

Royal College Street - MS

01 June 2012

Table of Contents

Title		Page
J42	Single layer polymeric sheet roof coverings	3
Q37	Green roofs	9

J42 Single layer polymeric sheet roof coverings

To be read with Preliminaries/ General conditions.

TYPES OF ROOF COVERING

110A WARM DECK ROOF COVERING New Build

Note: The proposed new build must be checked for compliance with the current Part L of the Building Regulations, Approved Documents:

- Conservation of fuel and power in new dwellings (ADL1A)
- Conservation of fuel and power in new buildings other than dwellings (ADL2A)
- Substrate: Plywood
 - Preparation: as clause 610
- Roof covering: Alwitra, Product of ICB (International Construction Bureau) Ltd.
 - ICB (International Construction Bureau) Ltd.
 - Unit 9-11 Fleets Industrial Estate, Willis Way, Poole, BH15 3SU
 - Tel: 01202 785200
 - Contact: Mick Smith 07977 905677
 - Web: www.icb.uk.com.
- Lower protection layer (loose laid): Not required.
- Vapour control layer: Self Adhesive as clause 395.
 - Laying as clause 675
- Insulation: Rigid PIR Foam roofboard as clause 420.
 - Attachment: Fully Bonded as clause 680
- Separating layer (loose laid): Not required.
- Waterproof membrane: Alwitra Evalon® VSK .
 - Thickness: 1.2 mm (without backing & self adhesive coating) .
 - Width: 1.05m .
 - Roll length: 15 m .
 - Colour: Slate Grey .
 - Attachment: Fully Bonded as clause 720A and 730
- Upper protective layer (loose laid): Protection fleece as clause Q37/130A
- Surface protection: as clause Q37/130A
- Accessories: ICB Primer VSK as clause 320
 - Rainwater Outlets as clause 471
 - Rooflights as clause 489
 - WF Profile as clause 768
 - ICB Solar Fixing System for Chrystaline panels as clause 793 .

PERFORMANCE

210 ROOF PERFORMANCE

- Roof covering: Secure, free draining and weathertight.

PRODUCTS

310 ANCILLIARY PRODUCTS AND ACCESSORIES

- Types: Recommended by waterproof membrane manufacturer.

320 PRIMER ICB

- Type: Primer for self-adhesive membrane.
- Manufacturer: ICB (International Construction Bureau) Ltd
 - Web: www.icb.uk.com .
 - Product reference: ICB Primer VSK.

345A PERIMETER TRIMS AND FLASHINGS

- Manufacturer: Alwitra, Product of ICB (International Construction Bureau) Ltd.
 - Web: www.icb.uk.com.
 - Email: info@icb.uk.com.
 - Product reference: Trims and flashings
- Type: WF Profile.

395 VAPOUR CONTROL LAYER

- Type: Self Adhesive Bituminous membrane .
- Manufacturer: Product of I.C.B (International Construction Bureau) Ltd.
 - Product reference: Contractor's choice.
- Thickness: EvaVap.
- Vapour resistance: 11,800 MN s/g.

400 WATERPROOF MEMBRANE

- Type: EVA modified PVC.
- Manufacturer: Alwitra, Product of ICB (International Construction Bureau) Ltd.
 - Web: www.icb.uk.com.
 - Email: info@icb.uk.com.
 - Product reference: Alwitra Evalon® VSK.
- Width: 1.05m.
- Thickness: 1.2mm.
- Colour: Slate Grey.
- Guarantee: 10 years as standard.

420A RIGID URETHANE FOAM WARM DECK ROOF INSULATION

- Standard: Rigid polyisocyanurate foam (PIR) roofboard to BS EN 13165.
- Manufacturer: Product of I.C.B (International Construction Bureau) Ltd.
 - Product reference: EvaTherm A.
- Grade: 120 kPa.
- Edges: Square.
- Thickness: TBA.
- Facing: Glass tissue.

471 RAINWATER OUTLETS

- Manufacturer: Alwitra® Roofing Systems
- Ref: Universal Outlet with Vertical/Horizontal Spigot and Top Element
- Diameter: 100mm
- Outlet Body made of low density polyethylene, complete with clamping ring. Dress ICB Ltd Preformed Evalon® Membrane flange into position and assemble welded to main field membrane.
- Spigot size 100mm, for connection to rainwater pipes.
- Top Element Extension Piece and grating to be incorporated, and all to be sealed to both Vapour Check and main membrane

489 ROOFLIGHTS

Allow to weld membrane from flange to main field sheet.

Manufacturer: ICB (International Construction Bureau) Ltd

Type: XL Rooflight

Reference: To be advised

Upstand Colour: White

Canopy Type: Dome / Pyramid

Size: _____ x _____mm.

