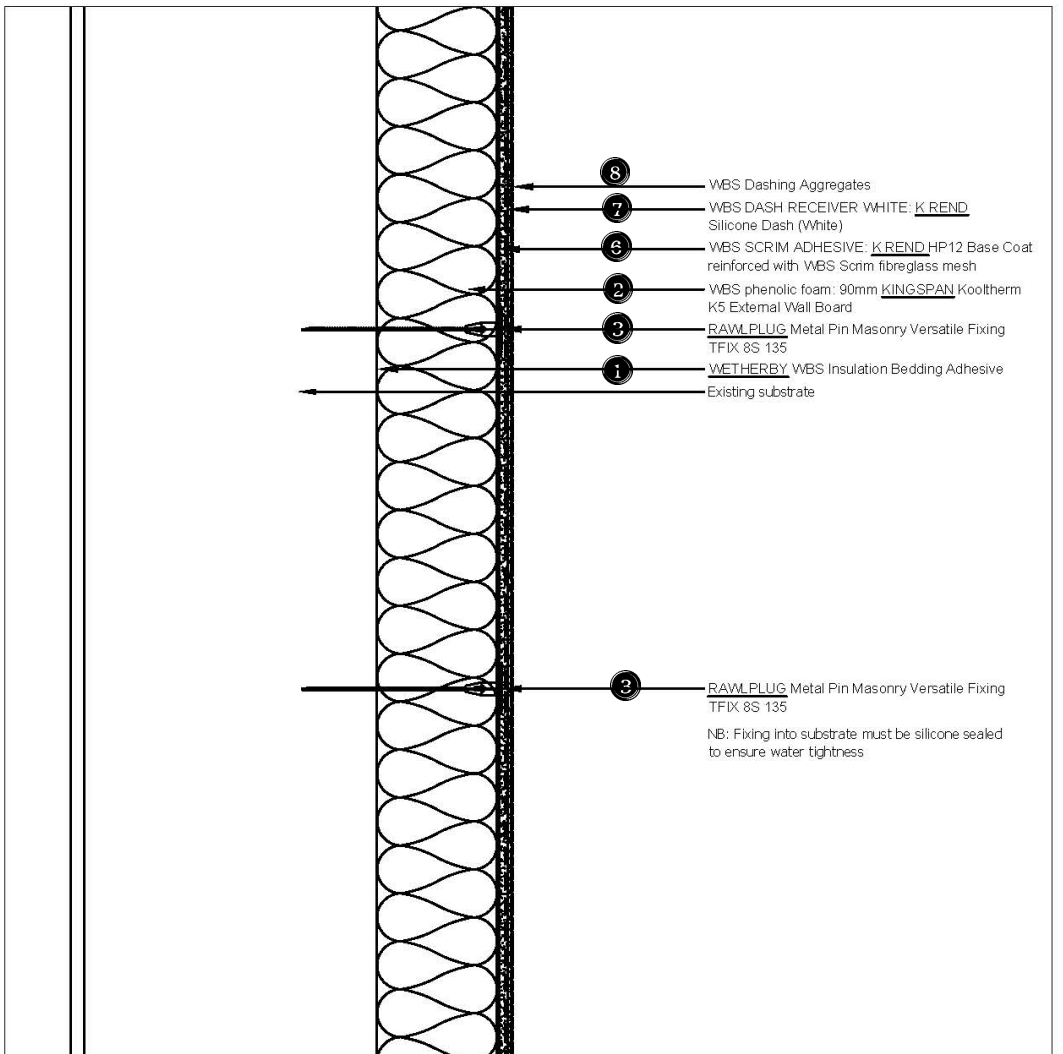
Typical Detail – Solid Wall External Insulation – Wall Fixing



Notes:

1. WETHERBY WBS Insulation Bedding Adhesive: Polymer modified. Manufactured to ISO 9001. Material base: Polymer modified, Portland cement binder system containing limestone aggregate and specially selected fillers. Mixed Density: 1600-1750 Kg/m3, Compressive Strength: Class CS IV as tested to EN 998-1. Flexural Strength: >2.0 N/mm-2, Adhesion Strength: >0.5 N/mm-2 (ultimate strength tested on concrete) >0.08 N/mm-2 (when tested on EPS panel), Coverage; Approx. 2.1 - 2.3Kg per mm thick per m2. Gauging Water: 4.5 - 5.5 litres of clean water per 25Kg sack. Working Temperature: 5oC - 30oC. Application: Place gauging water in a clean mixing vessel. Add powder and mix with a suitable paddle attached to an electric drill until a lump-free consistency is achieved. Leave to stand for 3 minutes and re-mix. Apply a butter coat of the Insulation Bedding Adhesive over substrate which the insulation is to be fixed, ensuring all void areas are filled. Apply by hawk and trowel to insulation board in a continuous line around the perimeter and additional dabs in the centre; at least 50% of the board should be covered. Alternatively apply with a notched trowel over the entire face of the board. Press the boards firmly onto the masonry substrate. WBS Insulation Bedding Adhesive must be used within its working temperature range. It must not be used in freezing conditions or applied to frozen or thawing substrates. If adverse weather conditions are expected within 24 hours of application, it is important to protect the applied area. In dry conditions, suction control of the background may be necessary. Cleaning: Whilst the mortar is still wet, clean with water. Once dry/cured the material can only be removed mechanically. Packaging: 25kg bag.

