

alsecco Ecomin 400

M21 EXTERNAL INSULATED RENDER SYSTEM

To be read with Preliminaries/General conditions.

TYPE(S) OF COATING	Alsecco Systems:	Alsecco External Wall Insulation System – adhesive and mechanical fix. Must be applied in strict accordance with the manufacturer's written recommendations by a contracting partner from Alsecco UK Ltd's current list
	Proprietary Render:	Alsecco 'Ecomin 400' EWI System - Mechanical and adhesive fixed

Manufacturer and reference: Alsecco Systems are manufactured by Alsecco GmbH & Co. KG, Wildeck, Richelsdorf, D36208, Germany.
UK Office: Alsecco (UK) Ltd, Whitebridge Way, Stone, Staffs, ST15 8GH Tel: 01785 818998 Fax: 01785 818144 www.alsecco.co.uk

System Materials & Components		In all cases, substrate should be deemed fit for purpose prior to the application of Alsecco External Wall Insulation
	Location:	21000223(HR)- Apple Building, Oldham Road, Manchester
	Substrate:	Masonry
1.1 System Components:	Sub Primer:	Sub Primer HT/P if required
	Adhesive:	Armatop MP
	Insulation Type:	DD Mineral Wool
	Thickness:	150mm
	'U'-Value:	0.19 W/m2K
	Basecoat:	Armatop A - Mesh Universal
	Top Primer:	N/A
	Topcoat:	Not Required
	Paint Finish:	Not Required
	Deco Profiles:	No
	Brick Slip/Flex:	Brick Flex With Bonding Mortar AF Adhesive
	Ashlar Detail Mesh	N/A
1.2 Accessories:	Base Rail:	A155
	Stop Beads:	W155
	Corner Beads:	3707 PVC with Mesh
	Mechanical fixings:	STRU-2G 215 (8 per m2 through system mesh) & **FFDMH 220
	Dammflex:	Yes
	Sealing Strip 13/2:	Yes
	APU Bead:	No
	PU Foam:	Cannot be used with an Ecomin System
	PU Flex:	No
	Disbon Primer:	Where exposed steel is present
	Balcony Drip Bead:	No
	Expansion Joints:	Required Only Where Present in Substrate
	Alsecco Cill:	No

Notes:

-Preparation of existing surfaces: Ensure existing substrate is clean, sound and free from all adhesive reducing residue/surface contaminants. Refer to recommendations of BSEN13914-1:2016 including annex B. Bond tests/Sample area recommended prior to complete application.

-Ensure existing rendered substrates are sound and suitable to receive additional weight of new render, existing render should be hammer tested before installation of new system to identify any loose, de-bonded or otherwise defective render and where required, repaired by others, prior to the system being installed.

-Sub Primer P is to be used on existing painted substrates, Sub Primer HT is to be used on all exposed masonry

*All Fixings must be applied through the system mesh with mesh patch applied over fixing (See technical details)

**FF (Fire Fixing) must be applied at a rate of 1 per m2, pinned through the system mesh, above the second storey please apply in addition to the instructions found in section 2.8

