wetherby

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Project Specification - Wetherby Generic Specification

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BBA APPROVED – 09/4625 – PS2
WBS EPSIWALL SYSTEM

Project Specification – PAS 2030:2019

Project Name:	GHG 2021
System:	Wetherby Epsiwall External Wall Insulation System
Substrate:	Masonry
Insulation:	90mm Enhanced EPS Insulation
System Finish:	WBS HECK Silicone 'K' 1.5mm Textured Finish

WETHERBY BUILDING SYSTEMS

Wetherby Buildings Systems are the UK's market leading EWI system supplier, providing quality products and systems and unrivalled technical and on-site project support. We aim to provide environmentally responsible and sustainable building products of the highest quality, continually improving on our quality and system accreditations to ensure that optimum standards are met.

WETHERBY PREMIUM CERTIFIED PRODUCTS

Wetherby Buildings Systems products and EWI systems are tested to the highest level with an unrivalled range of BBA, BDA and ETA certificates available for use on projects in the UK. All testing achieves the highest European standards, ensuring long term durability, strength and premium performance. BBA/BDA approved systems provide a minimum life expectancy of 30 years. BRE Fire Certification has also been achieved for a large number of systems, with certain certification extending to 60-year life expectancy.

UK MANUFACTURING

Here at Wetherby, we take our responsibility to 'Buy British' extremely seriously. All of our current and potential suppliers undergo a rigorous annual assessment. Each supplier is reviewed over a number of areas including responsible procurement, product suitability, commitment to sustainability, quality etc. Only when we are completely satisfied are they included on our Supply Chain Database.

ISO 9001, ISO 14001, & ISO 45001

Wetherby Building Systems have a strong pro-active approach to internal Quality Systems, Environmental Management Systems and Health and Safety.
Our ISO Integrated System is regularly audited internally by qualified auditors and annually by independent external auditors, Alcumus ISOQAR. This ensures consistency in the supply and quality of our materials and services, and our environmental responsibilities and targets which we take very seriously. This includes our ongoing commitment to recycle, re-use, reduce GHG's and improve products and systems alongside our partners and suppliers. The main aim is to maximise sustainability for all products and systems across our extensive range. We have a strong pro-active approach to Health and Safety. We manage all risks associated with our activities by regularly monitoring our premises, revising Risk assessments, Safe Systems of work, and Method Statements when required. We strive to provide the best training, support, and management on all our projects providing knowledge and experience throughout the task being undertaken.

Certificate Number 16512
ISO 9001
ISO 14001
ISO 45001

TECHNICAL SERVICES

Wetherby offer a wide range of technical services to support project design and system installation. In depth NBS Specifications, project specific CAD drawings, photographic overlays, U-values and condensation / humidity risk analysis documents are all readily available via our Technical Support Team. For **Technical Enquires** please contact on **0800 1073299** or technical@wbs-ltd.co.uk

TRAINING SERVICES AND TRAINED APPLICATORS

We provide a variety of in-depth training courses, covering all systems, to ensure that installations are completed to the highest possible standards.
For training enquires please contact: 01942 529336.
For information on our Trained Applicators please contact your Area Sales Manager as per details on page 2 of this specification.

SITE SUPPORT, PULL OUT TESTS AND INSPECTIONS

Wetherby Building Systems offer unrivalled site support for EWI projects with 8 Site Supervisors strategically positioned across the UK. Pull out testing, product information, detailing advice and application assistance are all available from our experienced team.

SAMPLE SERVICE

We provide a FREE sample service for all of our products and systems.
To access this service, contact our sample department on 0800 1073288 or alternatively e-mail Angela Naylor who will be more than happy to assist you with your enquiry: angela.naylor@wbs-ltd.co.uk

GUARANTEES

In conjunction with our Recognised Contractors, Wetherby provides a joint guarantee covering defects in materials and installation on Wetherby BBA approved systems for the first 10 years of the system lifespan. Extended guarantees are available for government backed schemes* provided alongside carefully selected third party insurance partners, with Wetherby being a founder member of SWIGA.
(*conditions apply)

CDM REGULATIONS 2015

Wetherby Building Systems provide technical support as a supplier of façade systems and we hold the position of 'designers' according to the CDM Regulations 2015. Wetherby have a number of legal responsibilities in this role when preparing or modifying designs, to eliminate, reduce or control foreseeable risks that may arise during construction, maintenance and use of a building once built. We are also obligated to provide timely information to other members of the project team to help them fulfil their duties.
Further information is contained in our CDM document (WF224) which is applicable to all designs and is available on our web site (www.wbs-ltd.co.uk/xpagex) or on request

PAS2035:2019

The PAS2035 design process must be followed as per the PAS document "PAS 2035:2019 Retrofitting dwellings for improved energy efficiency – Specification and guidance".

It is essential the correct surveys are completed, risk assessments are carried out and the roles and responsibilities are agreed, including a Retrofit Coordinator, taking responsibility for the specific property design.

This specification must be agreed and signed off by the project specific Retrofit Coordinator, as the PAS2035 provides a whole-house approach.

