

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.

Please note, there could be 'TORCH-FREE' areas within the roof area(s), however, we have not been able to identify these areas to date. Once we have visited site, we will be able to provide a 'TORCH-FREE' roof plan should 'torch-free' details be identified.

SCOPE OF WORKS**This section includes:**

- The Bauder waterproofing system.
- Related Bauder system accessories
- Internal rainwater outlets (but not the connected drainage/plumbing goods)

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.
- Green Roof landscaping – refer section Q37

J41 REINFORCED BITUMEN MEMBRANE ROOF COVERINGS

To be read with Preliminaries/ General Conditions.

TYPES OF COVERING

130A BUILT-UP REINFORCED BITUMEN MEMBRANE COLD DECK ROOF COVERING

- **Roof area:** Garage Roof
 - **Substrate:** New Plywood deck (designed and constructed to provide a minimum finished slope of (1°) 1:60
 - **Preparation:** As clause 610A.
 - **Primer type and application:** Bauder Multi-Purpose Primer or Bauder SA Bonding Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause 660B.
 - **Waterproof covering:** BAUDER TOTAL GREEN ROOF 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
Site contact details - Site Technician: Jim Marshall, Tel: 07545 642305
Technical Contact Details - Area Technical Manager: Catherine Scott, Tel: 07880 315835
 - **Underlayer:** BauderTEC KSA DUO, 3 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.
Attachment: As clauses 710, 747A.
 - **Top layer / Cap sheet:** Bauder Plant-E, 5 mm thick, 250g/m² polyester reinforced, elastomeric bitumen root resistant, torch applied capping sheet, green slate finish.
Attachment: As clauses 710, 750B.
 - **Flashings and detail work:** Bauder K5K capping sheet, charcoal grey finish. Install as clauses 773, 775A & 777.
 - **Surface protection:** N/A
 - **Surfacing:** Extensive green roof landscaping - refer Section Q37-130
 - **Accessories:** -
 - **Bauder Bituminous Parapet Outlets**, 100 mm nominal bore, complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. These should be installed together with the associated Bauder uPVC connection pipe and flexible vapour barrier sealing (where the latter item is required). Installation as clause 784E.
 - **Bauder GRP edge trim** to all perimeter kerbs – **Profile type:**_____ **Colour:**_____ . Installation, as clause 785.
 - **Additional Requirements:** 210, 230, 515, 520, 560, 561, 562, 910, 940.
 - External rainwater goods (supplied and installed by others). Refer to Section R10 and the client's requirements.
- Guarantee information:** Refer clause 950A.

130B BUILT-UP REINFORCED BITUMEN MEMBRANE COLD DECK ROOF COVERING

- **Roof area:** Valley Gutters/Link Roof
- **Substrate:** New Plywood deck (designed and constructed to provide a minimum finished slope of (1°) 1:60
 - **Preparation:** As clause 610A.
- **Primer type and application:** Bauder Multi-Purpose Primer or Bauder SA Bonding Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause 660B.
- **Waterproof covering:** SYSTEM AIRTECH
 - **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

Site contact details - Site Technician: Jim Marshall, Tel: 07545 642305

Technical Contact Details - Area Technical Manager: Catherine Scott, Tel: 07880 315835

- **Underlayer:** BauderTEC KSA DUO, 3 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.
Attachment: As clauses 710, 747A.
 - **Primer:** Bauder Multi-Purpose Primer applied to the underlayer and all upstands and skirtings. For application method and guidance information, refer clause 660B.
 - **Top layer / Cap sheet:** BauderTEC KSO SN, 4 mm thick, 200g/m² polyester reinforced, elastomeric bitumen self-adhesive applied capping sheet, Natural slate finish.
Attachment: As clauses 710, 750C.
 - **Flashings and detail work:** Bauder KSO SN capping sheet, Natural slate finish. Install as clauses 773, 775A & 777.
 - **Surface protection:** N/A
 - **Surfacing:** N/A
 - **Accessories:** -
 - **Bauder Bituminous Parapet Outlets**, 100 mm nominal bore, complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. These should be installed together with the associated Bauder uPVC connection pipe and flexible vapour barrier sealing (where the latter item is required). Installation as clause 784E.
 - **Bauder GRP edge trim** to all perimeter kerbs – Profile type:_____ Colour:_____.
Installation, as clause 785.
 - **Additional Requirements:** 210, 230, 515, 520, 560, 561, 562, 910, 940.
 - External rainwater goods (supplied and installed by others). Refer to Section R10 and the client's requirements.
- Guarantee information:** Refer clause 950A.

PERFORMANCE

210 ROOF PERFORMANCE

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

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-authorized 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

610A SUITABILITY OF SUBSTRATES (PLYWOOD)

- **Substrates generally:** Secure, clean, dry, smooth, and free from frost, contaminants, voids and protrusions. The new exterior grade plywood deck, minimum 18mm thickness as specified by client, should be BBA certified, conforming to BS EN 636-3 & CPD/CE compliance, fixed directly to either the joists or firings using non-corroding ring shank nails or recommended screw fasteners.
- **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 (e.g. when using tapered insulation to provide falls).
- **Preliminary work:** Complete including:
 - Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
 - Fixing of battens, fillets and anchoring plugs/strips.
- **Moisture content and stability of substrate:** Must not impair roof integrity.
- **Preparation:** All such items to be rectified as necessary to eliminate the possibility of puncturing the new waterproofing system.
- **Taping of board joints:** Tape centrally over board joints with 200mm wide strips of Bauder R333 taping strip. These can be retained temporarily in place with clout nails, prior to the self-adhesive vapour barrier being laid.

