Wetherby Building Systems Ltd
External Wall Insulation System & Polymer Cement Renders

Specification for the Application of the Wetherby 90mm Epsitherm External Wall Insulation System with a Silicone Finish Applied to Solid Wall Properties

Ref: S_15-17
7th April 2015

General Description of Works
The proposed works will involve the necessary removal of all cables, wires, aerials, the removal of all tenants' fixtures and fittings and other surface mounted items from the work surface. The correct preparation of the work surface followed by the supply and fix of the Wetherby External Wall Insulation System in keeping with the product Agrément Certificate. Wetherby System to including all base beads, render beads, trims and flashings. Apply all specified renders and finishes, thoroughly clean down all adjacent areas and remove waste materials from site, all to the satisfaction of the Supervising Officer.

Structural Repairs
All necessary repairs to the structure should be carried out by suitably qualified contractors and be complete prior to the application of any Wetherby products.

Treatment of Tenant's Fittings
Carefully disconnect and remove all surface mounted tenants' fixtures and fittings, e.g., television aerials, brackets, lights, alarm boxes or other tenant's fittings, which should be given to the tenant for safe keeping.

Surface Cables and Wires
Disconnect, make safe, remove, and re-direct any cables either live or un-used from the wall surfaces. Replace on completion of the work to the satisfaction of the Contract Administrator. All necessary services must be maintained during the work.

Existing Rainwater Goods
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. Replace and re-fit upon completion of work to the satisfaction of the Contract Administrator.

Soil Stacks, Waste Water Pipes, Overflows, etc.
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.

Balance Flues, Mechanical Vents, etc.
Identify all live or used balanced flues, mechanical vents, etc. Carefully remove the flue terminal / duct cowl and fix suitable metal or PVC sleeving / trunking to extend the flue / ducting beyond the surface of the proposed insulation system. Securely re-fix all terminals, cowls, etc. Ensure all work is carried out to the recommendations of the Gas Council.

Flues, Chimneys and Combustion Air Ventilators
Reference to be made to CIGA's Technician's Best Practice Guide to Flues, Chimneys and Combustion Air Ventilators, or similar, so that the performance and safety of fuel burning appliances is not compromised by the installation of the EWI measure.
- The combustion air supply must be isolated and the air ventilator continuously sleeved through the wall
- Flueless gas fires require a ventilator that provides a free air area of 10,000 mm²

Under PAS 2030, both surveyor and installer have strict responsibilities placed upon them when it comes to the identification and safeguarding of essential ventilation requirements. Failure to comply will result in PAS 2030 being revoked. Please refer to Wetherby document **WBS-VENTINFO-01** at rear of specification.

With regards to gas flues there are two methods of installation, either a 250mm clear gap around the flue or a 200mm non-combustible insulation slab installed around the flue. While WBS includes both alternatives in their specifications, main contractors and installers must ensure the chosen method is approved in conjunction with the boiler manufacturer's specification.

Treatment to Existing Sound Surfaces
The existing walls are to be cleaned to the satisfaction of the Contract Administrator with a wire brush or pressure jet wash set at 100 bar and minimum 1 metre from the existing substrate, to remove any friable material, algae or lichen, and to provide a good key for Wetherby products. Walls should be allowed to dry following pressure jet treatment.

Fungicidal Wash
Apply one coat of Wetherby Fungicidal 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. Unless otherwise stated, fungicidal wash concentrate should be diluted at the rate of 1 part concentrate to 5 parts of cold clean water.

Dubbing Out
Dub out any hollow / defective areas of existing surfaces where necessary to leave a suitable surface for the application of insulation boards.

Powder Coated Aluminium Flashing Trims (if required)
Securely fix using WBS hammer set screws, at maximum 300mm centres and 50mm maximum from each end, 18g colour coated Flashing Trims reference WBS 741/130. Bed trim on WBS sealing tape and install a continuous bead of WBS EVO-STIK Silicone Sealant and weather seal to the structure at the top extent of the system and its abutment to the roof verge where insufficient cover is provided, etc. Linear joints must be completed using purpose made trim jointing pieces to ensure an accurate and weather-proof fit.

Aluminium Overcill Extenders (if required) – Option 1*
Securely fix white coated aluminium overcills. All cills shall be site measured (ensuring a minimum 30mm overhang) and supplied with welded end caps to suit the application. Cills to be weather sealed to the existing window cill by a continuous bead of WBS EVO-STIK Silicone Sealant.

Upvc Overcill Cappit Extenders (if required) – Option 2*
Securely fix white upvc overcills. All cills shall be site measured (ensuring a minimum 30mm overhang) and supplied with welded end caps to suit the application. Cills to be weather sealed to the existing window cill by a continuous bead of WBS EVO-STIK Silicone Sealant.