PAS 2030:2019 REQUIREMENTS

PAS 2030:2019 PRE-INSTALLATION BUILDING INSPECTION REQUIREMENTS

- Pre-installation Building Inspection Requirements

1. To meet the requirements specified in PAS 2030:2019, the designated competent person assigned by the installer shall confirm that:

a) A full and detailed pre-design building survey has been undertaken by a competent person (see B4-I3 of the PAS), prior to the retrofit design being undertaken; and

b) The retrofit design relevant to the installation under inspection has been produced in accordance with PAS 2030:2019, taking full account of the findings and recommendations of the pre-design building assessment, including:

- thermal performance calculations
- condensation risk analysis
- ventilation requirements and standard / bespoke drawing details
- the main components of the system including the fixing type / method, the insulation type and thickness, the joint details and specifications, the reinforcing coat and type of reinforcement and the finish;
- the proposed details for the main interfaces; (thermal bridging, meter boxes, reveals, roofline joists, party walls, base detail with particular reference to below dpc, base/floor details, seals at windows/doors, seals to penetrations, light fittings, sockets, fixing and sealing of surface mounted structures, interfaces with ceilings, interfaces with roof, junctions between the system and other finishes and/or other EEM) clearly demonstrate how the installation will avoid condensation risk particularly at moisture sensitive locations such as timber joist ends and within the wall structure (interstitial/surface condensation); and
- the installation to the retrofit design is practical and achievable given the particular EWI system chosen for the project and the specific dwelling construction, site conditions and other EEMs planned for the property. (See also the Measures Interaction matrix Figure A.1).

2. As a minimum the pre-installation building inspection shall investigate and assess if the EWI installation work will:

- result in non-compliance with the Building Regulations, e.g. in relation to workmanship, materials, structural stability, fire safety;
- provide resistance to moisture. Where possible, any areas of non-compliance shall be rectified by selection of another solution/ detail, which shall be documented in the pre-installation building inspection and all contract documentation amended accordingly i.e. specification, drawings, method statement;
- result in avoidable thermal bridging; where thermal bridging is avoidable by adaptation of the detail, such measures shall be taken and the contract documents amended to suit. Design details shall be such that they incorporate additional capacity, that for example, will provide water management within the system should surface or interstitial condensation occur;

- result in unsafe operation of combustion appliances; unless an alternative safe detail can be found, EWI works shall not progress in the area causing the unsafe operation;
- compromise the functionality of existing ventilation ducts/systems; unless an alternative safe detail can be found, EWI works shall not progress in the area causing the unsafe operation;
- compromise the functionality and/or safety of existing services (gas, electric, water, telephone, etc.); unless an alternative safe detail can be found, EWI works shall not progress in the area causing the unsafe operation; and
- result in the proposed installation being non-compliant with any requirements of the EEM supplier or of the retrofit design.

3. The pre-installation building inspection shall include confirmation that the condition of the substrate is suitable for the works to commence and where all or any of the substrate does not fulfil the requirements for installation, preparation of proposals for adaptations to be made or additional preparation undertaken that will be necessary in order that works can commence.
4. All instances of potential non-compliance identified in the pre-installation building inspection shall be documented and referred to the Retrofit Coordinator for resolution. Any design adjustments, special adaptations and/or additional preparation requirements shall be confirmed as acceptable in writing, by the system supplier and/or the Retrofit Coordinator.
5. The retrofit design documentation shall be amended to include any specified changes to the installation, the installation method statement modified accordingly and the pre-installation building inspection records updated to provide documentary evidence that the intended modified installation will address all the issues identified in the pre-installation building inspection and meets the requirements of all parties.

NOTE: In undertaking pre-installation building inspections it is recommended that Installers consider using an industry recommended checklist e.g. the External Wall Insulation pre-installation building inspection checklist [N7] (see 10.7.1).

PAS 2030:2019 ADDITIONAL INSTALLATION REQUIREMENTS

The Installer shall ensure that the methods used for the installation of external wall insulation (EWI) products or systems are as recommended by the system supplier and in accordance with the relevant retrofit design and incorporated in the installation method statement.

In undertaking the installation, the installers responsibilities shall include:

a) Before installation starts, confirming that the retrofit design has made provision for ensuring that:
- the EWI system provided for installation is that recommended by the pre-design building survey and specified by the retrofit design;
- wind loads have been calculated and taken into account in the fixing requirements;
- all essential ventilation openings that require sleeving or safeguarding before installation are located and identified;
- the position of all flues whether or not they are in service is determined and the measures that shall be taken to safeguard their proper functioning is determined;

- any existing cables, pipework, ducting etc. that require it are removed or repositioned as/where necessary to accommodate the planned EWI system, with authorization from the relevant responsible body (where required) and undertaken by a person competent to undertake such work;
- the existing ground levels, paths or decking adjacent to the dwelling are 150 mm below the level of the damp proof course; and
- other areas of the dwelling and surrounding area that could be at risk during installation are adequately protected to ensure they are not damaged.

