTURE PLAYGROUND****DATE: 2/12/09****MAIN ROOF AREA**

the head laps of the capping sheet. The battens are to be encapsulated with a separate vapour barrier flashing bonded to the main vapour barrier. The battens act both as a support for the insulation boards and also as a fixing medium for the capping sheet head laps. These battens must be incorporated in all areas where the roof slope exceeds 5°. It is also very important that the insulation is properly supported by a batten at the base of the slope, unless it is directly supported by a structural retaining kerb. If there is any doubt as to the exact requirements regarding this matter, Bauder should be contacted before proceeding.

VAPOUR BARRIER INSPECTION

The Vapour Barrier must be inspected prior to laying insulation, in particular that it has been dressed up the upstands high enough to form a seal with the underlayer at a later stage. In the event that any upstands are found to be below the required height, remedial work will have to be carried out in accordance with Bauder's instructions prior to the contract proceeding

INSULATED UPSTANDS

Where applicable supply and fix **Bauder insulated upstand supports**, to all upstands. These are to be fixed at 400mm centres using suitable fixings through the vapour barrier, so that the top edge is a minimum of 300mm above the surface of the deck. A 3mm gap should be left between adjacent sections.

Bauder PIR flatboard insulation, 30mm thick is to be applied to all upstands, inserted into the support to provide an insulated upstand height of a minimum 300mm from the surface of the deck. **The detail is to be carried out in accordance with the Bauder detail drawing provided.**

INSULATION

Bauder PIR flatboard, fire resistant, zero ODP, highly efficient rigid urethane insulation, 150mm thick (to achieve 0.16 W/m₂K 'U' Value)* fully bonded to the vapour barrier in hot bitumen 95/25 or Bauder insulation adhesive. The side with the **Bauder** name stamped on must be laid face upwards. The boards are to be close butted and staggered.

**'U' value based upon 18mm plywood deck with no further products beneath.*

'Blacking out' at perimeters

The insulation boards are to have their faces 'blacked out' using 95/25 hot bitumen to a width of 400mm at all upstands and details. This includes all perimeter edges, including rooflights, rainwater outlets, vent pipes, etc.

Where hot bitumen is not available on site, Bauder Sprint Duo should be used. This is to be close butted and laid in accordance with Bauder installation instructions.

Note:-

The inclusion of flat board insulation will not improve upon the existing fall present within the roof area. If ponding water is considered undesirable, then consideration should be given to improving the fall. In the event of any queries **Bauder Ltd** should be contacted.

CLIENT: ERECT ARCHITECTURE**OUR REF: X1829****CONTRACT: KILBURN GRANGE PARK
ADVENTURE PLAYGROUND****DATE: 2/12/09****MAIN ROOF AREA**
-----**UNDERLAYER**

Bauder G4E, 4mm thick, glassfibre reinforced elastomeric bitumen underlayer, partially bonded to the insulation by torching in the approved **Bauder** manner. Head laps to be 100mm, side laps to be 80mm. A 40% bond per m² must be achieved on the main roof area. The underlayer must be fully bonded at all perimeter edges, including rooflights, rainwater outlets, vent pipes, etc. to a width of 400mm. The underlayer must be taken up all upstands, edge details, in accordance with Codes of Practice.

UNDERLAYER INSPECTION

No capping sheet is to be laid before the underlayer has been inspected by **Bauder Ltd.** This is to ensure that any remedial treatment that is necessary can be carried out prior to laying the capping sheet.

ROOT RESISTANT LAYER

Bauder Plant-E, 5mm thick, chemically treated, root resistant capping sheet to be fully bonded to the underlayer by torching. Side laps to be 80mm, head laps to be 100mm, with a minimum bitumen extrusion of 10mm (exposed areas will be subject to Bauder's normal 5/10mm bead of bitumen extrusion).

MECHANICAL RETENTION OF THE WATERPROOFING

Large headed, 40 mm long, galvanised clout nails are to be installed at 200mm centres along all head laps to the capping sheet through to the timber support battens beneath.