Aluminium Undercill Extenders (if required) – Option 3*
Securely fix white coated aluminium under-cills. All under-cills shall be site measured (ensuring a minimum 30mm overhang) and supplied with welded end caps to suit the

application. Under-cills to be weather sealed to the existing window cill by a continuous bead of WBS EVO-STIK Silicone Sealant.

*** NOTE Contract Administrator to advise which option is preferred**

Timber Pattresses
Allow for accessories such as GRP canopies, bolts, hooks, fence posts etc. to be re-fixed to treated timber pattresses 90mm thick which have been incorporated within the system at boarding stage. Accessories should be re-fixed after render application.

Base Bead
Securely fix 90mm Aluminum Base Bead reference WBS 9149 with 37400 base profile clip at base of the system. The exact location of this to be determined on site and agreed by WBS Technical Personnel and the Contract Administrator.

PCGS Stop Bead
Securely fix 100mm Stop Bead reference WBS 810N bedded vertically on a continuous bead of WBS EVO-STIK Silicone Sealant at the extent of the system and its abutment to untreated areas i.e. meter boxes, rising service supplies, fence posts or any other untreated abutment.

WBS Insulation Bedding Adhesive
N.B. Bedding Adhesive is only required to level the boards on uneven areas or for adhesion on high rise applications.

Trowel apply to the face of the insulation board WBS Bedding Adhesive in five separate dabs to be placed at each corner of the board and in the centre of the board to coincide with the placement and pattern of mechanical fixings. The dabs shall be a minimum 150mm diameter and of sufficient thickness in which to bed and level the insulation boards. The dabs must be applied immediately before the insulation boards are offered to the wall surface and must still be wet to ensure a good bond. Insulation boards must be fully bedded into the dabs and laid as true as possible. On occasions, a greater thickness of adhesive dabs may be required to even out variations in the backing wall. A fixing should be installed through the centre of each board to hold in place whilst the adhesive dries.

Application of Epsitherm Insulation Boards
Correctly position and securely fix 90x600x1200mm WBS Epsitherm Insulation Boards to the substrate. The boards should be tightly butt jointed and should be laid with staggered joints and overlapped at building corners. Board joints should not occur within 200mm of the corners of openings in keeping with the product Agrément Certificate. Board pieces narrower than 200mm shall not be used without the approval of WBS Technical Personnel and the Contract Administrator.

N.B. thinner insulation may be required in passageways and to window reveals.

Fixing Of Insulation Boards
Insert through the insulation boards and into the structure, mechanical fixings of type ISO 110/120 150mm (subject to on site testing) in the sequence and pattern as laid out in the system Agrément Certificate. Top surface of all boards to be flat and in plane. Additional fixings should be installed to ensure a maximum of 300mm centres at either

side of building corners and around all wall openings. The distance of the fixings from the face of the insulation at building corners and wall openings should include the thickness of the insulation plus 75mm from the corner of the existing background.

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

PVCu Angle Bead
Fix, by bedding into wet WBS Premium K&A Scrim Adhesive, PVCu angle beads with glassfibre mesh wings reference WBS 3707 to all external building corners, window / door jambs and heads.

PVCu Movement Bead
Fix 6-8mm Movement Bead reference MJ6 vertically at the boundary of each property and at positions as may be indicated on site by the Contract Administrator and by WBS Technical Personnel. These positions should be identified prior to scrim work. Movement joints must be formed to the requirements of the product Agrément Certificate.

Alkali Resistant Glassfibre Scrim Coat
Trowel apply to the entire surface of the insulation boards a 4-6mm thick coat of Premium K&A Scrim Adhesive. Bed into the wet Premium K&A Scrim Adhesive WBS alkali resistant glassfibre reinforcing scrim cloth. Scrim cloth should be completely covered in Premium K&A Scrim Adhesive. Joints must be overlapped by 75mm; the scrim cloth must be overlapped around building corners and returned into all reveals and heads. Allow additional 200x200mm minimum pieces of scrim cloth diagonally across corners of all wall openings. When dry trowel apply a further 2-3mm coat of Premium K&A Scrim Adhesive ensuring a flat and even surface is left satisfactory to receive the silicone finish.

Air Vents Covers (if necessary)
If necessary fix, by bedding into wet Premium K&A Scrim Adhesive, suitable plastic louvered air vent covers of a type, size and colour to be determined on site by the Contract Administrator.

Silicone Render Primer & Finish
Apply WBS universal primer with brush or lambs wool roller as per manufacturer's printed instructions.