660B 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. 80 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:** Bauder SA Bonding 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:** Apply by brush or roller to provide even and full coverage. Avoid pooling.
- **Application rate:**
 - Timber/Metal: Approx. 200 g/m²
 - Concrete / brickwork: Approx. 200-300 g/m² depending upon roughness and porosity.
 - Two coats may be required for very porous substrates.
- **Application temperature:** 5-25°C
- **Drying time:** Approx.30 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.

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.

747A SELF-ADHESIVE BONDING OF REINFORCED BITUMEN UNDERLAYER

- **Bond:** Full over whole surface, with no air pockets.
- **Underlayer:** Cold applied and fully bonded by removing the peel off release film. The side laps are to be 100mm and must be **laid red over blue**, and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) and rolling with the **Bauder Long Handled Lap Roller** to extrude a continuous bead of bitumen. Head laps to be 100mm and staggered, side laps to be 80mm and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) to extrude a continuous bead of bitumen. The underlayer must be taken up all upstands, edge details, in accordance with current British Codes of Practice and Bauder's recommendations, and fully heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) with the vapour barrier by a minimum 100mm.
- **Alternative underlayer for detail work:** For detailing to un-insulated abutment upstands, where the waterproofing is to be applied to rough or uneven non-combustible surfaces i.e. brickwork or concrete, it is permissible for the installing contractor to use 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.

- **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.

750B LAYING 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:** No landscaping is to be applied until the root resistant capping sheet has been thoroughly inspected by the Bauder Site Technician. This is to ensure that any remedial treatment that is necessary can be carried out prior to laying the landscaping elements. Failure to ensure the instigation of this inspection will result in the issuing of the Bauder guarantee being put in jeopardy.

750C LAYING REINFORCED BITUMEN SELF-ADHESIVE CAPPING SHEET

- **Bond:** Full over whole surface, with no air pockets.
Please note that Bauder Multi-Purpose Primer must be applied to the underlayer prior to installation of the self-adhesive capping sheet.
- **Excess compound at laps of top layer/ capping sheet:** Leave as a continuous bitumen bead extrusion.
- **Laying top layer:** Cold applied and fully bonded to the underlayer by hot air welding 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.
- **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 permissible to use a Torch Applied underlayer, so long as the product is a recognised component of the system specified.

Acceptable alternative underlayers are listed below:

- **BTRS: BauderTEC KSA Duo** to be replaced with **Bauder G4E**
- **BauderFlex: BauderTEC Sprint Duo** to be replaced with **Bauder EGV3.5**
- **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 permissible to use self-adhesive capping sheet for flashings and detailing work when installing **Bauder XF301 Sedum Blanket** or Hard landscaping finishes.
- **Approved Hot Air Equipment**
The **Bauder KSO-P SN / KSO SN** membrane must be applied using the approved hot air hand tools. The list of permissible hot air electrical equipment suppliers for installing Bauder waterproofing membranes are stated below. These are available either for purchase or hire from the below companies:

HOT AIR WELDING EQUIPMENT

LEISTER

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

SIEVERT

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

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.

785 FIXING PERIMETER TRIMS

- **First / Intermediate layers bitumen membrane:** Lay over roof edge upstand. Project free edge 25 mm from wall or fascia.
- **Trim:**
 - **Setting out:** 3 mm (minimum) clear from walls, fascia and abutting lengths of trim.
 - **Fasteners:** Screw fasteners of type appropriate to kerb or deck substrate. Nail fixing is not permitted.
 - **Fixing:** 30 mm from ends and at 300 mm (maximum) centres.
 - 150mm deep trims – 3no. additional fixings per length of trim. The fixings are to be face fixed with screws and positioned 75mm down from the top edge, one fixing 100mm in from each end and one in the centre and capped with coloured matched plastic weathering caps.
 - **Jointing sleeves / bridging piece:** must be provided to each joint. Please refer to Bauder standard detail drawings.
 - **Corner pieces:** Purpose made.
- **Completion:**
 - **Contact surfaces:** Prime with Bauder Quick Drying bitumen primer.
 - **Joints:** Cover with 150 mm long pads of bitumen membrane, bonded to trim.
- **Completion of bitumen membrane:**
 - **Top layer/ Capping sheet:** Butt joint to rear edge of trim.
 - **Cover strip:** Fully bond to trim and top layer/ capping sheet of bitumen membrane. Carry over roof edge upstand and lap 100 mm onto roof. The capping sheet is to be dressed tightly into the top lip of the trim, ensuring a bead of bitumen extrudes at the edge.
- **Wall / kerb joints:** The new trim must cover any open joint that may exist at the top of the kerb or wall, by a minimum distance of 20mm.

SURFACING

Extensive green roof landscaping - refer Section Q37-130

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.
- **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.
- **Site contact details - Site Technician:** Jim Marshall, Tel: 07545 642305
- **Technical Contact Details - Area Technical Manager:** Catherine Scott, Tel: 07880 315835

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.

950A GUARANTEE

- A 20 year system product, workmanship and design (including consequential loss) 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. The system comprises the waterproofing membranes, insulation, vapour control layer, and attachment of these products.

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.