Upstand Height: to be advised

Canopy: Double/Triple Glazed Polycarbonate/acrylic - TBA

EXECUTION GENERALLY

510 ADVERSE WEATHER

- General: Do not lay membrane at temperatures below 5°C or in wet or damp conditions unless effective temporary cover is provided over working area.
- Unfinished areas of roof: Keep dry and 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.

530A APPLYING PRIMERS

- Surface coverage: Even and full.
- Coats: Fully bonded. Allow volatiles to dry off thoroughly between coats.

SUBSTRATES/ VAPOUR CONTROL LAYERS/ WARM DECK ROOF INSULATION

610 SUITABILITY OF SUBSTRATES

- Surfaces to be covered: Secure, clean, dry, smooth, free from frost, contaminants, voids and protrusions.
- Preliminary work: Complete, including
 - Grading to correct falls.
 - 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 integrity of roof.

675 BITUMEN VAPOUR CONTROL LAYER SINGLE SIDED SELF ADHESIVE

- Sweep all areas of roof to remove any debris, all moisture needs to be dried. Remove anything which may impair adhesion. Remove any nibs or protrusions which may puncture the VCL.
- Apply cut back bitumen primer to roof substrate. Wait for primer to dry.
- VCL is to be laid without wrinkles, do not stretch. Lay over roof area, cut to size. (Remembering to go up the upstand to the height of the insulation.) Peel underside protective paper whilst applying pressure to the VCL with a soft broom or rag.

680 LAYING WARM DECK ROOF INSULATION

- Setting out:
 - Long edges: Fully supported and running at right angles to structure.
 - End edges: Adequately supported.
 - Joints: Butted together.
 - End joints: Staggered.
- Attachment: Adhesive.
- Mechanical fixing: Not required.
- Completion: Boards must be in good condition, well fitting and secure.

WATERPROOF MEMBRANES/ ACCESSORIES

713 NON-HAZARDOUS & SUSTAINABLE

- **INSTALLATION**
 - The waterproofing will be fully adhered to avoid penetrations caused by mechanical fixings.
 - All laps and taped joints will be heat welded. Solvents are not to be used.
- **PRIMER**
 - The primer used will be water based, alwitra SK, or equivalent.
- **ADHESIVE**
 - No adhesives containing solvent or other hazardous materials which attract a UN number shall be used. Adhesives should be avoided generally to avoid environmental waste - problems with left over material and used empty containers.
- **THE MEMBRANE**
 - The membrane shall be of the self adhesive type to avoid the above adhesive restrictions.
 - The membrane shall not contain volatile plasticisers. PVCp membranes are not to be used.
- This specification relates to the use of ICB's EVA range of membranes, specifically alwitra Evalon VSK, or equivalent.

719 ALWITRA EVALON® VSK (VET TYPE) POLYMERIC SELF ADHESIVE MEMBRANE AS THE MAIN FIELD SHEET AND EVALON® FOR ALL DETAIL WORK

- VET Terpolymer type single Ply Membrane.
- British Agrément Certificate No. 96/3293
- Factory Mutual Approval for the system No. 1D6A2.AM Class 4470
- Dated 28-8-98
- EMMAQUA Natural Accelerated Outdoor Weathering Test Carried out successfully.
- Fully bitumen compatible
- Fully tested to meet and exceed all current European Design and Performance Standards.
- Thickness: 1.2mm + adhesive (0.8mm)
- Weight: 1.5kg/sqm
- Elongation: 15 %
- Tensile strength: 700N/50mm

720A SELF ADHESIVE BONDING OF WATERPROOF MEMBRANE

- Setting out: As drawing.
- Attachment: Self adhesive, fully bonded.
 - Do not wrinkle or stretch.
- Surface condition at completion: Fully sealed, smooth, weatherproof and free draining.

730 WELDED JOINTING OF WATERPROOF MEMBRANE

- Side and end joints:
 - Laps (minimum): 40 mm.
 - Preparation: Clean and dry surfaces beyond full width of joint.
 - Sealing: Weld together.
- Seam sealant: Not required.
- Condition at completion: Fully sealed, smooth, weatherproof and free draining.

768 PERIMETER UPSTAND DETAILS

- 'WF' upstand termination profile to be formed from 0.6 mm galvanised steel sheet laminated/coated with membrane material.
- Secure profile to structure with fasteners recommended by membrane manufacturer at max. 300mm C/cs.
- Dress membrane onto profile to overlap fasteners by a minimum of 50 mm and weld materials together.