2. WBS phenolic foam: KINGSPAN Kooltherm K5 External Wall Board, Standard: ISO 9001: 2015 (Quality Management Systems. Requirements), ISO 14001: 2015 (Environmental Management Systems. Requirements), BS OHSAS 18001: 2007 (Occupational Health and Safety Management Systems. Requirements), ISO 50001: 2011 (Energy Management Systems. Requirements with guidance for use), Fire performance: Euroclass RtF C-s1,d0, Thermal conductivity (maximum): Dependent upon thickness specified, 0.22 W/m·K, Cross Section: Uniform thickness, Thickness: 90 mm, Face Size (length x width) 1200 x 600 mm, Compressive strength (minimum) at 10% compression: 100 kPa, Edges: Square, Facing: Glass tissue based facing, Global warming potential: Less than 5, Green guide rating: A+, Ozone depletion potential: Zero, Core: Premium performance rigid thermoset fibre-free phenolic insulant core, Colour: Pink.

3. Proprietary external wall insulation fixings RAWLPLUG Metal Pin Masonry Versatile Fixing TFIX 8S 135 Anchor body material: Polypropylene, Pin material: Galvanised steel Screw set. Long plastic overmoulding to minimise thermal bridging (value 0.002W/K), Plate stiffness 0.6 kN/mm, Pre-assembled screw, high load-bearing capacities. Minimum installation depth: 25mm, Hole depth in substrate: 40 mm, Drill hole diameter : 8 mm, Plate diameter: 60mm, Minimum spacing: 100mm, Minimum edge distance: 100mm, ETA Certificate Number: ETA-11/0144 ETA Classification: A - B - C. Typical pull out into solid brick/concrete block: 1.20 kN, recommended load: 0.43kN, Length: 135mm, Qty per box : 200.

4. WBS sealing tape: Vita Cellular Foams VITASEAL Foam VSR600 3-7: dry pre-formed strip seal with viscoelastic properties, combination of resilient foam and a water resisting formed strip seal to resist weather ingress in fenestration, noise and vibration damping and with flame retardant properties . Open cell polyurethane foam heavily impregnated with acrylics creating under high compression. For increased raining condition and fully resistant to UV. Tested to DIN 52. Supplied in rolls, pre-compressed to approximately 85%. Material: Polyurethane cellular foam, impregnated with flame retardant acrylic resin, Classification: Class 1 to NF P85-570, BG1 to DIN 18542, Fire resistance: B1, self-extinguishing, Watertight against driving rain DIN52453: 600 Pa minimum, Vapour resistivity DIN 18542: m < 10, Tensile strength ISO 1798 >170 kPa, Elongation at breaking ISO 1798 >250%, Compatibility: no corrosion with iron, steel, zinc coated sheet, aluminium or cooper, PVC, glazing, concrete, tiles. Fix insulation boards as per Manufacturer's recommendation. Fit tightly board edges together to achieve U-value of 0.19 W/m²K.

5. WBS Scrim fibreglass mesh: ADFORDS reinforcing fabric made from continuous filament yarn in an open mesh construction. The laid scrim manufacturing process chemically bonds non-woven yarns together, enhancing the scrim with unique characteristics. Fibers used: Fiberglass Features: Dimensional stability, Tensile strength, Alkali resistance, Tear resistance, Fire resistance, Anti-microbial properties, Water resistance. Width: 38 to 5300 mm, Roll length: Up to 120 000 lm, Yarns: Glass, Construction: Square, tri- & quad-directional, Patterns: From 0.4 yarns/cm to 4 yarns/cm (1 yarn/in to 18 yarns/in), Tensile strength range: From 35.5 to 568 N/5 cm in each direction, Bonding: PVOH, Complexes for combination materials: scrim bonded to: glass non-woven.