INSPECTION

No green roof build up is to be applied until the root resistant capping sheet has been thoroughly inspected by the Independent Surveyor and/or Bauder Ltd. This is to ensure that any remedial treatment that is necessary can be carried out prior to laying the sedum blanket. Failure to ensure the instigation of this inspection will result in the issuing of the insurance backed guarantee being put in jeopardy.

UPSTANDS, EDGE DETAILS, FLASHINGS, ETC.

Detail work to be carried out in **Bauder Plant-E** in accordance with British Codes of Practice. Side laps to be 80mm, head laps to be 100mm. This layer should be dressed up a minimum of 150mm above the level of the finished system, so as to accord with relevant 'Codes of Practice', or as otherwise detailed by Bauder Ltd.

UPSTANDS, EDGE DETAILS, FLASHINGS, ETC

Detail work to be carried out in **Bauder K5K Charcoal Grey** in accordance with current British Codes of Practice. Side laps to be 80mm, head laps to be 100mm. This layer should be dressed up a minimum of 150mm above the level of the finished system, so as to accord with relevant 'Codes of Practice', or as otherwise detailed by Bauder Ltd.

CLIENT: ERECT ARCHITECTURE**OUR REF: X1829****CONTRACT: KILBURN GRANGE PARK
ADVENTURE PLAYGROUND****DATE: 2/12/09****MAIN ROOF AREA**
-----**TECHNICAL NOTES**

- [1] 61mm x 61mm Bauder PIR angle fillets must be used at all right angled abutments. Under no circumstances must fillets of an alternative material be incorporated (i.e. cork, fibre, etc.) as this would invalidate the guarantee.
- [2] In areas that the contractor considers to be a high fire risk, **Bauder TA600** should be installed, either by random nailing with large headed galvanised clout nails at 200mm minimum centres, or by fully bonding in hot bitumen of a suitable grade. **Bauder Limited** must be consulted before taking this action.
- [3] 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 of the same height. This to be suitably mechanically fixed to the roof deck.
- [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 we may assist in overcoming the problem.
- [5] 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. Materials used from the day joint, which are not part of the **Bauder** System must be cut away and removed prior to continuation of the works so that unnecessary build up of laps is avoided.
- [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 independent surveyor 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.

UPSTANDS TO DETAILS

The minimum recommended height for constructing waterproofing details is 150mm from the top of the installed landscaping. 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. We cannot take responsibility for water ingress over waterproofing details insufficiently high.

SPECIFICATION - "BAUDER GREEN ROOF SYSTEM"

H80

CLIENT: ERECT ARCHITECTURE

OUR REF: X1829

CONTRACT: KILBURN GRANGE PARK
ADVENTURE PLAYGROUND

DATE: 2/12/09

MAIN ROOF AREA

FLASHING DETAILS

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

LANDSCAPING

SLIP LAYERS

Bauder P.E. Foil to be rolled out loose in two layers over **capping sheet**. All laps to be 150mm with care being taken to ensure that the P.E. Foil breaks joint between layers. Sufficient foil must be allowed for to enable it to be taken up all upstand and edge details prior to installation of the protection layer.

PROTECTION LAYER

Bauder FSM600 Protection Fleece 6 mm thick, rolled out loose over the **slip layer**. Laps to be 150 mm and sealed by lightly heating the underside of the overlap with a propane detail torch and then pressing the two sides together to seal the lap. Sufficient protection mat must be allowed for so that it may be taken up all upstands, edge details in accordance with **Bauder's** instructions.

WATER STORAGE LAYER

Bauder Reservoir Board, 50/75mm thick to be laid loose over the **protection layer** ensuring that the rebated boards are properly interlocked to provide adequate anchorage prior to the soil being laid. Part boards can be held in place with industrial tape, prior to installing the growing medium. In the event of any confusion concerning this item, Bauder Ltd should be contacted so that advice may be given.

VEGETATION/DRAINAGE BARRIER

All perimeters, rooflights, vents, outlets etc. must be protected by a vegetation barrier, approximately 300mm wide. The vegetation/drainage barrier is to be separated from the soil by the **Bauder** filter fleece. Care should be taken so as to ensure that enough filter fleece is left exposed above the finished level to allow for any settlement of the soil. Any excess may subsequently be trimmed off.

