



J42

SPECIFICATION PROPOSAL FOR ROOFING WORKS

J42 Specification Proposals for: Willingham Terrace

Prepared For:

**Liam Dennis
DF Roofing**

Prepared By:

**Sarah Ryan
Technical Sales & Civils Manager
Soprema UK Ltd
Mobile: 07921 473909**

4th November 2015

Ref: S16-SR0106

J42 SINGLE LAYER POLYMERIC SHEET ROOF COVERINGS

To be read with Preliminaries/ General conditions.

TYPES OF ROOF COVERING**110 WARM ROOF COVERING**

- Substrate: In Situ Concrete slab, screeded to falls as section M10
- Preparation: Dry, clean and free from all contaminants, laitance, fines and protrusions. Surface to be primed with **Soprema Elastocol 600 Bitumen Primer** to manufacturers' recommendations and clause 320, 530 & 610
- Roof covering system
- Manufacturer: **Soprema UK Limited, Unit 4, Lancaster Way Earls Colne Business Park, Earls Colne, Colchester, Essex CO6 2NS**
T.+44(0) 845 1948 727, F.+44(0) 845 1948 728
Contact – (Sarah Ryan: 07921 473909, sryan@soprema.co.uk)
- Vapour control layer: **Sopravap Stick SI C15** Self-adhesive modified bitumen membrane with a glass fibre reinforcement as clause 220 & 395
- Fully bonded to primed substrate in accordance with clause 670
- Insulation: **Sopratherm G** glass tissue faced rigid urethane foam warm deck roof insulation. Minimum thickness 180mm (120mm + 60mm) to achieve U-value of 0.13 W/m²K, in accordance with BS EN ISO 6946: 2007 and as clause 420
- Attachment: Fully bonded to vapour barrier in accordance with clause 680 & 720
- Waterproof membrane: **Flagon SFc** Fleece backed PVC as clause 400
 - Width: 1.60m.
 - Thickness: 1.5mm (2.5mm including geotextile fleece)
 - Colour: Lead Grey upper surface
 - Attachment: Fully adhered in Flexocol W/LV, as clause 325 & 720 with welded laps as clause 730.
Perimeter/ upstand details as clauses 326, 760, 765, 770 and standard details.
 - Accessories:
 - **Flagon SV or SV Strip** for detailing, as clause 401
 - Flag Peelstops, Flag Termination Bars, Flag Metals, and all pre-formed accessories to complete the waterproofing, as clause 760, 765 & 770
 - Flag Dallmer DN62 Roof drains with PVC coating to flange. Flagon PVC RW Outlets connected to pipes for overflows (size to be confirmed), Flag pipe collars as clauses 340, 480 & 780

PERFORMANCE**210 ROOF PERFORMANCE**

- Roof covering: Secure, free draining and weathertight.

220 AVOIDANCE OF INTERSTITIAL CONDENSATION: WARM AND INVERTED ROOFS – HOUSES AND FLATS

- Determine: Interstitial condensation risk of roof construction 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:
 - Temperature: 20°C.
 - Relative humidity: 55%.
 - Vapour pressure: 1.28 kPa.
- Winter interstitial condensate (warm roof):
 - Calculated amount (maximum): 0.35 kg/m².
 - Calculated annual net retention: Nil.
- Vapour control layer: If necessary, provide a suitable membrane or sealed deck so that damage and nuisance from interstitial condensation do not occur.

PRODUCTS

- 320 PRIMER FOR SELF-ADHESIVE VAPOUR MEMBRANE
- Type: Cold-applied Bitumen Primer
 - Manufacturer: Soprema UK Ltd.
 - Product reference: Soprema Elastocol 600.
- 325 ADHESIVE FOR BONDING INSULATION
- Type: 18.5kg Canisterized Spray Polyurethane Adhesive
 - Manufacturer: Apollo Chemicals Limited
 - Product reference: Coltack Evolution CA
 - Restriction: For heat sensitive insulation materials, use cold bonding compounds.
- 326 ADHESIVE FOR BONDING FLEECE BACKED WATERPROOF MEMBRANES -
- Type: One part Moisture Curing Polyurethane Adhesive.
 - Manufacturer: Casswell Adhesives.
 - Product reference: Flexocol W/LV Bonding Adhesive.
- 327 ADHESIVE FOR BONDING NON-FLEECE BACKED pvc MEMBRANES
- Type: One part Solvent based Contact Adhesive.
 - Manufacturer: Casswell Adhesives
 - Product reference: Flexocol C
- 340 PREFORMED SLEEVES
- Type: Corners, Outlets and Pipe Collars
 - Manufacturer: SOPREMA UK Limited.
 - Product reference: As required.
 - Colour: As roof membrane.
 - Size: As required.
 - Attachment: Welded to roof membrane
- 345 PERIMETER TRIMS
- Type: 0.7mm galvanised steel with unreinforced membrane laminate
 - Manufacturer: SOPREMA UK Limited
 - Product reference: Flagmetal
 - Colour: As roof membrane.
 - Size: As Drawing.