In the event that any of these aspects is not adequately covered, liaising with the Retrofit Designer to provide for their undertaking.

b) During installation, ensuring that:
- all work is carried out in accordance with the site-specific retrofit design, drawings and method statement and that work is not permitted to progress unless copies of the site-specific specification documentation are accessible at location and all operatives are aware of the content and requirements relevant to their designated activities;
- the system and all detailed interfaces with other parts of the dwelling or other planned EEMs to be undertaken in a manner and sequenced such, that all measures are fully effective, with optimized performance and junctions that are safe, durable and fully weatherproof for all expected exposure conditions. e.g. interface between EWI system and planned replacement windows; and
- whether or not specifically required by the retrofit design, the items listed in **i** to **viii** below are given particular attention with regard to the efficacy and durability of the detail especially concerning the management and exclusion of moisture and/or the risk of surface/interstitial condensation or rising damp. Mastic sealants shall always be supported by a primary seal below, and all details shall be fully weatherproof:

i. system base detail (including below dpc);
ii. interfaces with roofs at eaves and verges (where metal or plastic cappings and trims shall not be used);
iii. window/door reveals/heads;
iv. system/cill interfaces (incl. overhang requirements/weepholes/thermal movement);
v. surface fixtures (structurally sound);
vi. penetrations through the system;
vii. interfaces with roof soffits, flat roofs, conservatory roofs etc.; and
viii. detailing and sealing around vents/flues, meters and other heating related structures/pipework.

PLEASE REFER TO WETHERBY PAS2030:2019 DETAIL DRAWINGS FOR GUIDANCE

- all weather seals at the interface between EWI systems and other structures/finishes are installed with particular attention given to the soundness/cleanliness of contact surfaces, continuity and effectiveness around corners, bond to surfaces and the durability of the water seal;
- all details are installed to minimize the risks of thermal bridging, removing/relocating/extending to allow continuity of insulation in all cases e.g. rooflines, meter boxes, pipework, flues, ducts;
- photographic evidence of key stages of the installation is prepared and retained for the period of the guarantee, including close up photographs of representative examples of all moisture and thermally sensitive details;
- installations are undertaken in accordance with the specification for the installation of external wall insulation ensuring the safety and operation of fuel burning appliances, taking account of the recommendations provided in the document External wall External Wall Insulation Specification for Weathering and Thermal Bridge Control [N1] (see 10.7.1);
- ventilation of the dwelling is assessed and if necessary upgraded in accordance with the retrofit design and with the requirements of PAS 2035; and
- upon completion of the installation or at the end of each working day, if the installation takes longer than one day, the operatives investigate and confirm the proper functioning of all ventilation openings and flues.

NOTE 1 The relevant installation methods will have been included under current certification issued by a product certification body, with respect to the product/system to be installed, against UK requirements and regulation and the installer

should be aware that training from the supplier or training acceptable to the supplier is necessary before an application for assessment/certification is made to a certification body.

NOTE 2 Attention is drawn to the need, where relevant, for all external wall insulation installation work to comply with the current Building Regulations that apply in the UK country in which the installation is being carried out. In particular, the need for compliance in relation to the following aspects is highlighted: fire safety; resistance to moisture; ventilation; and conservation of fuel and power. Further guidance on the requirements of the Building Regulations in England is provided in Approved Documents A-P [N2] and Regulation 7: Workmanship and Materials [N3]. Further guidance on the requirements of the Building Regulations in Wales is provided in Approved Documents A-R [N4] and guidance on Regulation 7: Workmanship and Materials [N3]. Further guidance on the requirements of the Building Regulations in Scotland is provided in the Domestic Technical Handbook [N5] and Non-Domestic Technical Handbook [N6].

PAS 2030:2019 INSTALLER COMPETENCE RATIO

For each installation task to be undertaken, the installer shall employ or subcontract at the particular location, at least one vocationally competent operative. For each installation, the vocational competence ratio (see 3.28) shall be determined by the installer in relation to the:

a) range, scale, geographical spread and complexity of the work being undertaken; and
b) supervision and experience of the individual that meets the vocational competence requirements for the relevant tasks and the relative experience of the operatives being supervised;

but shall not be less than one carded operative per team of 4 (1 to 3), at the specified installation location at any time.

NOTE 1 Where a vocationally competent operative is newly qualified, it may be appropriate for a lower competency ratio to be applied.

For each installation task to be undertaken at a particular location, supervision, inspection and confirmation of compliance of all work undertaken in respect of that task at that location shall be undertaken by a vocationally competent operative appointed by the installer to do so.

NOTE 2 It is recommended that vocationally competent operatives carry a document supporting the nature, currency and source of that competency, for production upon request.

WETHERBY EPSIWALL SPECIFICATION

M21
Insulation with rendered finish

To be read with Preliminaries/General Conditions.

This specification is valid for 6 months from issue date, due to the changing industry regulations and requirements.
For an updated version of the specification please contact the relevant technical sales manager.

GENERAL / SYSTEM REQUIREMENTS

120 SURVEY OF EXISTING WALLS

- Timing: Before starting work covered in this section.
- Objective: To confirm suitability for application of external wall insulation system.
- Survey report: Submit, covering all relevant matters listed below:
  - The form and condition of the structural substrate.
  - A schedule of repairs and / or additional works necessary to render the substrate suitable to receive the system.
  - A schedule of services, fixtures and fittings requiring removal to facilitate installation of the system.
  - Proposals for treatment of potential cold bridges e.g. reveals, concrete floor edges.
  - Remove existing rainwater pipes and re-direct away from work surface whilst work proceeds. Ensure all rainwater from the roof area is carried away from the work area by means of temporary fixed rainwater goods.
  - Remove, extend beyond the surface of the proposed system and securely re-fix, to the satisfaction of the supervising officer, soil stacks, waste water pipes, overflows, vent pipes etc.
  - Any other information considered relevant.