793 ICB SOLAR FIXING SYSTEM

- Manufacturer: ICB (International Construction Bureau) Ltd.
- Ref: ICB Solar Fixing System.
- Parts of the fixing system: EVA Profile/Aluminium Insert/Self tapping stainless steel or inox screw with a seal ring/Aluminium support structure.
- EVA profile:
 - Length: 3 metres
 - Base: 80mm
 - Thickness: 3mm
 - Height: 30mm
 - Width: 30mm
- Aluminium insert: aluminium quality EN6060 T6 – AlMgSi 0,5 F22.
 - Length: 3 metres
 - Thickness: 2mm
 - Height: 25mm
 - Width: 20mm
- Fixing: Self tapping stainless steel/inox screw with a seal ring.
 - Diameter: 6mm
 - Length: 25mm
 - Stainless steel: A2 SW8
- Standard colour: White.

COMPLETION

910 INSPECTION

- Interim and final roof inspections: Submit reports.

920 ELECTRONIC ROOF INTEGRITY TEST

- Testing authority: The roofing contractor.
- Timing of test: Prior to, and on completion of access by other trades.
- Condition of roof prior to testing:
 - Waterproof membrane complete to a stage where integrity can be tested.
 - Surface: Clean.
- Test results and warranty: Submit on completion of testing.

940 COMPLETION

- Roof areas: Clean.
 - Outlets: Clear.
- Work necessary to provide a weathertight finish: Complete.
- Storage of materials on finished surface: Not permitted.
- Completed membrane: Do not damage. Protect from traffic and adjacent or high level working.

942 SITE VISITS

A visual inspection can be carried out by an ICB Quality Control Engineer to ensure compliance with the Specification and the Manufacturer's recommendations. Once ICB is satisfied that all works have been carried out correctly and all terms and conditions have been complied with, a warranty can be applied for.

943 WARRANTY

On satisfactory completion of the contract, the following Warranty options are available:
10, 15 or 20 year Product Warranty for the roof covering, available upon application to ICB (International Construction Bureau) Ltd.

10, 15 or 20 year Insurance backed Warranty available upon application to QA National Warranties, 3rd Floor, 37 Carrick Street, Ayr, KA7 1NS Tel: 01292 268020

Q37 Green roofs

To be read with Preliminaries/General conditions

GENERAL

SURFACE OVER WATERPROOF LAYER SEDUM AREA

- 130 EXTENSIVE GREEN ROOF Diadem - Product of ICB (International Construction Bureau) Ltd
- Roof type: Warm.
 - Substrate: Plywood.
 - Slope: As drawing.
 - Waterproofing: Single layer polymeric sheet as section J42.
 - Thermal insulation: as section J42.
 - Protection: Protection fleece as clause 330.
 - Moisture control layers: Drainage Layer as clause 350.
 - Growing medium: Extensive growing medium as clause 390.
 - Depth: to be advised.
 - Vegetation: Seeding as clause 400.
 - Accessories: Filter fleece as clause 360
 - Gravel Stop as clause 426
 - Inspection chamber as clause 430
 - Border as clause 459 .

PERFORMANCE

- 210 GENERAL DESIGN
- Green roof and associated features: Complete the detailed design.
 - Proposals: Submit drawings, technical information, calculations and manufacturers' literature.
 - Performance criteria: as per drawing .
- 250 CHARACTERISTIC ROOF LOADS
- Roof structure:
 - Allowance for additional loads during construction: To be advised
 - Requirement: Restrict site activities to ensure that design loads are not exceeded, or submit proposals for temporary supports.

PRODUCTS

- 320 ROOT BARRIER See waterproof membrane J42 clause 110A
- Manufacturer: Alwitra - Product of ICB (International Construction Bureau) Ltd .
 - Product reference: Evalon VSK as J42/110A .
 - Material: EVA modified PVC as J42/110A .
 - Thickness: 1.2mm .
- 330A PROTECTION LAYER
- Manufacturer: Diadem, Product of ICB (International Construction Bureau) Ltd.
 - Web: www.icb.uk.com.
 - Email: info@icb.uk.com.
 - Product reference: VLU-300 Protective Fleece

