

**PROPOSED PROJECT SPECIFICATION  
FOR  
CHESWICK GREEN PRIMARY SCHOOL, SOLIHULL  
PREPARED BY KEVIN SMITH  
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**WATERPROOFING**



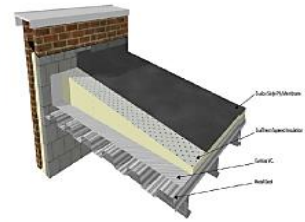
**SINGLE PLY  
MEMBRANES**



**LIQUID APPLIED  
WATERPROOFING**



**BUR**



**INSULATION &  
VAPOUR BARRIER**



**GREEN ROOFS**



**SOLAR PV**



**BESPOKE  
FABRICATIONS**



**ROOF SAFETY**

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To be read with Preliminaries / General Conditions:

TYPES OF ROOF COVERING:

110 WARM DECK ROOF COVERING: [Refurbishment]

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

- Conservation of fuel and power in existing dwellings (ADL1B)
  - Conservation of fuel and power in existing buildings other than dwellings (ADL2B)
- Or Section 6 (energy) of the Technical Handbooks in Scotland

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Substrate: [Plywood, Concrete & Metal]- To be confirmed

- Preparation: [As clause 610]

Air and Vapour control layer: [as clause 395A]

- Attachment: [Self-adhered as clause 675]

Insulation: [Evatherm A as clause 420]

- Attachment: [Adhered]

- Tapered: [Yes]

Overlay to insulation: [Not required]

Waterproof coating: [Evalon V / Evalon VSK]

- Attachment: [Fully bonded]

- System manufacturer: [alwitra© Product of ICB (Waterproofing) Ltd.]

- Product reference: Evalon V / Evalon VSK

Thickness: 1.2 mm + 1.00 mm fleece backing + self-adhesive backing

Width: 1050 mm /1550\* mm /2050\* mm (\*Evalon V only)

Colour: Slate Grey

Accessories:

- Alwitra Standard as clause 470
- PVC Chute as clause 474
- Rooflights as clause 489
- Eva-Metal Drip as clause 766
- WF Profile as clause 768
- FPA Profile as clause 769
- Pipe And/Or Duct Penetrations as clause 780

**PERFORMANCE:**

- 210 ROOF PERFORMANCE:  
Roof covering: Secure, free draining and weathertight.
- 220 AVOIDANCE OF INTERSTITIAL CONDENSATION IN WARM AND INVERTED ROOFS:  
Interstitial condensation risk of roof construction: Assess as recommended in BS 6229.  
Basic design data:  
- Outdoor notional psychrometric conditions, winter:  
Temperature: -5°C.  
Relative humidity: 90%.  
Vapour pressure: 0.36 kPa.  
Duration: 60 days.  
- Outdoor notional psychrometric conditions, summer:  
Temperature: 18°C.  
Relative humidity: 65%.  
Vapour pressure: 1.34 kPa.  
Duration: 60 days.  
- Indoor notional psychrometric conditions:  
Variable dependant on building use  
Winter interstitial condensate (warm roof):  
The design should preferably avoid the formation of interstitial condensation; however, a small amount of temporary condensation may be acceptable, providing that this is not detrimental to the construction materials. Any condensate which does occur should be shown by calculation to dry out during the course of the year so as to avoid year-on-year accumulation.  
Air & Vapour Control Layer: Provide a suitable membrane so that damage and nuisance from interstitial condensation do not occur.
- 230 THERMAL PERFORMANCE:  
Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:  
- Thermal transmittance of roof (maximum): [To be advised].  
- Compressive strength of insulation (minimum) at 10% compression: [150 kPa].  
- Substrate surface: Suitably even, stable and robust to receive roof coatings.  
- Insulation compliance: To a relevant European Standard, or Agrément certified.
- 240 FIRE PERFORMANCE:  
Classification: B<sub>ROOF</sub>(t4)  
Refer to Agrément certificate or ICB (Waterproofing) Ltd. fire test reports for tested build up details.  
BS EN 13501-1 Euroclass: Class E
- 250 VERTICAL APPLICATION:  
Evalon V and VSK can be applied to vertical surfaces, all vertical applications must be fitted with peel stops or mechanical restraint at the required intervals. The designer, client, or contractor must seek approval for the use of Evalon V or Evalon VSK in a vertical or wall application, from the relevant Building Control Authority / Inspector prior to instructing the installation.