160 REMEDIAL WORK

- Remedial work shown to be necessary by survey: Employer's responsibility.

180 STRUCTURAL SUBSTRATE

- Description: Masonry.

- Preparation:
  - Treatment to Existing Sound Surfaces
    Remove any loose material and existing render, where required dub out the surface level, ready to receive the EWI system. The existing walls are to be cleaned with a wire brush or pressure jet wash, to the satisfaction of the Contract Administrator, to remove any friable material, algae or lichen, and to provide a good key for Wetherby products. Treat areas of moss, algae and mould growth with WBS Biocidal Wash. Dense smooth surfaces may require treating with WBS Stabilising Solution / Bonding Agent to ensure adequate adhesion on wet fix or render only applications.
  - Dubbing Out
    Where necessary dub out, using Wetherby Dubbing Render, any hollow / defective areas to leave a suitable surface for the application of the insulation boards. Maximum dubbing coat thickness: 16mm.
  - Biocidal Wash
    Where required, apply one coat of Wetherby Biocidal Wash to the entire surface by roller or knapsack spray and allow to dry. Brush the surface to remove all signs of growth before rendering commences.
  - Stabilising Solution
    Where required, apply one coat of Wetherby Stabilising Solution to the entire surface by roller, ensuring uniform coverage and allow to dry.

210A EXTERNAL WALL INSULATION SYSTEM

- **Manufacturer**:
  Wetherby Building Systems Ltd.
  1 Kid Glove Road
  Golborne Enterprise Park
  Golborne
  Greater Manchester
  WA3 3GS
  Tel: 01942 717100
  Fax: 01942 717101
  Email: info@wbs-ltd.co.uk
  Web: www.wbs-ltd.co.uk

- System Reference: **Wetherby Epsiwall External Wall Insulation System**.

- Insulation: WBS Enhanced EPS Insulation Boards.
  - Thickness: 90mm.
  - Board Size: 1200 x 600mm.
  - Density: 15 Kg/m³.
  - Minimum Compressive Strength: 70 KN/m².
  - Thermal Conductivity: 0.032 Wm²/K.
  - Performance in Relation to Fire:
    - Flame Retardant Grade.
    - Class E (BS EN 13501-1:2002)
  - Environmental:
    - CFC / HCFC Free.
    - Zero ODP.
    - GWP Less Than 5.

- Fixing: Mechanical Only.
  - Insulation Adhesive: N/A
  - Fixing Type: TFIX-8M x 135mm (subject to pull out tests and inspection of existing substrate).
  - Fixings must achieve a minimum pull out of 0.7kN. Higher pull out test results may be required depending on the project type and location.

- Insulation to Reveals: TBC.
  - Thickness: TBC.
  - Fixing: TBC.

- Below DPC (Where Required).
  - Insulation Type: TBC
  - Thickness: TBC.
  - Fixing Type: TBC.
  - Bedding Coat: Weathercoat 422 brush applied at 2mm to bottom of basetrack, substrate and bottom of insulation board.
  - Reinforcing Coat: Wetherby Scrim Adhesive applied 6-8mm and reinforced with alkali resistant glass fibre reinforcing mesh.
  - Decorative Finish: TBC.

- Movement Joints: As Per Drawings.
  - Vertical Movement Joint Ref: WBS MJ6 Movement Joint.
  - Horizontal Movement Joint Ref: WBS RCJT & RCJB Horizontal Compression Joint.
  - Movement joints must be used to replicate any structural movement joints in the existing substrate as per site survey / Structural Engineers report.
  - All beads must be fully meshed in.

- Fire Breaks: TBC.
  - Firebreaks are required on all projects 2 storeys and above including party walls as per BRE Report BR135:2013.
  - Firebreak positioning to be confirmed by Local Building Control.

- Reinforcement: WBS Alkali Resistant Scrim Cloth incorporated into top third of the WBS Heck K&A Scrim Adhesive.
  - Reinforcement Adhesive: WBS Heck K&A Scrim Adhesive.
  - Secondary Fixing: TBC.
  - Fixing Type: TBC.
  - Secondary mechanical fixings are required on all projects 2 storeys and above as per BRE Report BR135:2013.
  - NHBC require in all cases that a minimum of one non-combustible fixing is installed through the reinforcement mesh per insulation board, in addition to other fixings.
  - Secondary fixing requirements to be confirmed by local building control.

- Decorative Finish.
  - Wetherby Primer: Solvent free pigmented bonding primer in a colour to match the finish coat.
  - Wetherby Finish Coat: HECK Silicone 'K' 1.5mm Textured Finish.
  - Colour: TBC.

- Beads / Trims / Accessories.
  - Full System Beads / Trims:
  - Wetherby Starter Track Ref: WBS 9149 (90609) 90mm Aluminium Base Rail with WBS 37400 Profile Clip.
  - Wetherby Full Depth Stop Bead Ref: WBS 9249 (93309) 90mm Aluminium Full System Stop Profile.
  - Mechanical Fixing: WBS HIT 6/5 Hammerscrew Bead Fixing.

