SPS ENVIROWALL LIMITED NBS SPECIFICATION: EXTERNAL WALL INSULATION SYSTEM MINERAL WOOL INSULATION SYSTEM WITH A SILICONE TOPCOAT FINISH FIXED TO CEMENT PARTICLE BOARD

M21  INSULATION WITH RENDERED FINISH

To be read with Preliminaries/General conditions.

210  EXTERNAL WALL INSULATION SYSTEM

SYSTEM SUPPLIER:- SPS Envirowall Ltd., Orchard House, Aire Valley Business Centre, Keighley, Yorkshire, BD21 3DU Tel.01535 661633 Fax.01535 661933 email info@spsenvirowall.co.uk web. www.spsenvirowall.co.uk.

ISO 14001 ENVIRONMENTAL REGISTERED COMPANY CERTIFICATE No. SP240368
ISO9001 REGISTERED COMPANY CERTIFICATE No. SP240367

SPS ENVIROWALL ENVIRONMENTAL RECOMMENDATIONS

SPS ENVIROWALL PROMOTES THE RE-USE – RECYCLING AND RESPONSIBLE DISPOSING OF ALL OF ITS PRODUCT RANGE, VIA THE ENVIRONMENTAL RECYCLING SCHEMES CURRENTLY IN OPERATION DIRECT FROM SITE.

PVC AND METAL BEAD OFFCUTS ARE FULLY RECYCLABLE.

THE TOPCOAT AND PRIMER PLASTIC TUBS ARE FULLY RECYCLABLE.

WHEN USING THE PRODUCT RANGES, RECYCLE ALL CARDBOARD AND OTHER TYPES OF PACKAGING.

 SYMBOL REPRESENTS ALL PRODUCTS THAT CAN BE RECYCLED

TYPE(S) OF COATING

SILICONE TOPCOAT SYSTEM

FIXED TO A CEMENT PARTICLE BOARD APPLIED TO A FRAMED STRUCTURE

Insulation Type - SPS Envirowall Mineral Wool Insulation Board 1200x600mm Ref.RHD…mm thick (ENSURE BOARDS ARE FIXED CORRECT SIDE UP) ENVIRONMENTAL RECOMMENDATION – RECYCLE USING ROCKWOOL RECYCLING SCHEME – DETAILS AVAILABLE FROM SPS ENVIROWALL ON REQUEST.

Insulation Adhesive – SPS Envirowall insulation board bedding adhesive Envirobed Ref.ESPS/EB-BC.

Insulation Fixings – SPS Envirowall Ref.ETKR…mm (subject to pullout tests fixing type and length may be subject to change)
Fixing pattern to be a Domino five pattern contact SPS Envirowall for relative technical drawing prior to commencement of insulation fixing application.
**SHARED CORNER FIXING PATTERN OPTION**
Avoid overdriving the insulation fixings at the corners as this may cause the corners of the insulation boards to splay outwards. Should this occur consult SPS Envirowall to approve a “shared” corner fixing pattern. This should only be adopted using a 100mm diameter washer head on the fixing at the corners and placing two regular sized headed fixings into the centre area of the insulation board.

**Aluminium Basebead** – SPS Envirowall Ref ABP…mm
**Aluminium Basebead Joint Clip** – SPS Envirowall Ref.ESPS/PV30
**Aluminium Basebead Fixing** – SPS Envirowall Ref.LS50 – Self drilling self tapping type screw fix at 300mm centres for fixing into the cement particle board.

**Base Coat** - SPS Envirowall Envirorend Basecoat Ref.ESPS/EXG-BC base coat 3-5mm thick.

**Reinforcing Mesh** - SPS Envirowall glass fibre plastic coated alkali resistant reinforcing mesh – High Performance mesh Ref.EPSM100.

**Mesh Option**
**High Impact Mesh** Ref.EPSM101 For use on high risk areas up to 1.8m height applied behind the High performance mesh. Apply behind high performance mesh from basebead to top of required height only, butt jointed not overlapped.