- 350A DRAINAGE LAYER
- Manufacturer: Diadem, Product of ICB (International Construction Bureau) Ltd.
 - Web: www.icb.uk.com.
 - Email: info@icb.uk.com.
 - Product reference: Diadrain-25 Drainage and Reservoir Board
- 360A FILTER MEMBRANE
- Manufacturer: Diadem, Product of ICB (International Construction Bureau) Ltd.
 - Web: www.icb.uk.com.
 - Email: info@icb.uk.com.
 - Product reference: VLF-150 Filter Fleece
- 390 EXTENSIVE GROWING MEDIUM Sky Gardens
- Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice.
 - Material: As drawing.
 - Ameliorant/ conditioner: As drawing.
 - Coverage: As drawing .
 - Declaration of analysis: Submit.
 - Parameters: Water capacity.
- 400 VEGETATION BLANKET To Extensive roof
- Manufacturer: Contractor's choice .
 - Product reference: Contractor's choice .
 - Planting mix: To be advised .
 - Thickness: Submit proposals .
 - Vegetation coverage (minimum): 75%.
- 426 GRAVEL STOP
- Manufacturer: ICB Ltd
 - Reference: Aluminium Gravel Stop profile
 - Size: 65 or 90mm
- 430C INSPECTION CHAMBERS
- Manufacturer: Diadem, Product of ICB (International Construction Bureau) Ltd.
 - Web: www.icb.uk.com.
 - Tel: +44 (0)1202 785200.
 - Product reference: KSE Inspection Box
 - Depth: to be advised.
 - Thermal insulation: to be advised.
 - Extension element: to be advised.
- 459 BORDERS
- Type: Riverstone Pebbles
 - Supplier: To be advised
 - Size: To be advised
 - Colour: To be advised
 - Laying: 500mm borders around perimeters and outlets.

EXECUTION

710 INSTALLATION GENERALLY

- Preparation: Clear all surfaces of debris.
 - Timing: After certification of waterproof membrane integrity.
 - Surface condition: Visually inspect waterproof membrane, report any damage.
- Faults in waterproof membrane: Report.
- Contamination: Do not use materials detrimental to healthy plant growth.
- Storage: Do not overload.
 - Point loads: Avoid.
- Outlets: Do not block.
 - Outlet grilles: Installed.

720 ADVERSE WEATHER

- Unfinished work: Secure from damage and wind uplift.
- Conditions: Do not install or work with frozen materials.

750 PROTECTION LAYER INSTALLATION

- Joints: Minimize.
 - Overlaps (minimum): Manufacturer's recommendation .
- Upstands: Extend to top of growing medium.

770 DRAINAGE LAYER INSTALLATION

- Extent: Continuous over entire roof area.
- Fitting: Manufacturer's recommendation .
- Upstands: Fit closely around penetrations and outlets.

780 FILTER MEMBRANE INSTALLATION

- Joints: Minimize.
 - Overlaps (minimum): Manufacturer's recommendation .
- Fitting: Manufacturer's recommendation .
- Upstands: Extend to top of growing medium.

790A GROWING MEDIUM INSTALLATION

- Handling: Minimize.
 - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
- Layers:
 - Depth (aprox.): To be advised.
 - Sequence: Gently firm each layer before spreading the next.

800 VEGETATION BLANKET INSTALLATION

- Handling blankets:
 - Timing: Lay within 36 hours of lifting from growing position.
 - Excessive stacking: Not permitted.
 - Material loss (maximum): 3% of total surface area.
- Growing medium condition: Thoroughly watered.
- Laying blankets:
 - Dry, damaged, frosty or waterlogged blankets: Do not lay.
 - Orientation: Diagonal or perpendicular to slope of roof.
 - Joints: Stagger. Butt together or slightly overlap to prevent gaps. Do not stretch blankets.
 - Edges: Finish with whole blankets.
 - Consolidation: Firm as laying proceeds to ensure full contact with the growing medium. Do not use rollers.
- Dressing: As drawing .
 - Application: Brush in to fill joints.
- Watering: Thorough, immediately after laying and dressing.

820 EDGE RETAINING PROFILE INSTALLATION

- Cutting: Neat, accurate and without spalling.
 - Junctions: vertical, secured using proprietary connectors.
- Position: True to line and level. Smooth continuous lines.
- Fixing: Manufacturer's standard .

830 INSPECTION CHAMBER INSTALLATION

- Location: Install centrally over drain outlet.
 - Orientation: Align parallel with adjacent features.
- Bedding: Drainage layer .
- Backfill: Granular material .
- Surround: Growing medium .

COMPLETION

910A INSPECTION

- Timing: Before handover.
 - Give notice (minimum): 1 week.

920 COMPLETION

- General: Leave the works in a clean, tidy condition.
- Surfaces: Clean immediately before handover.
- Outlets: Clean and clear of obstructions.
- Completed green roof: Protect from adjacent or high level working.

930 DOCUMENTATION

- Timing: Submit at handover.
- Contents:
 - Growing medium declaration of analysis.
 - 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 many as required .

943 WARRANTY

- On satisfactory completion of the contract, the following Warranty options are available:
 - 10, 15 or 20 year Product Warranty for the roof covering, available upon application to ICB (International Construction Bureau) Ltd.