6. WBS SCRIM ADHESIVE: K REND HP12 Base Coat with High Polymer technology, for stipple coat, scud coat or for dense backgrounds with increased water resistance and adhesion. Incorporation of Alkali Resistant Reinforcing Mesh may be required. Polymer modified and cement based. Applied in 1 coat as a backing for K Rend finishes. Coverage: 1.8kg / mm thick / sq m, Require: 8-11 kg/sq m approx. of nominal 4-6mm thickness, Kitemark Classifications: Compressive strength: CS IV, Capillary Water Absorption Category: W2, Thermal Conductivity: P=50% - 0.61. Application: Mix for at least 5 minutes to break down additives, Add 5-6 litres of clean water per 25kg sack, Apply by hawk and trowel, If the next coat is to be a K Rend finish form a light key by scratching as per good render practice,

7. WBS DASH RECEIVER WHITE: K REND Silicone Dash (White) CE marked to BS EN 998:1 and manufactured in accordance with a quality system approved to BS EN ISO 9001:2015 by BSI registration number FM 85394. Is specifically designed to incorporate the benefits of silicone water repellents into a cement based render system. Silicone adds a high water repellent quality, while allowing water vapour to pass freely through the render; thus the amount of dirt adhering to the surface is greatly reduced, ensuring a freshly rendered appearance for a prolonged period of time. This dry surface also improves the resistance of the finished render to algae growth and the natural phenomenon of lime-bloom. Coverage: 1.5kg per mm thick per m2 Required: 10 - 15kg per m2 approx. Nominal: 6 - 10 mm thickness Water required: 5 - 6L / bag. APPLICATION Add appropriate quantity of clean water per 25kg sack. Mix thoroughly for at least 10 minutes to break down additives. Apply a butter coat of render to a uniform thickness, depending on the aggregate size. While the render is still plastic, throw washed aggregate onto the surface to give a uniform dense coverage. Immediately tamp the aggregate particles lightly into the butter coat with a wood float and ensure a good bond is obtained. PACKAGING & STORAGE K Rend renders are usually packed 40 sacks per tonne. All render sacks must be protected on site.

8. WBS Dashing Aggregates DERBYSHIRE AGGREGATES Natural aggregates, crushed rock including granite, dolerite, limestone, basalt, sandstone, slate, felsites, quartzite's and marbles. Natural cobbles, boulders and rockery stone of the above types. Dimensional stone of the above types. Apply render in coats: base coat and finish coat, dub out in thickness if necessary. To finish roughcast cast with an even thickness and texture. Apply firmly and in one continuous operation between angles and joints.

9. SEALANT: BOSTIK EVO-STIK Building Silicone Sealant is a one part, low modulus, neutral cure sealant. For use in properly designed exterior high movement joints, especially around door and window frames. Non corrosive towards metal. Suitable for all types of frames including aluminum, hardwood and PVCu. Good adhesion to glass, painted wood, ceramic, enamel and stainless steel and many plastics. Sizes: C20 cartridge. Coverage: Approx. 10m of a 6mm bead per cartridge. Colours: White, Clear, Black, Brown & Grey Form Soft gunnable paste Specific Gravity 1.00 g/ml Shore (A) hardness 15 Composition Neutral cure silicone. 100% modulus 0.30N/mm2 Application rate 300g/min using a 3mm diameter bead and 6.3 bar. Thermal conductivity 30-35 mW/Mk, Fire Rating: Fire Class B1 according to DIN 4102-1 between solid metal or mineralic material. Fire resistance class EI 180-V-X-F-W 10-50* as per classification report 3.2/10-052-2 acc. to DIN EN 1366-4 in combination with DIN 13501-2. Certified by MfPA Leipzig GmbH Application Temperature +5°C to +40°C Coverage Approx. 10 linear metres of 6mm diameter bead per C20 cartridge Drying Times Skin Formation: 9 minutes at +23°C/55% RH, dependent on temperature and humidity. Through dry: Approx. 2mm per 24 hours at +23°C/55% RH dependent on temperature and humidity. Always tool sealant within 9 minutes

10. TRIMS.

TRUELINE stop beads for use on the sides of insulated systems (vertical). Product: 100mm Perforated galvanized steel, powder coated. TEP-SB-100-P-G-25-W-N

11. Proprietary fixing: SOCOTEC Spit HIT M 6-5/32P Hammer Screw Anchor, Zinc Plated FR 15 (5mm), Polyamide 6 plastic expansion anchor. Embedment depth: 25mm, Maximum thickness of part to be fixed in concretre/brick: 5mm, Minimum thickness of base material: 65mm, Drilling depth in base material: 35mm, Drilling depth forward the part to be fixed: 40mm, Drilling diameter: 6mm, Cylinder head diameter: 11mm, Total anchor length: 32mm, type of nail: PZ2, Code zinc coated steel nail: 050118. Ultimate loads for concrete blocks or clay bricks: 1.55-2.6 kN. Recommended loads: 0.31-0.52 kN. Minimum distance between anchors: 25mm, Minimum distance from edges: 45mm. Applications: Trims and beads for EWI. Fix beads and trims at all joints, junctions and perimeters, straight and with a constant projection.