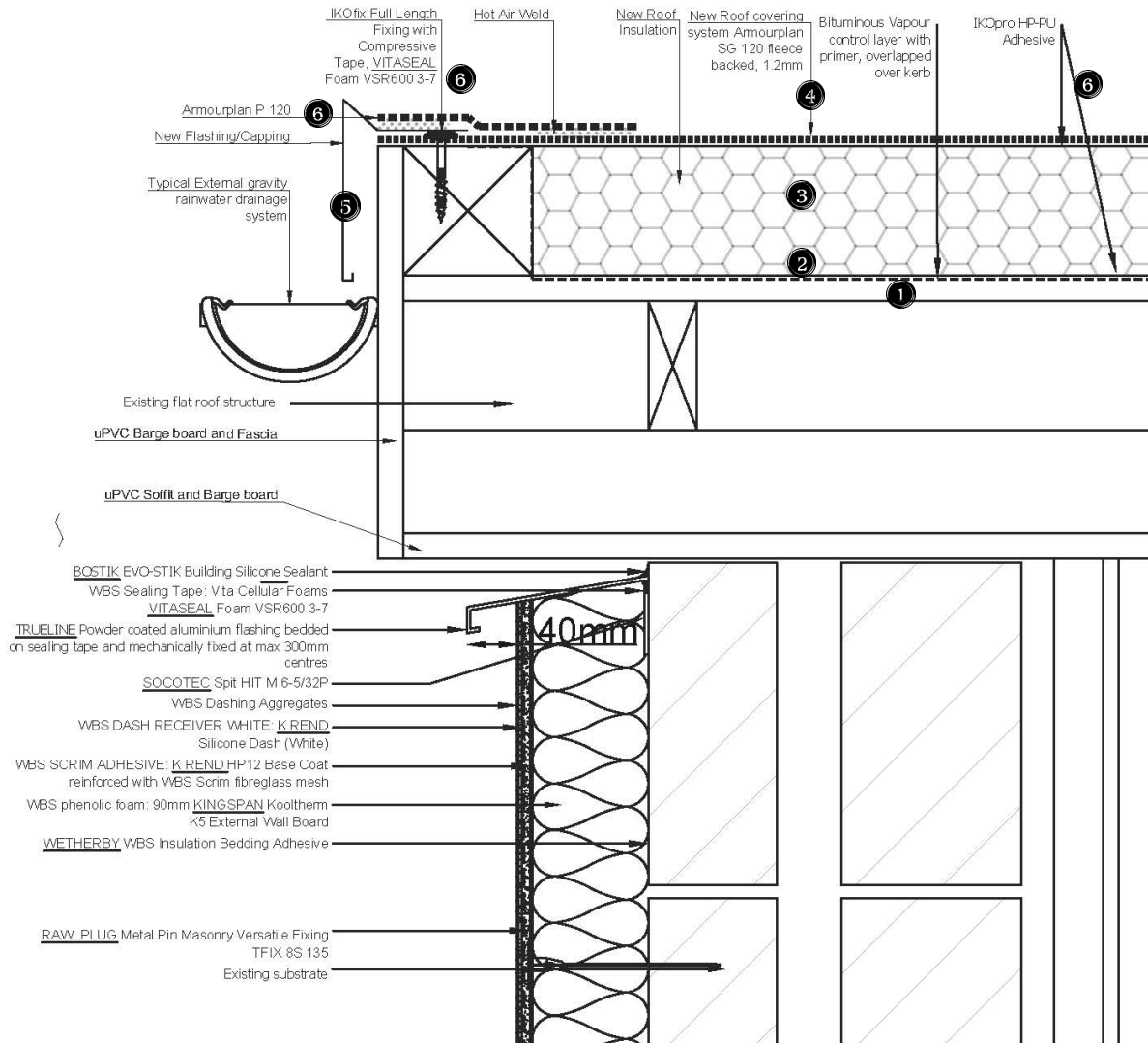


Typical Detail – Flat Timber Roof – Insulated Single Ply Fixing



NOTES:

1. 18mm Exterior Grade Plywood sheathing. Laying plywood underlay. Laying: Parallel with perimeter edges. Stagger cross joints. Provide 0.5 to 1 mm gap between boards/ sheets. Fixing: Centres: Fix at 300 mm grid centres over the area of each sheet and at 150 mm centres along edges, set in 10 mm from perimeter edges, and in pairs across joints. Nail heads: Set flush or just below the surface. Jointing: Contractor's choice.