- Wetherby Cills: Type TBC.
- Aluminium Overcill (if required)
  Wetherby Aluminium Overcills. All cills shall be site measured and supplied with welded end caps to suit the application.
- Aluminium Undercill Extenders (if required)
  Wetherby Aluminium Undercill Ref: 731/115 140mm Aluminium Undercill.
- All cills and flashings must provide a minimum 40mm overhang to protect the Wetherby System.

- Surface Render System Beads:
  - Wetherby Corner Bead Ref: WBS 3707 PVC Corner Bead.
  - Wetherby Render Bellcast Bead Ref: WBS B10 PVC Bellcast Bead.
  - Wetherby Render Stop Bead Ref: WBS RS6 PVC Stop Bead.
  - Wetherby Vertical Movement Joint Ref: WBS MJ6 PVC Movement Joint.
  - Wetherby Horizontal Movement Joint Ref: RCJT & RCJB Horizontal Compression Joint.
  - Wetherby APU Frame Seal Ref: WBS APU 38909 PVC Frame Seal.

- Accessories:
  - WBS Sealing Tape: Pre-compressed, expanding waterproof sealing tape.
  - WBS Firtree Fixings.
  - WBS Jointing Pieces.
  - WBS End Caps.
  - WBS EVO-STIK Silicone Sealant.

310 DESIGN

- Complete the detailed design of system and associated features shown on drawings:
  Complete to meet requirements of this specification. Refer to Wetherby detail drawings.
- Please note all compliance needed to meet Building and Fire Regulations is the responsibility of the principle designer/ main contractor.
- Detailing of system junctions & ancillary items are to be agreed by all parties.

320 INTEGRITY

- Installation Requirements:
  - Weathertight under all anticipated conditions.
  - Capable of resisting all dead loads and design live loads, including impact and wind loads, and accommodating all thermal movements without damage.

330 IMPACT LOADING

- Impact Resistance of Finished Walls: Resistance to hard body impacts (3 joules to 10 joules) and to perforation.

340 WIND LOADING

- Design Wind Loads: The system shall be designed to withstand all design wind loads.

360 SAMPLES

- Procedure: Submit samples / examples of designated items for approval. Keep approved samples on site for the duration of the contract for inspection / comparison purposes.
- Designated items: Textured sample of Wetherby Silicone Finish.

370 UNIFORMITY OF COLOUR AND TEXTURE

- Type / proportion of constituent materials: Unchanged once samples of coatings have been approved.
- Supplies of materials: Sufficient to give consistent and uniform colour and texture.
- All materials shall be manufactured and supplied in accordance with BS EN ISO 9001: 2008.
- WBS renders and mortars are pre-blended during the manufacturing process by the supplier, although care should be taken to ensure colour uniformity between individual batches of material.

380 LIGHTNESS

- It is advised that Silicone Textured Render Systems for application over insulated render backgrounds shall be selected in colour(s) with a lightness factor of >20. Should the lightness factor of the selected colour(s) be <20, please contact the Wetherby Technical Support Team for further information.

390 AVOIDANCE OF COLOUR SHADING

- To minimise the risk of variations in colour shade and to avoid dry line jointing, decorative finishes should be applied continuously without a break.
- Where breaks are unavoidable, they should be made where services or architectural features such as the lines of doors, windows, reveals or drainpipes help to conceal the position of the joint. Surface render beads can be used to provide a clean break in the render.
- Material sharing the same batch number should be used to complete an entire elevation where possible.
- Material with different batch numbers should be checked for colour consistency.

410A INSTALLATION

- Installer: The system shall be installed by a specialist contractor approved for the project by Wetherby Building Systems.

415A EPSIWALL PAS2030:2019 SYSTEM APPLICATION

Base Bead

Securely fix Wetherby starter track with profile clip above DPC level at base of the system. Mechanically fix starter track at max. 300mm centres, 50mm from each end. WBS 3756 base rail connectors should be used to join the tracks, packing shims may be required to ensure the starter track is true to line and level. Any gaps behind the basetrack allowing free air movement behind the insulation should be sealed appropriately.

Full System Stop Bead

Securely fix Wetherby full system stop beads on WBS Sealing Tape to the extent of the system and its abutment to untreated areas i.e. meter boxes, rising service supplies or any other untreated abutment. Stop beads are to be fixed at max. 300mm centres, 50mm from each end. A continuous bead of WBS EVO-STIK Silicone Sealant must be applied to seal the stop bead to the substrate.

Roof Detail

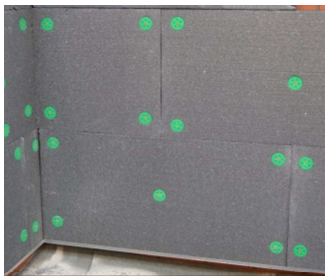
Where the existing roof does not provide an adequate overhang to the EWI system (minimum 40mm), a specialist roofing profile must be sought to provide adequate protection. Alternatively, the roof must be extended as necessary to provide overhang to the EWI system.

To reduce cold bridging, the existing soffit board may need to be removed and the system taken up the entire wall to ensure continuity with loft insulation. It is critical that any ventilation is maintained. Please see Wetherby PAS 2030:2019 detail drawings for further information.

Cills
Securely fix cills, ensuring they are secure and provide a water tight detail to protect the EWI system. Apply WBS sealing tape and WBS EVO-STIK Silicone Sealant as per Wetherby PAS2030:2019 detail drawings.