-All fixings subject to pull out testing & Wind load calculations



Material & Component Description	1.3 Base Rail:	Aluminium horizontal base rail 2m long. (For Reference, see Section 1.2.) Base rails shall be fixed to substrates with zinc coated carbon steel hammer-drive fixings (minimum 6mm diameter, shank 60 - 80mm long) and to wooden substrates with pan-head or washer-head stainless steel wood screws (minimum 32mm long). Spacing of fixings to be maximum 300mm centers. Contractor to ensure that system complies with CP3: Chapter V: Part 2: 1972 in relation to its structural stability. 1.4 Substrate Primer:
	1.4 Substrate Primer:	In accordance with Section 1.1
	1.5 Adhesive:	In accordance with Section 1.1: Mixed with Clean Water Only
	1.6 Insulation Board:	i: Mineral Wool HD Board, nominal density 140kg/m ³ . To BS 3837 Part 1 1986. Thermal Conductivity 0.036W/mK; BS EN 13501-1:2007+A1:2009 ii: Thickness shall be as indicated under Section 1.1. iii: Maximum size of HD Board shall not exceed 1200 x 600mm.
	1.7 Fire Barriers:	Fire Barriers are not required for the Ecomin Systems
	1.8 Beading:	Provide beads and stops at all external angles and stop ends except where detailed otherwise. See section 1.2 for Reference.
	1.9 Reinforcing Coat:	In accordance with Section 1.1 mixed with Clean Water Only.
	1.10 Reinforcement:	Reinforcement shall be Specified Alsecco Reinforcing Mesh as per Section 1.1 & Clause 1.9 with symmetrical interlaced glass fibre made from twisted multi-end strands, coated to provide a high resistance to alkali attack and is manufactured so as to prevent laminar movement and deformation. In accordance with the appropriate details, Panzer mesh or Armatop Nova with Nova mesh can be used in areas at risk of impact damage.
	1.11 Topcoat Primer:	In accordance with Section 1.1
	1.12 Topcoat:	In accordance with Section 1.1
Execution	2.1	All installation of Alsecco materials in the UK shall be performed by Alsecco Contracting Partners. Under no circumstances shall any of the Alsecco products be altered with any additives, except for small amounts of clean water as directed on the label.
	2.2	If required, apply Alsecco Sub primer to substrate. (See section 1.1 for reference.) All substrate must be free of loose particles, dusting, grease and oils.
	2.3	If required, a fungicidal wash must be applied.
	2.4	All exposed metal work that is to be covered by Alsecco EWI Systems to be coated with an appropriate primer e.g. Disbon or similar and left to dry prior to EWI application.
	2.5	If substrate is of poor alignment and levelling is required, use Alsecco TZ1 basecoat (without reinforcing mesh). Not suitable for lightweight or AAC Blockwork.

Execution	2.6	Align base rail and fix with Alsecco anchors spaced at a maximum of 500mm apart - ensure that the base rail is not distorted. Insert base rail connectors at all rail joints. Corners should be made with mitred cuts, or an Alsecco pre-formed corner section. Level and line can be adjusted using Alsecco spacers available in a range of sizes.
	2.6.1	Align the horizontal rails and fix with Alsecco anchors at a maximum of 300mm apart – ensure that the rail is not distorted. Alsecco Packers should be used to achieve correct alignment of the horizontal rails
	2.7	Mix Alsecco adhesive mortar and apply to back of Insulation board using spot and continuous dab method. The adhesive mortar must cover at least 50% of the board / substrate unless detailed otherwise. (Typically dab and 3No. Spots per board). On flat and even substrate, the tooth bed method of application can be used. 100% of board / substrate must be covered when using the tooth bed method of application with Insulation board. On substrates where mechanical fixings are not required, the tooth bed method must be used.
	2.8	Lamella Fire Barriers are not required for any of the Ecomin Systems
	2.9	Ensure that all insulation board edges are clean and free of adhesive mortar. All joints must be staggered, min 200mm (see Fixing Layout Detail); additional cutting may be required around doors and windows to ensure that board joints do not correspond with corners of openings. Fit the insulation boards tightly and bed well. Any open joints between insulation boards up to a max width of 10mm must be closed with a strip of insulation board - NOT adhesive mortar or render.
	2.10	Allow approx. 12 to 72 hours drying time for Alsecco adhesive mortar, depending on type of adhesive mortar and weather conditions. Subsequent rendering, mechanical anchoring or finishing work on insulation boards must not be carried out until adhesive mortar has set and not before 24hrs.
	2.11	Mechanical fixings (if required) as specified in Section 1.2 are specified according to board thickness and substrate. Anchors should be fixed in accordance with the manufacturer's instructions and Alsecco fixing requirements. (See Fixing Layout Detail)
	2.12	Rasping of the Mineral Wool HD must not take place, as the process will damage the properties of the insulation board. Misalignment must be rectified within the adhesive and basecoat layers.
	2.13	Install Propriety Alsecco Sealant in conjunction with detail drawings. (See Section 1.2)
	2.14	Corner bead and any additional beading as specified in Section 1.2 to be secured to insulation boards with Alsecco Basecoat render at corners and align until plumb.
	2.15	All beads should be cut neatly, mitres formed at return angles and sharp edges, swarf and other potentially dangerous projections removed. Fix securely, using the longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with background. After coatings have been applied, remove coating material while still wet from surfaces of beads/stops, which are to be exposed to view.