2. Vapour Control Layer. Installing vapour control layers. Product: Samavap 5000E SA (or equivalent) bonded to primed substrate (plywood sheets, kerbs, upstands). Installing over Plywood Decks: Plywood decks should be clean, dry, without large projections, steps or gaps, and should be graded to allow correct falls to all rainwater outlets. Continuity: No breaks. Minimize joints. Penetrations and abutments: Tape to vapour control membrane. Joints and edges: Overlap joints 150 mm and seal with vapour resistant adhesive tape. Perimeter edges sealed. Prime substrates to achieve full bond. Sheet repairs and punctures: Fix and seal lapped patch of vapour control membrane with continuous band of tape on edges.

3. Roof Insulation: Roof Insulation type C. Material: 45-45-65/430 Polyisocyanurate (PIR) foam board type D. Fasteners: Contractor's design. System accessories: Contractor's design. To BS / I.S. EN 13165: 2012 + A2: 2016 (Thermal insulation products for buildings. Factory made rigid polyurethane foam (PU) products. Specification: A layer of 100mm Kingspan Thermafof TR27 faced on both sides with a coated glass tissue, autohesively bonded to the insulation core during manufacture. Compressive strength over 150 kPa at 10% compression, when tested to BS / I.S. EN 826: 2013, resistivity greater than 300 MNs/gm, when tested in accordance with BS / I.S. EN 12086: 2013. Thermal conductivity: 0.024 W/mK (≥ 120 mm), Euroclass E, Core High performance rigid thermoset polyisocyanurate (PIR) insulant manufactured with a blowing agent that has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP), Board size: 1.2 x 0.6 metres, 1.2 x 1.2 metres, 1.2 x 2.4 metres, Weight: Approx 4.04 kg/m² at a thickness of 100 mm. Installing over Plywood Decks with bonded vapour control layer: The insulation boards are to be mechanically fixed onto the vapour control layer bonded to primed plywood deck. Where one run of the specified vapour control layer laps another, there should be minimum 150 mm side and end overlaps, which should be adequately sealed. Turn up the vapour control layer at the edge of the roof to a height appropriate to the specified waterproofing membrane. The insulation boards should be secured to the deck using mechanical fixings e.g. telescopic tube fasteners (see 'Mechanical Fixings'). Insulation boards should always be laid break-bonded, either with their long edges at the edge of, or diagonally across the roof, and with joints lightly butted. There should be no gaps at abutments. Joints between insulation boards should not coincide with those between the plywood sheets. For roofs without parapets, a timber edging batten of the same height of the insulation is to be used to fix the fascia board to the gutter system. Fixing: A minimum of 4 fixings are required to secure 1.2 x 0.6 m boards to the deck. A minimum of 5 fixings are required to secure 1.2 x 1.2 m boards to the deck. A minimum of 8 fixings are required to secure 2.4 x 1.2 m boards to the deck. The requirement for additional fixings should be assessed in accordance with BS 6399-2: 1997 (Loadings for buildings. Code of practice for wind loads) or BS / I.S. EN 1991-1-4: 2005 + A1: 2010 (National Annex to Eurocode 1. Actions on structures. General Actions. Wind Actions). Mechanical fixings must be arranged in an even pattern. Fasteners at insulation board edges must be located > 50 and < 150 mm from edges and corners of the board and not overlap board joints. Each fixing should incorporate a square or circular plate washer (min. 50 x 50 mm or 50 mm diameter). Two layers of insulation are to be installed, the base layer should be mechanically fixed with minimum 1 No. fixing in the centre of the insulation board before fixing the top layer as above. The layers should be horizontally offset relative to each other so that, as far as possible, the board joints in the two adjacent layers do not coincide with each other. The waterproofing membrane is installed in accordance with the membrane manufacturer's instructions, over the whole insulated area including any insulation upstands, as soon as possible after laying the insulation boards.