GROWING MEDIUM

Locally sourced substrate as specified below is to be installed directly over the **reservoir board** to a depth of **100mm**. Allowance should be made for any settlement that may occur. Wooden blocks/edgebeams as shown on drawings be positioned around the roof area to ensure that a minimum acceptable thickness is maintained.

Substrate specification:

Substrate consisting of **local aggregate**, recycled **build materials** brick, mineral, organic

SPECIFICATION - "BAUDER GREEN ROOF SYSTEM"

H80

CLIENT: ERECT ARCHITECTURE

OUR REF: X1829

CONTRACT: KILBURN GRANGE PARK
ADVENTURE PLAYGROUND

DATE: 2/12/09

MAIN ROOF AREA

and inorganic components sourced to BHC specification (75mm consolidated depth). Materials screened to ensure no metal or sharps content. Particle size in the range 0 – 1050mm. Substrate applied as all in mix and locally as particle size ranges.

The total growing medium build-up is hence
75mm reservoir board with crushed brick at 1200kg/m, locally sourced
100mm growing medium (top soil), locally sourced (includes 20-30mm locally sourced compost, see below).

TIMBER TRELLIS TO ALL ROOF SLOPES ABOVE 15 DEGREES

A softwood timber trellis is to be installed to Bauder specification above the reservoir board.

The softwood is to be treated and suitable for external conditions (all to Bauder spec).

Important Note:

Depending on size and access of the project the 'substrate' can be supplied by various methods i.e. Tipper, Silo lorry (pumping directly onto the roof area), Big bags, or sacks. Prior to costing this element of the installation the 'Approved Contractor' must contact Bauder Ltd so that they may advise on the best solution on any specific contract.

TOP DRESSING (PREPARATION FOR WILDFLOWER SEEDING)

Apply to a depth of 20-30mm over the laid substrate as a top dressing in preparation for seeding. Gently firm and rake level, eliminating any hollows.

Depending on size and access of the project the 'seed bed substrate' can be supplied by various methods i.e. Tipper, Silo lorry (pumping directly onto the roof area), Big bags, or sacks. Prior to costing this element of the installation the 'Approved Contractor' must contact Bauder Ltd so that they may advise on the best solution on any specific contract.

EROSION MAT (IF APPLICABLE)

Jute/Hemp type soil erosion net is to be rolled out over the Extensive substrate, laps to be a nominal 50mm. Provision should be made to hold the laps together by threading strong twine into the laps. The erosion net is to be dressed down onto the reservoir boards into the nick of the upstand, prior to being held in place by the installation of the pebble vegetation barrier.

WILDFLOWER PLANTING (BY OTHERS)

1. Immediately prior to planting, the whole system must be thoroughly watered to ensure that the substrate is saturated, reservoir board filled, and protection fleece saturated.
2. A top dressing of local recycled vegetation compost is to be spread thinly over the extensive substrate to a depth of 20-30mm (included in 100mm topsoil).
3. A local wildflower and grass seed mix is to be applied to grower's recommendations at a density of 0-5g per sqm.

SPECIFICATION - "BAUDER GREEN ROOF SYSTEM"

H80

CLIENT: ERECT ARCHITECTURE

OUR REF: X1829

CONTRACT: KILBURN GRANGE PARK
ADVENTURE PLAYGROUND

DATE: 2/12/09

MAIN ROOF AREA

4. Planting: late March.

WORKMANSHIP

- [1] The **Bauder** System can *only* be laid by properly certified operatives, who have been trained by **Bauder Ltd** or approved by **Bauder Ltd** and hold the certificate of approval.
- [2] The **Bauder** System must be laid with the use of roll bars, as provided by **Bauder Ltd** or equal and approved.
- [3] Workmanship that is incorrect and not to Codes of Practice B.S. 8217:1994, 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 that is the responsibility of the roofing contractor and has a bearing on the life of the **Bauder Green 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.

Important Note

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

SPECIAL NOTE:

The contractor is to notify the Bauder Area Technical Manager of the time and place of the pre-contract meeting as soon as this is known, in order to give him the opportunity to attend.

For further information contact Bauder Limited.

Head office: T: 01473 257671

E: technical@bauder.co.uk

Area Technical Manager: Mike Jones, Tele: 07885 291982