**Corner Beads** – SPS Envirowall PVC corner bead with mesh Ref. ESPS1023

**Silicone Primer** – SPS Envirowall Silicone Primer Ref.ESPS/S-P/G/Colour TBA
THE EMPTY PRIMER PLASTIC TUBS ARE REUSABLE OR FULLY RECYCLABLE

**Silicone Topcoat** – SPS Envirowall Silicone Topcoat Ref.ESPS/S-TC/Colour TBA
THE EMPTY TOPCOAT PLASTIC TUBS ARE REUSABLE OR FULLY RECYCLABLE

**WINDOW SILL DETAIL**

**Sealing Tape** – SPS Envirowall Ref.ESPS-seal 15/2-6 – 2-6mm sealing tape for between the board and the underside of the window sill.

**EXPANSION JOINTS**
At expansion joints within the structure introduce an expansion joint through the system or where there is a change of substrate type. See section 640 for requirements.

**FULL SYSTEM STOP BEAD**
If required terminate system at party wall with white powder coated full system stop bead.

**FIRE BARRIER**
Fire Barrier – SPS Envirowall Ref.RFL…mm (to suit insulation thickness of system). Mineral wool Lamella 1000x200mm fire barrier.
Fire Barrier Stainless Steel Fixings – Ref.ETID-MR…mm (to suit insulation thickness of system) Fire break fixing with two per length of fire barrier.

Should there be a requirement for separating the properties a vertical fire break can be used at party walls

Fire Breaks – When using EPS Polystyrene or Phenolic insulation boards, above two storeys a continuous horizontal fire break should be incorporated at the first floor level and every floor level above. It should be positioned on or as close to the floor slab as possible (no more than 100mm away from the slab). Use SPS Envirowall Mineral wool facade lamellas 1mx200mm Ref.RFL…mm (to suit insulation thickness of system). These should be adhesively and mechanically fixed in position using stainless steel fixings, two per length. The use of vertical fire breaks should be incorporated with consultation to the relative building inspector or fire officer requirements. These should be fitted using the same method as the horizontal fire breaks.

FIXTURES AND FITTINGS
All fixtures and fittings including satellite dishes/gate posts/security lights/alarm boxes/rainwater/soil pipe brackets and similar items subsequently fixed to the wall should be done so using a timber patress or other \spsp\ Envirowall recommended structural support fixing into the system.

310 DESIGN.
SPS Envirowall to provide drawings for all standard and non-standard details.

320 INSTALLATION REQUIREMENTS
Weather tight 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 to be 5Nm. Should a greater level of impact resistance be required then an additional layer of SPS Envirowall High Impact mesh should be incorporated into the base coat.

350 WIND LOADING
Design Wind loads <1.0kN/m2 – For windloads > 1KN/m2 . Please refer to SPS Envirowall technical department or representative to ensure correct fixing and sealing specifications are being followed.

360 SAMPLES
Submit samples of top coat finish for approval.

370 UNIFORMITY OF COLOUR AND TEXTURE OF COATINGS
Type/proportion of constituent materials: Unchanged once samples of coatings have been approved

**INSTALLATION**

**410 SITE STORAGE OF SPS ENVIROWALL MATERIALS**

Site storage and protection of SPS Envirowall materials must be in accordance with the manufacture’s instructions.

**420 MIXING OF RENDERS AND ADHESIVES**

All SPS Envirowall renders are mixed using a paddle mixer in accordance with manufacturer’s recommendations.

**430 WEATHER CONDITIONS**

Application of the system must only be carried out in suitable weather conditions. SPS Envirowall renders and adhesives must not be applied in rain, fog or mist, at temperatures below 5°C or above 30°C or (application may start +3°C and rising and cease at +5°C and falling) or if exposure to frost is likely to occur during drying. Additives are available from SPS Envirowall to allow work to continue below these temperatures. SPS Envirowall technical department or representative should be contacted to assess the suitability of these additives for the proposed application. SPS Envirowall renders must not be applied to saturated or frostbound walls and insulation boards. In sunny weather work should commence on the shady side of the building and be continued round following the sun to prevent the rendering drying out too rapidly.