Execution	2.16	Apply Alsecco Basecoat render (as specified in Section 1.1) to the fixed insulation boards using a stainless steel trowel. Level out using a plasterer's straight edge or by combing through with a 10x10 tooth trowel. Float specified reinforcing mesh (see section 1.1) into the top of the basecoat render, ensuring a minimum horizontal and vertical overlap of 100mm for the glass mesh. All corners at openings must be additionally reinforced with 250 x 250mm mesh strips embedded diagonally into the wet basecoat render. Immediately trowel the mesh into the basecoat while still wet and smooth off to finished thickness using a stainless steel trowel. For optimum strength, the mesh must sit in the top one third of the basecoat. Leave basecoat render to set for at least 2 to 3 days before applying Alsecco topcoat renders. Adjoining areas of EPS insulation and Extruded Insulation must have an additional strip of reinforcing mesh applied within the basecoat with a minimum 200mm overlap.
	2.17	Not applicable with Alsecco Basic 4. See Below
	2.18	Prior to the application of topcoat, all scaffolding boards should be cleaned to ensure minimum dirt being transferred onto the finished topcoat. The topcoat is a finishing trade, work sequencing should ensure that no or very minimum work is carried out onto the render after application of topcoat. Where Scaffold plugs are to be retained, appropriate Scaffold Ties to be used in accordance with system details.
	2.19	Not applicable for Ecomin 400 with brick finish. See appropriate clause below (2.22 - 2.24) in conjunction with Section 1.1
	2.20	The topcoat render, is applied in accordance with the following general rules: a Using a clean, rust-free low speed mixer, thoroughly stir the Alsecco finish to a uniform consistency. b Finish shall be applied in a continuous application always working to a wet edge. Care should be taken to avoid texture changes at different levels. To prevent staining of the finish coating, always ensure that the scaffold boards are free from dust before commencing application of the final coat. If possible, entire sections or elevations should be coated in a single operation to avoid joint marks in the finish. Often this can be achieved by working to natural breaks in the building or changes in colour or texture. Where day-joints are unavoidable these should be made to coincide with natural features such as a line of window cills. Apply a masking tape at the desired position of the joint and apply the finish overlapping the edge of the tape. Carefully remove the tape while the finish is still wet to leave a fair edge. Once the finish material has set subsequent applications may be applied by masking the previously completed section with tape and carefully applying the new finish to achieve a barely visible joint. c Only in situations where mineral renders (Miratect & Alsilite) are to be used, irregular shading and patching due to uneven drying cannot always be avoided. Evenness of colour can be achieved by applying ALSECCO Equalising finish. d. Weather conditions will be a factor in the application of the finish as well as the drying time. e. An option for areas of high salt-water attack, a final coat of Alsecco Alsicolor Quatro can be applied.

2.22 Brick Slips	(In conjunction with Section 1.1) Incorporate vertical expansion joints in the brickwork and tile coursing by introducing a flexible joint compound in place of the pointing or grouting mortar. Vertical joints to brickwork should follow the brick bond line. Joints should correspond with window or door opening or approx. every 3m vertically for dark coloured finishes or 6m vertically for light coloured finishes. In accordance with BS5628 : part 3 2005 Use of masonry.
2.23 Brick Slip Flex	(In conjunction with Section 1.1) Use a trowel to apply the Bonding Mortar AF to the basecoat and a notched trowel (4 x 6 or 5 x 5mm) to comb through the adhesive in a horizontal direction to create a ridged bed. Place the brick slip flex on top of the open adhesive, leaving a joint width in between and press into position. Use a damp brush to smooth the adhesive over in the area of the joint before the adhesive has set. Ensure a close connection between the adhesive compound and the brick slip flex Only apply as much adhesive as can be covered with brick slip flex before a skin is formed.
2.24 Render Brick	(In conjunction with Section 1.1) After the basecoat has had a minimum 24 hours drying time, apply an additional Intermediate Mortar Coat layer, 2mm thick. (Intermediate Mortar Coat consists of Spardash DLX. Colour to match Basecoat.) This is used to form the Mortar Joint. Immediately apply, wet on wet, a 2-3mm thick layer of decorative render brick topcoat. (Consisting of Spardash DLX - Colour as requested.) Give these layers 8-16 hours drying time. Using a straight edge with a joint cutting tool, scrape out the brick profiles, cutting through the topcoat & intermediate coat, back to the hard basecoat to form the mortar joint. NOTE: If top layer of render brick is of dark colouring, lime bloom will occur. To prevent this, a wash of Alsecco Hydrophobic MI agent must be applied once all coats are dry. (Technical Data Sheet available upon request.)
2.25 Deco Profiles	(In conjunction with Section 1.1) a. On External Wall Insulation Systems, the decorative Profiles must always be applied to finished reinforcement layers with the appropriate reinforcing mesh. The profiles to be applied to the façade must be measured out and marked according to the installation plan. For window cill profiles alignment is made with the centreline of the window/window sill profile. b. Profiles are cut to size using a hacksaw with a carbide blade and a mitre block. c. Profile adhesive applied to both substrate and back of the profile. Profiled applied in accordance with details. Profile is firmly pressed onto substrate using a straight edge and can be propped to prevent slipping. d. Smooth off all excess profile adhesive, once all joints are fully sealed. e. All profiles, which are not tightly butt-jointed, must be installed with 10mm spacing. Allow 24 hours for adhesion before filling the joints with Alsecco Polyurethane Foam. Once hardened, Polyurethane foam scraped out to a depth of 10mm and void filled with Alsecco Dammflex Sealant. f. Apply profile adhesive with a specific trowel to smooth out window reveals. Any trowel marks to be ground down. Accurate edges achieved by installing the Deco Profiles 2mm above the window level of the window reveal towards the centre of the window. Protruding profile edges allow for sharp edged reveals. g. Window cill reveals must be insulated to accept window sill profiles. Care must be taken to ensure that the inclination of the window cill is in line with that of the window sill profile. This connection with the window frame must be sealed with an Alsecco sealing system. Once the window sill profiles have been installed, apply profile adhesive to the horizontal surface, apply Alsecco glass fibre mesh 32 and trowel over with sufficient mortar to cover the mesh. Profiles coated with two coats of Alsicolor, Si façade or Hydro Equalising finish in the desired colour