- 395 VAPOUR CONTROL LAYER
- Type: Self-adhesive modified bitumen membrane with a glass fibre reinforcement
 - Manufacturer: Soprema UK Ltd.
 - Product reference: **Sopravap Stick C15.**
 - Thickness: 1.5mm.
 - Vapour resistance: 375 MNs/g.
- 400 WATERPROOF MEMBRANE FOR FULLY BONDED FIELD AREA
- Type: Synthetic membrane in PVC-P dimensionally stabilised with glass fibre and backed with a 200g/m² geotextile
 - Manufacturer: Soprema UK Limited
 - Product reference: Flagon SFc
 - Width: 1.60m
 - Thickness: 1.50mm
 - Colour: Lead Grey
 - Guarantee: 20 years
- 401 WATERPROOF MEMBRANE FOR BONDED UPSTANDS AND DETAIL WORK
- Type: Synthetic membrane in PVC-P dimensionally stabilised with glass fibre
 - Manufacturer: Soprema UK Limited
 - Product reference: Flagon SV
 - Width: 1.60m
 - Thickness: 1.50mm
 - Colour: Lead Grey
 - Guarantee: 20 years
- 420 RIGID URETHANE FOAM (PIR) WARM DECK ROOF INSULATION
- Standard: BS EN 13165
 - Manufacturer: Ecotherm in association with Soprema UK Ltd.
 - Product reference: SopraTherm G
 - Compressive Strength at 10% compression: 150 kPa
 - Edges: Straight
 - Thickness: _____mm to achieve U-value of 0.13 W/m²K, in accordance with BS EN ISO 6946
 - Facing: Mineral Coated Glass Fibre Tissue
- 460 STONE BALLAST
- Type: River Washed, round aggregate.
 - Supplier: As Architects details.
 - Size: Graded 20 - 40 mm, free from fines and sharps.(No Granite, Flint, Slate, or Glass to be present).
 - Colour: As drawing
- 469 SUPPORT SYSTEM FOR ROOF PLANT AND SERVICES
- Manufacturer: Roof-Pro Limited in association with Soprema UK
 - Product reference: Roof Pro – Sure Foot
 - Size:
 - Accessories: Range includes components, support frames and edge protection systems.
- 480 PIPE COLLARS
- Manufacturer/ Supplier: As roof membrane.
 - Product reference: **Flagon Pipe Collars**
 - Size: To suit.

490 ROOF OUTLETS

- Manufacturer: Soprema UK
- Product reference: Flagon Rainwater Outlets.
- Size: To Suit PVC or TPO (Flagon Wall Outlet 100x100mm, Wall Outlet Extension, Wall Outlet End, Rainwater Outlet 60mm; 80mm; 90mm; 110mm; 125mm; 150mm)
- Accessories: Various Leaf Guards.

491 ROOF OUTLETS

- Manufacturer: Fixfast in association with Soprema UK
- Product reference: FarBo Rainwater Outlets.
- Size: To Suit PVC or TPO (FloDrain 40mm; 50mm; 62mm; 70mm; 75mm; 90mm; 95mm; 110mm; 125mm; 145mm; 160mm, ParaDrain, Duo Drain)
- Accessories: Various Leaf Guards.

485 MEMBRANE WALKWAYS

- Manufacturer: Soprema UK Limited
- Product Reference: **Flagon PVC Walkway Synthetic PVC-P membrane**
- Width: 1.5m
- Length: 20m
- Thickness: 1.8mm
- Colour: Dark Grey

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): 250g/m²
- Surface coverage: Even and full.
- Coats: Fully bonded. Allow volatiles to dry off thoroughly between coats.

550 CONTROL SAMPLES

- Type of covering: _____ .
- Sample area (minimum): _____ .
- Location: _____ .
- Features: _____ .
- Approval of appearance: Obtain before proceeding with remaining work.

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.

660 JOINTS IN RIGID BOARD SUBSTRATES

- Cover strip: Lay centrally over substrate joints before laying vapour control layers or coverings. Adhere to substrate with bonding compound along edges only.

670 LAYING VAPOUR CONTROL LAYER

- Laying: Fully adhered, flat and smooth
- Side and head laps: fully sealed
- Upstands, kerbs and other penetrations: Enclose edges of insulation. Fully seal at abutment by bonding or taping.