WBS Insulation Bedding Adhesive (where required)
Bedding adhesive may be required to level the insulation boards on applications to uneven substrates. WBS Bedding Adhesive should be applied in a continuous line around the perimeter of the board with 3 additional dabs of adhesive distributed uniformly over the remaining surface. At least 40% of the board should be covered. The boards should be fully bedded into the adhesive and a mechanical fixing installed through the centre of each board to hold in place whilst the adhesive dries. Alternatively, apply WBS Insulation Bedding Adhesive to the entire face of the insulation boards using a 10mm minimum notched trowel ensuring a full spread of adhesive.

Application of Enhanced EPS Insulation Boards
Position and securely fix the Enhanced EPS insulation boards to the substrate. The boards should be tightly butt jointed, laid with staggered joints and overlapped at building corners. Board joints should not occur within 200mm of the corners of openings. Board pieces narrower than 200mm shall not be used. Any lips / high spots in the insulation boards should be rasped smooth. Where the insulation butts up against dissimilar materials, supply and install WBS Sealing Tape and ensure the boards are fitted tight against the seal, ensuring full compression of the tape.
N.B. thinner insulation may be required in passageways and to window reveals.



Fixing of Insulation Boards
Fix boards mechanically to the substrate using approved WBS fixings at a rate of 8 - 9 per m² in accordance with WBS fixing pattern (fixing pattern located at the back of this document subject to pull-out / wind load calculations). Fixings shall be installed so that the fixing head embeds 1-2mm in to the face of the insulation board surface. Additional fixings should be installed to ensure a maximum of 300mm centres at either side of building corners and around all openings.

Movement Bead / Slip Joints
Fix movement beads / slip joints at agreed locations using WBS approved fixings. Structural movement joints must be mirrored through the EWI system.

Surface Mounted Render Beads
Fix surface mounted render beads directly to the insulation board at required locations using WBS Firtree Fixings.

Existing Air Vents, Grilles etc.
Identify live or used air vents, grilles etc. and extend through the insulation system as work progresses.

APU Beads
Install APU beads around openings where required in accordance with Wetherby PAS 2030:2019 detail drawings. Beads must be applied to a clean surface to ensure optimum adhesion.

PVC Angle Bead
Fix by bedding into first pass of scrim adhesive, PVC angle beads with glassfibre mesh reference WBS 3707 to all external building corners, window / door jambs and heads.

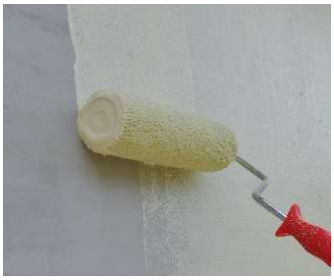
Alkali Resistant Glassfibre Scrim Coat
Trowel apply a 4-6mm thick coat of scrim adhesive to the entire surface of the insulation boards. Lightly run a notched trowel through the scrim adhesive at a 45 degree angle to ensure the correct thickness of adhesive is applied. Bed WBS Alkali Resistant Scrim Cloth into top third of the wet adhesive, overlapping joints by 75mm minimum. The scrim cloth must be overlapped around building corners and returned into all reveals and heads. All beads must be fully scrimmed in. Install additional 250mm x 300mm minimum pieces of scrim cloth diagonally across corners of all wall openings. Finally smooth out scrim adhesive using a spatula.

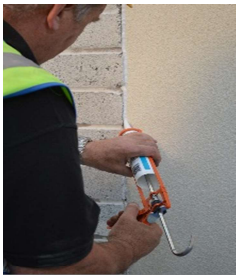
Scrim Adhesive Coat (Second Application)
When initial layer of scrim adhesive has hardened, trowel apply a further 2-3mm coat of scrim adhesive ensuring all alkali resistant mesh is covered. Level the scrim adhesive using a spatula / damp sponge float to achieve a uniform flat and even surface ready to receive the WBS final finish. Allow sufficient drying time before applying the Wetherby Primer.

Silicone Primer
Apply Wetherby Primer with a brush or lamb's wool roller as per manufacturer's printed instructions. Allow Primer to fully dry, minimum 12 hours.

Silicone Render Finish
Mix and apply Wetherby Silicone Textured Finish strictly in accordance with the manufacturer's printed instructions. The top coat should be applied with a stainless steel trowel to the thickness of the grain and finished with a plastic float. Apply in a continuous application always working to a wet edge and in the same direction to ensure consistency of finish. Wherever possible, entire elevations should be completed in a single operation to avoid joint marks in the finish. This can often be achieved by working to natural breaks in the building or working to breaks in colour or texture.

Do not apply Wetherby Silicone Textured Finish with differing batch numbers on the same elevation. Care should be taken to avoid texture changes at different levels. Prior to setting, polish render with plastic float to give an even texture and remove all trowel marks.





Silicone Sealant
Gun apply a continuous bead of WBS EVO-STIK Silicone Sealant at points where the renders will butt up against other materials, e.g. window frames, door frames, eaves, fascia's, projecting wall vents, gas and electric meter boxes etc. ensuring water tightness.

FID Fixings
Install FID fixings through insulation to install lightweight fixtures to the Insulation and Render.

SWI-FIX / Approved Fixings
Install SWI-FIX washer and suitable fixing to be used to fix back items such as RWP's, lights, handrails etc.