Protection and Cleaning	3.1	All installation of Alsecco materials in the UK shall be performed by Alsecco Contracting Partners. Under no circumstances shall any of the Alsecco products be altered with any additives, except for small amounts of clean water as directed on the label.
	3.2	All plasters described should never be applied if ambient and surface temperatures cannot be kept above +3°C for mineral products, +5°C for acrylic and silicon products and +1°C for ice products during application and drying period. Prior to installation, the wall shall be free of residual moisture. The stored material should be protected from frost and strong sunlight.
	3.3	Although it is preferable when working with highly pigmented renders to mask or protect other building elements such as windows, sills, etc., spilled or dropped materials may be removed easily from most surfaces with a wet sponge or cloth before the material has dried out. Renders which have been allowed to partially dry may be removed by using a soap solution to soften the render and warm water to clean the surface. Absorbent surfaces such as concrete, brick, etc. maybe affected by the pigments of the render and where spillage is likely then these surfaces should be protected with appropriate covering material.
General Comments	4.1	Remove efflorescence, dust and other loose material by thoroughly dry brushing. Remove all traces of paint, grease, dirt and other materials incompatible with coating by scrubbing with water containing detergent and washing off with plenty of clean water. Allow to dry before applying coatings unless specified otherwise.
	4.2 (515) KEYING/ BONDING:	Prepare backgrounds as specified for the type of coating to be applied. Methods other than those specified may be submitted for approval.
	4.3 (573) TREATMENT OF ORGANIC GROWTHS:	Biocides must be approved and registered by the Health and Safety Executive (HSE) and listed in the current 'Reference Book 500', as surface biocides.
	4.4 (810) APPLICATION GENERALLY:	Apply each coating firmly to achieve good adhesion and in one continuous operation between angles and joints. All coatings to be not less than the thickness specified firmly bonded, of even and consistent appearance, free from rippling, hollows and ridges. Finish surfaces to a true plane, to correct line and level, with all angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square. Prevent excessively rapid or localised drying out. The standard of finish shall meet the requirements of BSEN 13914-1: 2005 NA.15 assessment of external rendered finishes Alsecco would recommend where possible that the variation in gap under a 1.8m straight edge (with feet) placed anywhere on the surface to be not more than 3mm.
	4.5 (880) DRYING:	Work in the shade and out of drying winds whenever possible. Allow each coat to dry out thoroughly to ensure that drying shrinkage is substantially complete before applying next coat.
	4.6 (890) PROTECTION:	Adequately protect newly applied external coatings against frost and rain for the first 48 hours using polyethylene sheet / Debris netting hung clear of the face, or other approved method.