**440 COATING OF NEWLY APPLIED RENDER**

Coating of newly applied render is to be delayed as long as possible, particularly in wet weather, mist, fog or cold conditions, to allow the render to dry out and shrink so that the surface can be stopped and sealed when painted. A minimum of 48 hours in good drying conditions is normally recommended.

**450 PROGRAMMING THE WORK**

The Contract Administrator must ensure that the work is programmed to be carried out during suitable weather conditions, taking into consideration seasonal variations and allow sufficient time in the programme for stoppages due to inclement weather.

**460 PROTECTION TO NEW WORK**

The main contractor must provide protection to new work during inclement weather using a protection system suited for the worst weather conditions that can reasonably be anticipated. The main contractor must monitor local weather forecasts and if necessary, modify their protection system accordingly. Failure to carry out such protective measures must make any resulting failure in the SPS Envirowall products or systems the sole responsibility of the main contractor.
COVERAGE RATES

SPS Envirowall Limited will not, under any circumstances, guarantee coverage rates quoted for products. The rates quoted are based on site experience but may vary due to site conditions, operator skills etc. Contractors quoting for contracts must ensure that coverage figures can be achieved in each particular instance. No claim against SPS Envirowall Limited will be allowed relating to coverage of materials.

AVOIDANCE OF COLOUR SHADING

To minimise colour shade variations of and to avoid dry line jointing, continuous surfaces should be completed without a break. If breaks cannot be avoided they should be terminated where services or architectural features, such as drainpipes, reveals or lines of doors and windows, which help mask joints. Where long uninterrupted runs are planned, the material should be checked for batch numbers to safeguard colour consistency. Materials having the same batch number should be used to complete an elevation. A small amount of water may be added (max. 2%) if required, due to the substrate or the climatic conditions. If more than this is added pigment dilution can cause shade variances.


All rendering should be in accordance with the relevant recommendations of BS 5262 : 1991, Code of Practice for external renderings, BS 8000 Part 10 : 1995, code of Practice for plastering and rendering, and SPS Envirowall Limited’s instructions.


All SPS Envirowall masonry paints and decorative finishes must be applied during suitable weather conditions to dry backgrounds, strictly in accordance with SPS Envirowall Limited’s instructions and the relevant clauses in BS 6150 : 1991, Code of Practice for painting of buildings, and BS 8000 : Part 12 : 1989, workmanship on building sites, Code of Practice for decorative wallcoverings and painting.

REPAIR TO DAMAGE

An SPS Envirowall Approved Contractor using the appropriate components must be used to repair damaged areas and procedures detailed in the SPS Envirowall installation instructions.

Conventional rendering techniques and SPS Envirowall render materials are used to repair damage to the product. Damage to the product should be repaired immediately and repairs should be carried out in accordance with the relevant recommendations of BS 5262: 1991. Regular maintenance checks should be carried out on architectural details for shedding water and on external plumbing and fittings to prevent penetration of water into the rendering.

HEALTH AND SAFETY
The fibres as used in SPS Envirowall renders may irritate the skin. Protective clothing should be worn to avoid contact with both dry, unmixed material and with wet mortar. Great care must be taken to avoid contact with eyes.

When mixing SPS Envirowall materials a filter respirator should be worn.

Where excessive concentrations of dust may accumulate the measures defined in the Health and Safety Executive publication EH40/96 ‘Occupational Exposure Limits 1196 for unlisted substances should be followed. Note that EH40 is published annually and the current edition should be followed.

510 DURABILITY

The system should remain effective for at least 30 years, provided any damage to the surface finish is repaired immediately, and regular maintenance is undertaken including checks on joints in the system and on external plumbing fitments to identify leakage of rainwater into the system, and appropriate steps are taken to correct the defects.

520 LIME BLOOM

Lime is not present within the topcoat system, so lime bloom cannot occur.