4. Armourplan SG. A glass tissue reinforced polyester fleece-backed PVC single ply roofing membrane, weldable sheet membrane with a glass fibre reinforcing inlay and polyester fleece backing for roof waterproofing. Contains ultraviolet light stabilizers and flame retardants to provide a colour stable, low maintenance and durable membrane. Product code: 84021212 - Mid Grey 1.2mm. Laying roofing felt: Before use thoroughly stir the Spectrabond Low Foaming PU Adhesive. Replace the container lid when work is interrupted. If required warm the Spectrabond PU Adhesive container in warm water. Unroll the Armourplan SG over the prepared substrate and fold back approximately half its length.

Apply a coat of Spectra bond Low Foaming PU adhesive using a roller or apply Spray fast FMA adhesive to the substrate surface, priming only the area of roof where the membrane will be laid. Note: The PU adhesive must be given time to activate prior to applying the membrane. On activation i.e. the point at which the adhesive will afford the highest bond strength, the surface of the adhesive starts to change from pink/red to opaque. Carefully roll the Armourplan SG into the primed surface. Fold back other half of the roll of Armourplan SG and repeat the procedure. Roll with water filled roller or soft bristled broom to ensure intimate contact between the two surfaces. Unroll the next roll of Armourplan SG, ensuring the end laps are staggered and the side overlaps the previously installed sheet by 60mm. Repeat the adhering process. Fully hot air welds the 60mm side lap and allow to cool completely. Mechanically check the integrity of the cooled weld by running a seam probe or 4mm wide screwdriver (with rounded edges) along the seam applying pressure into the seam.

5. Eave/Verge details: Form: Standing seam eaves/verge termination with folded down ends. Products: standing seam profile pre-coated metal sheet for forming edge details with IKOfix fastening systems and termination bars Fixing: Top edge: 20-50-50/560 Batten roll clips (under batten). Bottom edge: 20-50-50/555 Zinc clips. Joints: Single lock welds. 20-50-50/610 Metalwork generally. Fixing: Support fully. Install to resist wind uplift and to accommodate thermal movement, without distortion or stress. Fix adequately to provide a secure, free draining and completely weathertight installation. Folding: To give straight, regular and tight bends, leaving panels free from ripples, kinks, buckling and cracks. Preforming: Measure, mark, cut and form metal before assembly wherever possible. Burrs and sharp edges: Fold under or remove as work proceeds.

6. Complete the design of the roof covering system. Standards: In accordance with Structural performance - wind actions. Requirement: Calculate appropriate to location, exposure, height, building shape and size, taking account of existing and known future adjacent structures. Armourplan P 120 membrane to BS EN ISO 9001, Polyester scrim reinforced membrane for mechanically fastened roofing systems. Enhances mechanical properties over standard PVC membranes with high polymer content throughout and high performance reinforcement. Product code: 470***12 - Mid Grey, 1.2mm thick. Installing Armourplan P 120 over Armourplan SG: Apply a coat of Armourplan PVC Contact Adhesive using a roller or apply Sprayfast PCA adhesive to the underside of the Armourplan P membrane ensuring the weld area is kept free of adhesive and allow to become tacky - where shown. Carefully roll out the Armourplan P over the previously primed surface and roll with water filled roller or soft broom to ensure intimate contact between the two surfaces. Fold back other half of the roll of Armourplan P and repeat the procedure. Unroll the next roll of Armourplan P, ensuring the end laps are staggered and the side overlaps the previously installed sheet by 60mm. Repeat the adhering process. Fully hot air weld the 60mm side lap, over eaves, verges and upstand where shown, allow to cool completely. Mechanically check the integrity of the cooled weld by running a seam probe or 4mm wide screwdriver (with rounded edges) along the seam applying pressure into the seam. Important: Armourplan PVC Contact Adhesive must only be applied to 100% dry substrates at temperatures above 5°C. Failure to do so could result in the membrane de-bonding.