Below DPC System Installation
Please refer to the WBS Weathercoat 422 below DPC application guide and Wetherby PAS 2030:2019 Detail Drawings.

Cleaning
Wipe clean all exposed PVC nosing, cills etc., at each work stage whilst render is still wet.

Application Videos
Wetherby have detailed application videos available online, please see http://www.wbs-ltd.co.uk/videos/.

420 ADVERSE WEATHER

- Materials / Surfaces: Do not use frozen materials and do not apply materials to frost bound substrates.
- Adhesives / Mortars / Renders: Do not apply when air temperature is at or below 5°C. Render products may be applied where temperatures are above 3°C on a rising thermometer and are forecast to stay above 5°C for an extended period on the same day.
- Adhesives / Mortars / Renders: Do not apply when relative humidity is equal to or greater than 90%.
- Do not apply materials when the air temperature or wall surface is in excess of 30°C without protection of the surface.
- Temperature of the work: Maintained above minimum level recommended by manufacturer until adhesive / mortar / render has fully hardened.
- Drying Times: Drying times of decorative finishes, particularly pre-mixed water based materials, may be greatly extended during periods of low temperature and / or high relative humidity 90% and above.
- Newly rendered surfaces: Protect newly rendered surfaces against rain, snow or other precipitation. Ensure that material is protected from frost, wash-offs etc.
- Application of renders, mortars or decorative finishes shall not be carried out on elevations where summer strength sunlight is hitting the area square on for prolonged periods without affording protection.
- Coatings damaged by rain or frost: Remove and replace.

440 ON SITE PULL OUT TESTS ON FIXING PINS

- Objective: To prove suitability of structural substrate and determine size and number of fixings required.

490 CONSTRUCTION / MOVEMENT JOINTS / SLIP JOINTS

- Location: As shown on drawings.
- Formation: Accurately to detail.
- Modifications to joint locations / design: Agree revisions before proceeding.
- All structural movement joints must be mirrored through the EWI system.

500 FLUES, CHIMNEYS AND COMBUSTION AIR VENTILATORS

- The combustion air supply must be isolated and air ventilator continuously sleeved through the wall.
- Under PAS 2030:2019, both installer and Retrofit Designer have strict responsibilities placed upon them when it comes to the identification and safeguarding of essential ventilation requirements. Please refer to the PAS2030:2019 Fuel Burning Appliances Document for further information.

With regards to gas flues there are two methods of installation, either a clear gap is left around the flue (300mm for fanned draught flues / 600mm for natural draught flues) or a 200mm non-combustible insulation slab installed around an extended flue. While Wetherby include both alternatives in the detail drawings, main contractors and installers must ensure the chosen method is approved in conjunction with the boiler manufacturer's specification.

510 FIRE BARRIERS

- Material: Non-combustible to BS 476-4.
- Size (minimum): 1200mm x 200mm.
- Installation: At every floor level above and including the second floor and vertically at party walls.
- Installation around openings: TBC, detailing around openings is project specific & to be confirmed by local building control.
- Fixing: Adhesively and mechanically back to substrate. Closely butted at joints and intersections with no gaps. Incorporating intumescent strips, tapes, mastic or foam sealants recommended by system manufacturer where appropriate.
- Dub out: Fire barrier to be 10mm less than main insulant and dubbed out to main insulant with double mesh to prevent shadowing and cracking.

515 LIGHTNING CONDUCTOR

- Should be relocated to the surface of the system or fix Stone Wool insulation strip around the lightning conductor. Notch the back of the insulation board to allow for movement of lightning conductor leaving a 10mm gap as per Wetherby detail drawing.

520 SUPPORTS FOR SERVICES / FITTINGS

- Supports for soil and rainwater pipes, signs, CCTV cameras etc: Provide in locations shown on the drawings.
- Type: timber pattresses same thickness as the insulation, fixed back to the load-bearing background using proprietary countersunk stainless steel screws or other non-corrodible fixings. Timber pattress to be no more than 200mm x 200mm.
- No load is to be transferred to the insulated render system.
- Alternatively, sleeved fixings shall be installed into the load-bearing background after completion of the render works in accordance with Wetherby recommendations.

528 EXTERNAL POWER CABLES

- External power cables must not be covered over by the EWI system or cover plates in any circumstances. Power cables must be relocated, left open and visible or suitably & safely enclosed with guidance from the power distribution authority.

530 SEALANT JOINTS

- Sealant: WBS EVO-STIK 25 Year Life Expectancy Silicone Sealant.
- Joints: Formed in accordance with section Z22 and system manufacturer's recommendations using any necessary joint fillers, backing strips etc.

540 STORAGE OF MATERIALS

- Adequate dry weatherproof and ventilated storage shall be provided for materials.
- All materials shall be protected against frost.
- Insulation boards must be kept dry at all times.
- Cementitious products shall be stored off the floor.
- Renders to be stored in temperatures of at least 5°C.
- Materials should be protected from prolonged exposure to sunlight.

550 INSPECTION OF COMPLETED INSTALLATION

- Timing: As soon as possible after completion of the work and before removing scaffolding.
- Notice for inspection (minimum): 7 working days.
- Defects: Report immediately.