**PRODUCTS:**

- 320A PRIMER : [AVCL]  
Type: [Synthetic rubber solvent based primer]  
Manufacturer: [Product of ICB (Waterproofing) Ltd.]  
- Product reference: [EvaPrime SA Primer]
- 320D PRIMER : [Self-Adhered Single Ply Membrane]  
Type: [Synthetic rubber solvent based primer]  
Manufacturer: [Alwitra Product of ICB (Waterproofing) Ltd.]  
- Product reference: [SK-L]
- 325 ADHESIVE : [Single Ply Membrane Adhesive]  
Type: [As recommended by membrane supplier].  
Manufacturer: [Product of ICB (Waterproofing) Ltd.].
- 345 PERIMETER TRIMS:  
Type: [Eva-Metal Drip, WF Profile & FPA Profile].  
Manufacturer: [Product/s of ICB (Waterproofing) Ltd.].
- 395A AIR AND VAPOUR CONTROL LAYER:  
Type: [Self-Adhesive bituminous membrane.].  
Manufacturer: [Product of ICB (Waterproofing) Ltd].  
- Product reference: [StrataVap].  
Thickness: [0.7mm].  
Vapour resistance: [11,800 MNs/g].
- 400A WATERPROOF MEMBRANE:  
Type: [EVA modified PVC].  
Manufacturer: [Alwitra – Product of ICB (Waterproofing) Ltd.].  
- Product reference: [Evalon V].  
Width: [1.05m / 1.55m / 2.05m].  
Thickness: [1.2mm sealing thickness + 1mm fleece backing].  
Colour: [Slate Grey].
- 400B WATERPROOF MEMBRANE:  
Type: [EVA modified PVC].  
Manufacturer: [Alwitra – Product of ICB (Waterproofing) Ltd.].  
- Product reference: [Evalon VSK].  
Width: [1.05m].  
Thickness: [1.2mm sealing thickness + 1mm fleece backing + self-adhesive backing].  
Colour: [Slate Grey].

- 420A RIGID URETHANE FOAM WARM DECK ROOF INSULATION:  
Manufacturer: [Product of ICB (Waterproofing) Ltd].  
- Product reference: [EvaTherm A].  
Standard: [Rigid polyisocyanurate foam (PIR) roofboard to BS 4841-3].  
- Reaction to fire: [Euroclass F].  
- Thermal conductivity (minimum): [0.026 W/mK].  
- Thickness: [Varies].  
- Compressive strength (minimum): [150 kPa].  
Edges: [Square].  
Facing: [Glass Tissue].  
Tapered: [Yes].
- 470 RAINWATER OUTLETS  
Manufacturer: Alwitra – Product of ICB (Waterproofing) Ltd  
- Product reference: Standard Outlet with vertical/horizontal spigot and top element  
Diameter: 100mm/ 125mm/ 75mm  
Outlet body manufactured from polypropylene, with separate Evalon connecting flange and complete with flat grating. Allow to supply and install outlet including all connections to down pipes, and to hot air weld connecting flange to main Evalon field sheet.
- 474 PVC RECTANGULAR CHUTE  
Manufacturer: ICB (Waterproofing) Ltd  
- Product reference: PVC Rectangular Chute  
Size: As roof design requirement  
Relieve substrate as necessary to provide falls required and to ensure that the lower chute flange is set flush with the surface of the main field sheet. Mechanically fix chute (minimum 2 fixings per flange) using ICB approved fasteners. Weld unbacked Evalon tape over all fixings.
- 489 ROOFLIGHTS  
Supplier: Product of ICB (Waterproofing) Ltd  
- Type: Evalite Rooflight  
- Product reference: To be confirmed  
Upstand Colour: White  
Profile Type: Dome / Pyramid  
Size: To be confirmed.  
Upstand Height: To be confirmed  
Glazing: Double/Triple Glazed / Polycarbonate / To be confirmed  
Allow to weld membrane from flange to main field sheet.