Mix and apply WBS Silicone Render strictly in accordance with the manufacturer's printed instructions. The Silicone Render should be applied with a stainless steel smoothing trowel in the thickness of the grain and finished with a plastic float.

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 fascias, projecting wall vents, gas and electric meter boxes, etc. ensuring water tightness.

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

Weather Conditions
Wetherby products are water based and therefore the normal conditions for working in winter and during periods of inclement weather should be respected during and after application. The recommendations of the Code of Practice BS 5262: 1991, External Render Finishes should be followed with regard to hot and cold weather conditions. All render products should not be applied if ambient and surface temperatures cannot be kept above +5ºC during application and the initial drying period. Render should not be applied when frost is forecast. Wetherby render products also require humidity levels of less than 90% for the render to cure. Products should not be applied where humidity is more than 90% or expected to be over 90% for a considerable period in the following 24 hours after application.

Drying times will vary and are dependent on the temperature and humidity conditions. Care should be taken by the contractor to protect the materials from wash-offs. Wetherby wet mixed materials should not be applied when the temperature of the air or wall surface is in excess of 30°C. It is suggested that contractors work shaded elevations during summer strength sunlight.

Storage
All products such as adhesives, mortars and renders etc., should be stored in dry, well-ventilated storage set aside for that purpose. These materials must be protected from frost and freezing temperatures and stored on insulation or in such a location which prevents damage.

Handling
Care should be taken when handling bags of powder, etc., to prevent tearing or damage when being carried. Profiles should be handled carefully to avoid damage.

Material Deliveries and Site Storage
It is the Wetherby approved contractor's responsibility to ensure that the materials are ordered and delivered by the required time and stored in accordance with Wetherby system requirements. Wetherby will not accept responsibility for any claim arising from the use of any materials used in the works which were deemed to be defective or damaged prior to being applied. It is the responsibility of the Wetherby approved contractor to apply only materials which are "Fit for Use" and in accordance with this specification and Wetherby procedures.

Site Requirements
- There must be a clean supply of water for mixing of powders. Use of impure water may detract from the mortar blend.
- A 110 volt supply of electricity will be required to power various tools in the application e.g. hand held paddle stirrer, hammer action drills.
- In addition, a range of hand tools are required e.g. trowels, saws, levels etc. along with suitable mixing vessels for the mortars (Information on these items is available from Wetherby).

Coverage Rates
Wetherby will not, under any circumstances, guarantee coverage rates quoted for its products. Any rates quoted are approximate and make no allowance for waste. The rates will vary dependent on operative's skill, site conditions, weather conditions etc. No claims against Wetherby will be allowed relating to coverage rates of materials.

Materials for Application
All materials used in the Wetherby system are to be obtained from:

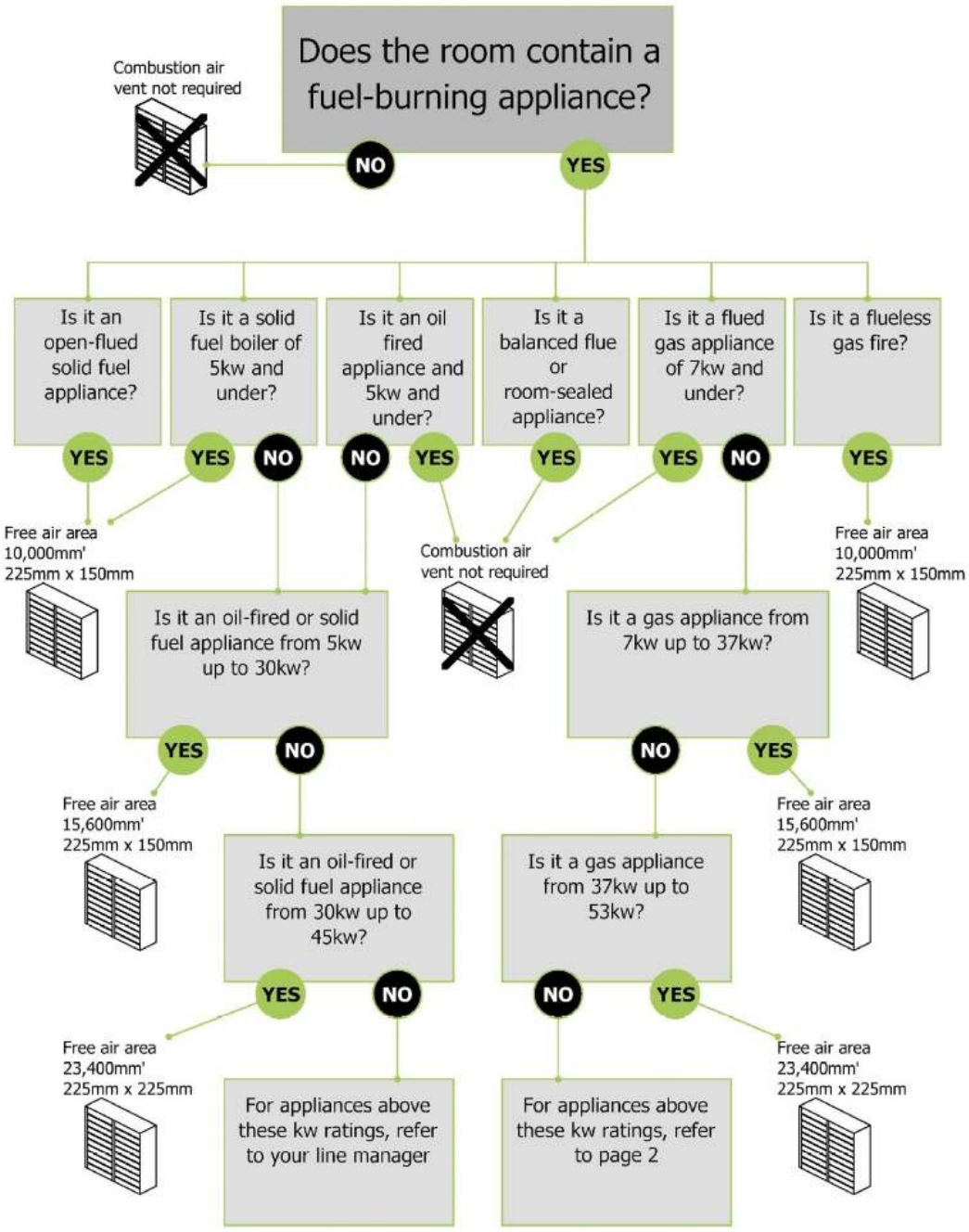
Wetherby Building Systems Limited
1 Kid Glove Road
Golborne Enterprise Park
Golborne
Greater Manchester
WA3 3GS

Tel: 01942 717100
Fax: 01942 717101
Email: info@wbs-ltd.co.uk
Web: www.wbs-ltd.co.uk

Contacts:
Technical Queries:
Sales Manager on 07
info@wbs-ltd.co.uk

On Site Application Queries:
Site Manager on 07
info@wbs-ltd.co.uk

VENT REQUIREMENTS



* All air vent dimensions are nominal sizes only, and will vary from manufacturer to manufacturer. Check that the vent provides the free air areas quoted above

drawing no. **WBS-VENTINFO-01**

VENTILATION REQUIREMENTS FOR OPEN-FLUED GAS APPLIANCES

7kw and under heat input (net) requires no additional ventilation.

The combustion air requirements for an open flued gas appliance can be determined using the following:

1. **Heat input greater than 7kw (net) requires an additional 500mm² of ventilation per kw**
   e.g. an appliance with 15kw input requires:
   15k – 7k = 8k
   8 x 500mm² = 4,000mm² of ventilation required.

2. **A gas range rated appliance with a heat input from 20kw to 25kw (net)**
   the maximum heat input must be used to determine the ventilation required.
   25k -7k = 18k
   18 x 500mm² = 9,000mm² of ventilation required.

Note: there are different ventilation requirements for gas appliance with an input rating over 70kw (net).
Advice regarding these appliances should be sought from your line manager.

Open flue appliance ventilation requirements based on BS 5440-2:2000

Heat input kw net	Room vent free area (mm2)	Heat input kw net	Room vent free area (mm2)
1	0	36	14,500
2	0	37	15,000
3	0	38	15,500
4	0	39	16,000
5	0	40	16,500
6	0	41	17,000
7	0	42	17,500
8	500	43	18,000
9	1,000	44	18,500
10	1,500	45	19,000
11	2,000	46	19,500
12	2,500	47	20,000
13	3,000	48	20,500
14	3,500	49	21,000
15	4,000	50	21,500
16	4,500	51	22,000
17	5,000	52	22,500
18	5,500	53	23,000
19	6,000	54	23,500
20	6,500	55	24,000
21	7,000	56	24,500
22	7,500	57	25,000
23	8,000	58	25,500
24	8,500	59	26,000
25	9,000	60	26,500
26	9,500	61	27,000
27	10,000	62	27,500
28	10,500	63	28,000
29	11,000	64	28,500
30	11,500	65	29,000
31	12,000	66	29,500
32	12,500	67	30,000
33	13,000	68	30,500
34	13,500	69	31,000
35	14,000	70	31,500

drawing no. **WBS-VENTINFO-01**