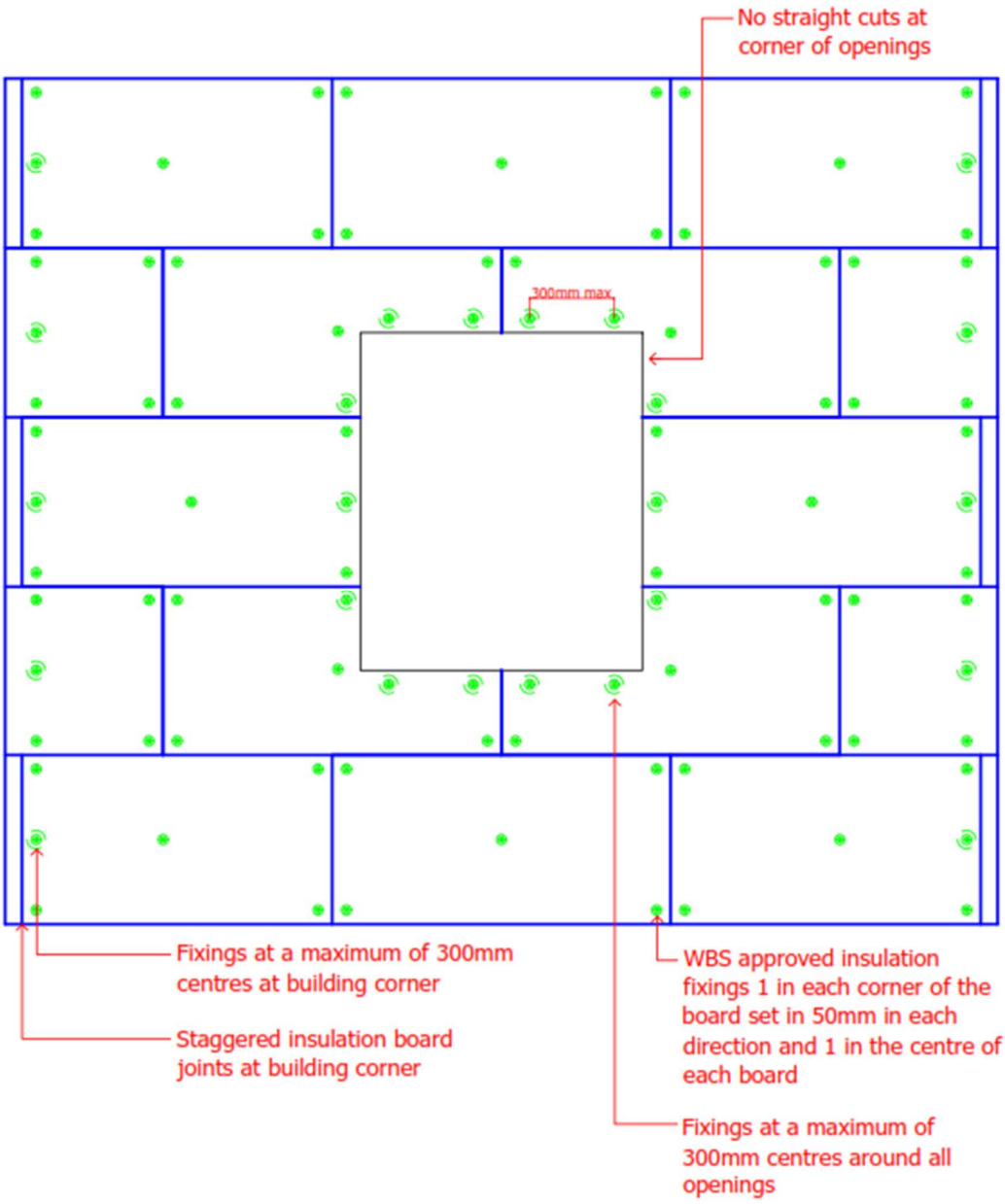
570 MATERIALS AND SITE CONDITIONS

- All materials shall be provided for the proper and efficient execution and completion of the works.
- Materials shall be mixed, applied and fixed in accordance with the relevant clauses of the specification and the manufacturer's instructions.
- A clean, fresh supply of water shall be provided for the works, via the management contractor.
- Suitable scaffolding that has a minimum gap of 300mm (all scaffold items) from the elevation surface in order to facilitate application requirements, shall be provided, erected, maintained and later removed for the proper and efficient execution and completion of the works.
- All necessary temporary supports for drains, water pipes, gas pipes, electrical cables and telephone cables shall be provided and maintained until the permanent supports are reinstated.
- Temporary flexible tubing shall be provided for the efficient discharge of rainwater from the buildings to protect the system during the progress of the works.

580 CLEANLINESS OF WORKS

- Protect all existing works, approaches and adjacent surfaces including windows and doors etc. using suitable sheeting, boards, covers etc.
- Remove all splashes, droppings etc. from completed works immediately and before drying takes place.

590 CONTROL OF POLLUTION

- All debris and rubbish arising from the works shall be removed off site from time to time to keep the site and works clean and tidy. All measures shall be taken to control the noise levels produced by the operatives on site to comply with the Control of Pollution Act. Precautions should be taken to prevent pollution of any river watercourse, reservoir, drainage or the like by the operatives on site.

Wetherby EWI Fixing Pattern (Subject to Pull Out Tests & Wind Load Calculations)