**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.

**530 APPLYING PRIMERS:**

Coverage per coat (minimum): [As product Technical Data Sheet].

Surface coverage: Even and full.

Coats: Fully bonded. Allow volatiles to dry off thoroughly between coats.

**SUBSTRATES/ AIR AND 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 LAYING BITUMEN AIR & 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 AVCL.

Apply EvaPrime SA to roof substrate. Wait for primer to dry. AVCL 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 AVCL 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 / Direction or span].
- End edges: Adequately supported.
- Joints: Butted together.
- End joints: Staggered.

Attachment: [Adhered].

Completion: Boards must be in good condition, well fitting and secure.

**WATERPROOF MEMBRANES/ ACCESSORIES:**

- 716 ALWITRA EVALON® V (VET Type) polymeric membrane with integral polyester fleece backing as the main field sheet and unbacked EVALON® for all detail work.
- VET Terpolymer type single Ply Membrane.
  - British Agrément Certificate No. 96/3293
  - 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 / 1.5mm + 1.00mm polyester fleece backing
  - Weight: 1.63 kg/m<sup>2</sup> (1.2mm)
  - Tensile Force: 500 N /50mm
- 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
  - 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: 2.2kg/ m<sup>2</sup> (1.2mm)
  - Tensile force: 500N/50mm
- 720 ADHESIVE BONDING OF WATERPROOF MEMBRANE:  
Setting out: [As drawing].  
Attachment: [Fully adhered on a continuous even coating of adhesive].  
Do not wrinkle or stretch.  
Surface condition at completion: Fully sealed, smooth, weatherproof and free draining.
- 720A SELF ADHESIVE BONDING OF WATERPROOF MEMBRANE:  
Laying membrane: Do not wrinkle or stretch.  
Condition at completion: Fully bonded with no air pockets.  
Surface: Smooth.
- 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.

- 760 PERIMETER OF MEMBRANE:  
General: Secure membrane at roof edge conditions, changes of plane, curb flashings, upstands to roof lights, etc. with mechanical fasteners.
- 766 PERIMETER DRIP DETAILS:  
Drip edge 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. 200mm C/cs.  
Dress membrane onto profile to overlap fasteners by a minimum of 50 mm and weld materials together.
- 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.
- 769 PERIMETER UPSTAND DETAILS :  
'FPA' upstand profile manufactured from coated aluminium material.  
Membrane to be fully bonded to upstand using manufacturers approved adhesives  
Secure membrane with profile to structure with fasteners recommended by membrane manufacturer at max. 300mm C/cs.  
Apply Manufacturers Approved acrylic sealant to top edge of profile.
- 780 ROOF PENETRATIONS THROUGH ELASTOMERIC MEMBRANES:  
Roof membrane: Cut around penetrations.  
Flanged sleeve:  
- Type: [Form from roof membrane complete with base flange / Preformed flanged sleeve].  
- Installation: Dress over and around penetration.  
- Seating: Flush to roof membrane.  
- Roof membrane overlap to flange (minimum): 50 mm beyond fasteners.  
- Sealing: [Weld flange to roof membrane].  
- Protection to top edge of sleeve: Flashing or weathering cravat.

#### COMPLETION:

- 910 INSPECTION:  
Interim and final roof inspections: Inform ICB (Waterproofing) Ltd. of installation schedule, to enable visits to be scheduled.
- 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 (Waterproofing) Ltd. representative to ensure compliance with the Specification and the Manufacturer's recommendations. Once ICB (Waterproofing) Ltd. 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 (Waterproofing) Ltd.

Insurance backed guarantees, (IBGs) can be sought from the installation contractor who will in turn approach an appropriate broker.

10 years IBGs are readily available.

If an extended IBG is sought you should check first with the proposed installation contractor that they are able to obtain this.