680 LAYING WARM DECK ROOF INSULATION

- Setting out:
 - Long edges: Fully supported and running at right angles to side laps in single ply membrane
 - End edges: Adequately supported.
 - Joints: Butted together.
 - End joints: Staggered.
- Attachment: Fully bonded to vapour barrier using Coltack Evolution CA
- Mechanical fixing: Not required.
- Completion: Boards must be in good condition, well fitting and secure.

WATERPROOF MEMBRANES/ ACCESSORIES

710 MECHANICAL FIXING OF WATERPROOF MEMBRANE

- Setting out: Perpendicular to the deck direction
- Laying: Loose, do not wrinkle or stretch.
- Installing fasteners:
 - Use manufacturer's/ supplier's recommended methods and equipment.
 - Insertion: Correct and consistent.
- Washers/ Pressure plates/ Bars:
 - Distance from fixed edge (minimum): 10 mm.
 - Fixing: Flush with membrane.
 - To be calculated by Suppliers windload calculation
- Sheet overlaps: Extend beyond washers/ pressure plates by minimum 50mm .
- Surface condition at completion: Fully sealed, smooth, weatherproof and free draining.

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.

730 WELDED JOINTING OF WATERPROOF MEMBRANE

- Side and end joints:
 - Laps (minimum): 75mm for fully bonded membranes. 120mm for mechanically fixed membranes.
 - Preparation: Clean and dry surfaces beyond full width of joint.
 - Sealing: Weld together.
- Condition at completion: Fully sealed, smooth, weatherproof and free draining.

Pick one:

760 PERIMETER OF MEMBRANE – Fully bonded system

- General: Secure membrane at roof edge conditions, changes of plane, curb flashings, upstands to roof lights, etc. with **Flag Peelstop** and mechanical suitable fasteners as clause 355

765 PERIMETER DETAILS FOR THERMOPLASTIC MEMBRANES

- Upstands, edge trims, drips, kerbs, etc: Secure preformed metal sections to roof structure with mechanical fasteners.
- Roof membrane: Dress over perimeter profile. Overlap beyond fasteners by minimum 50mm
- Sealing: Weld together.

770 PERIMETER DETAILS FOR THERMOPLASTIC MEMBRANES

- Upstands, edge trims, drips, kerbs, etc: Form flashings from waterproof membrane material.
- Roof membrane: Terminate in horizontal plane immediately adjacent to change in direction and secure with mechanical fasteners.
- Flashings: Dress over perimeter profile. Overlap horizontal roof membrane beyond perimeter securement by minimum 50mm
- Sealing: Mechanically fix and weld at overlap. At top of up stands on vertical sections terminate membrane and fix to up stand with **Flag Termination Tape**
 - At all chase details seal using **Sopraseal** sealant

780 ROOF PENETRATIONS THROUGH THERMOPLASTIC MEMBRANES

- Roof membrane: Cut around penetrations and secure to deck.
- Flanged sleeve:
 - Type: Flagon Pipe Collar
 - Installation: Dress over and around penetration.
 - 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.

790 ATTACHMENT OF STANDING SEAM PROFILES

- Seam centres: As drawing or 400mm centres or 600mm centres
- Preparation: Clean and dry surfaces beyond full width of joint.
- Alignment: Straight.
- Attachment: Continuous weld to membrane.

795 INSTALLING ROOF VENTILATORS

- Setting out: As drawing
 - Centres (maximum): As required
- Holes for ventilators: Cut neatly to suit size of vents through perimeter construction.
- Ventilation paths: Keep clear and unobstructed by installation.

SURFACING

820 LAYING STONE BALLAST

- Condition of substrate: Clean.
- Gravel guards: Fit to outlets.
- Previously laid materials: Protect whilst laying ballast.
- Laying: Spread evenly. Do not pile to excessive heights.
 - Depth (minimum): 75mm

850 LAYING MEMBRANE WALKWAYS

- Attachment: All edges continuously welded

880 LAYING GREEN ROOF

- Condition of substrate: Clean.
- Gravel guards: Fit to outlets.
- Previously laid materials: Protect during laying of Green Roof.
- Laying: Spread evenly. Do not pile to excessive heights.
 - Depth (minimum): As required in Q37

COMPLETION

910 INSPECTION

- Interim and final roof inspections: Submit reports.

920 ELECTRONIC ROOF INTEGRITY TEST

- Testing authority: _____ .
- Timing of test: _____ .
- 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.

930 FLOOD TEST _____

- Condition of roof prior to testing:
 - Waterproof membrane complete to a stage where integrity can be tested.
- Outlets: Externally cover and seal. Protect against damage from water pressure using temporary kerbs. Do not use plugs to seal outlets.
- Flood levels: Submit proposals. In no case higher than kerbs.
- Flood duration: _____ .
- Inspection: Regular, to detect leaks.
- Completion of test: Slowly drain roof. Do not overload or flood outlets.
- 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.