530 SPILLAGE OF SPS ENVIROWALL COATING MATERIALS AND MASONRY PAINTS

SPS Envirowall renders coatings and paints are highly adhesive and all necessary precautions must be taken to protect footpaths, windows, adjacent walls, roof surfaces etc. from spillage, which may cause stains. All windows and adjacent surfaces should be protected during the application of SPS Envirowall products.

540 WINDOW SILL PROJECTION

Where window frames incorporating window sills are to be provided by others, then the sill projection must be to a minimum of 40mm beyond the outside line of the SPS Envirowall system.

550 SCAFFOLDING

Wherever possible independent scaffolding should be used to avoid the need to subsequently make good holes and other breaks in the work. Where the scaffolding is required to be tied back to the building it is normal to recommend and provide access points for future scaffolding required for maintenance inspection and repairs. The scaffolding must be arranged to enable good access to be obtained to the whole of the facade of the building and sufficient clearance for working is to be provided between the scaffolding and the finished surface of the external wall insulation system. An allowance must be included for the thickness of the finished system on the face of the building.
560  LINE AND LEVEL OF BUILDING

The terms “line and level” used in conjunction with this specification refer only to dealing with minor localised variations in the surface to which the system is applied.

The insulation system will follow the line of the building. If the insulation is expanded polystyrene any stepping between adjacent insulation boards after application can be levelled by rasping the surface of the insulation with the appropriate rasping tool. For mineral wool there may be a requirement to apply an additional thickness of base coat to ensure a flat surface.

The system cannot correct major variations in line and level over several storeys in height and over large areas of elevations, and in these cases will basically follow the line of the existing building unless these building irregularities are overcome by a treatment, prior to the applications of the External Wall Insulation system.

570  SEALING TAPE

Prior to the application of the insulation boards, supply and apply frame sealing tape to seal all joints between all system abutments and against other materials e.g. window/door frames, soffit boards, projecting vents, gas and electric meter boxes etc. Also see section 630 for further application details.

580  FIXING AND LEVELLING OF BASE BEADS

Supply and securely fix the following aluminium base profile beads using the screws at max. 300mm centres ensuring that the base profile is always fixed in the last plug slot on both ends of the plate. Unevenness in the wall surface should be overcome using packing shims and the base profile set flat and checked to ensure that it is true to line and level before securing to the structure. Fill any gaps between the base profile and the background with dubbing render.

At building corners, cut and mitre the base profile to size. Join mitred edges with basebead connection clips.

Supply and fix aluminium base profile at base of insulation system and to a line approved by the Contract Administrator. Join lengths of the support rails using basebead connection clips.

590  INSULATION BEDDING ADHESIVE

Supply, mix and apply Envirobed Composite Mortar in accordance with the manufacturers printed instructions.

Work in Envirobed Composite Mortar in a thin pressed trowelled coat across the whole surface of the insulation board and then apply a notch pattern with a 10-12mm notched trowel ensure the Envirobed Composite Mortar covers the whole surface of the prepared board.

600  INSULATION BEDDING APPLICATION
Press the insulation boards firmly against the wall and adjust the position slightly to ensure that any skin which may have formed on the surface of the Envirobond Composite Mortar is broken.

Press the boards firmly with a wooden board to ensure maximum contact of at least 40% between the Envirobond and the background and continuously check the surface for flatness and plumb with a spirit level.

Regularly check that the board is firmly adhered to the background and, if necessary, remove and apply additional Envirobond Composite Mortar.

No insulation boards measuring less than 200mm in height or width should be used wherever possible. In certain circumstances this may not be possible, i.e. between window heads and soffits. In these cases it is acceptable to use narrower strips of insulation.

**610 ABUTTING INSULATION BOARDS**

CAUTION: The edges of the insulation board must be free from adhesive. When pressing the boards, remove any adhesive extruding from the side before laying the next board to make sure an open joint does not occur. Fill any open gaps with a piece of the insulation board or use gap filling foam and trim off surplus when set.

**620 FIXING OF INSULATION SLABS**

Supply and insert through the insulation slabs and into the structure mechanical fixings ensuring minimum embedment (subject to pull out tests) in the sequence and pattern as advised by SPS Envirowall Limited. Outer face of all slabs to be flat and in-plane. Additional fixings at 300mm centres to be fixed either side of building corners and around all wall openings. The distance of the fixings from the face of the insulation at corners of the building and wall openings should include the thickness of the insulation board plus 75mm from the corner of the existing background.

The fixing must be driven into the background until the head sits flush with the surface of the insulation.

L – Shaped insulation boards to be installed at the corners of all window/door or any type of aperture on the façade.

**630 SEALING SYSTEM**

Supply and apply SPS Envirowall Sealing tape Ref. ESPS-SEAL15/2-6 where system abuts window and door frames. Remove self-adhesive tape and apply lightweight polythene protection to window and door openings. At windows or any other apertures in high wind load zones use sealing tape.

**640 EXPANSION JOINTS**

Movement joints should be formed in the SPS Envirowall system where full structural movement joints are required and where dissimilar background materials abut each other. Usually the insulation boards can be carried across blockwork movement joints without the introduction of a movement joint within the system.
No additional joints are required for the integrity of the system. Day joints may be required for practical reasons and the positioning of these joints should be agreed between the client contractor and SPS Envirowall prior to the commencement of the works.

650 CORNER BEAD TO EXTERNAL BUILDING CORNERS

Supply and fix meshed PVC corner bead to all window/door heads and jambs.

660 REINFORCING MORTAR

Apply Envirorend basecoat to a thickness of between 3-5mm to the sound substrate using a stainless steel trowel. Comb through with a tooth trowel to achieve a consistent depth of base-coat. Float specified reinforcing mesh into the top of the base-coat render, ensuring a minimum horizontal and vertical overlap of 100mm.

670 MESH REINFORCEMENT TO ALL WALL OPENINGS

After the application of the main reinforcing mesh, bed on with basecoat 300 x 500mm minimum pieces of reinforcing mesh diagonally across corners of all wall openings. Bed on internal corner reveal reinforcing strips of mesh (the same depth as the reveal) to all window and door openings; ensure the reinforcing strips return from the corner of the reveals 150mm.

Then apply a 1-2mm slurry coat of basecoat which requires to be sponged flat ready to receive the thin coat finish.

Leave base-coat render to completely set for at least 2 days before applying SPS Envirowall topcoat finishes.

680 SURFACE PREPARATION

The basecoat must be allowed to dry and shrink for approximately 2 days in good drying conditions prior to applying the chosen SPS Envirowall finish.

The basecoat must be flat, clean, dry and free from dust, grease, chalking or anything else likely to prevent a good bond, prior to applying the SPS Envirowall finish

690 SURFACE FINISH JOINTS

Areas or panels in different colours are set out prior to applying the finish using Masking Tape

700 SILICONE RENDER FINISH

Before commencing the application of the top coat ensure all scaffold boards are swept and if required washed clean, ensuring all dust and dirt is swept away from the face of the wall
Supply and apply a thick coat of SPS Envirowall Silicone primer with brush or lambs wool roller (diluted up to 10% with water) in the colour shade of the topcoat.

Supply and apply strictly in accordance with the manufacturers printed instructions, SPS Envirowall Silicone topcoat render grained finish to approved colour.

SPS Envirowall Silicone topcoat is ready to use after stirring briefly. A small amount of water may be added (max. 2%) if required, due to the substrate or the climatic conditions.

Apply the SPS Envirowall Silicone topcoat with a stainless steel smoothing trowel in the thickness of the grain and rub with a plastic float in a circular motion. SPS Envirowall Silicone topcoat can also be applied with a suitable conveying pump with spraying equipment. SPS Envirowall Silicone topcoat dries naturally by water evaporation; the drying time may be increased in high air humidity and/or low temperatures.

Wipe clean at each work stage all exposed nosing, movement joints, sills etc.