



ENVIROWALL LIMITED NBS SPECIFICATION: GRANOL EXTERNAL WALL INSULATION SYSTEM FIXED TO CEMENT PARTICLE BOARD.

M21 EXTERNAL RENDER SYSTEM

To be read with Preliminaries/General conditions.

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

TYPE(S) OF COATING

101 Granol Anti-Crack Render System. Must be applied in strict accordance with the manufacturer's written recommendations by an approved specialist sub-contractor from Envirowall limited approved list.

1. MATERIALS & COMPONENTS

Cement particle

Board 10mm Cement particle board

Adhesive Granol-G **Ref.GRBC101** Highly polymer modified cementitious base coat. (3-4mm)

Insulation Envirowall expanded insulation **Ref.PSE___(select insulation thickness)**, Phenolic foam **Ref.PPL___(select insulation thickness)** or Mineral wool slab EWI HD **Ref.RHD___(select insulation thickness)**

Base-coat Granol-G **Ref.GRBC101** - Highly polymer modified cementitious base coat. (3-4mm)

Mesh Envirowall glass fibre plastic coated alkali resistant reinforcing mesh **Ref.EM1**.

Primer Granol Acrylic primer **Ref.GRP101** or silicone primer **Ref.GRP102**

Top-coat Granol Silicone topcoat **Ref.GRTC102** or Acrylic topcoat **GRTC101**.

Base Profile Aluminum thin coat base profile 2.5m **Ref.GTBB___(select insulation thickness)**

Corner Beads Aluminium with mesh wings **Ref.GTBC01** or UPVC with mesh wings **Ref.GTCB02**.

1.1 BASE PROFILE:

Aluminum horizontal base bead, 2.5m long Ref.GTBB__ Base profile shall be fixed to the cement particle board with zinc-coated carbon steel fixings. Size, length and spacing of fixings to be in accordance system manufacturers recommendations. Contractor to ensure that system complies with CP3: Chapter V: Part 2: 1972 in relation to its structural stability.

1.2 JOINT FILLER

All joints in the cement particle boards shall be filled with a mastic sealant or taped using self adhesive aluminium or cloth tape.

1.3 INSULATION

Expanded polystyrene Ref.PSE___or mineral wool Ref.RHD___

1.4 BEADING

Provide beads and stops at all external angles and stop ends except where detailed otherwise. See Section 1.1for Reference.

1.5 REINFORCING COAT:

In accordance with Section 1.0

1.6 REINFORCEMENT

Reinforcement shall be Specified Envirowall Reinforcing Mesh Ref.EM1 as per Section 1.1. Glass fibre plastic coated to resist alkali corrosion

1.7 PRIMER

In accordance with section 1.0

1.8 TOPCOAT

Granol through coloured Acrylic topcoat Ref.GRTC101 or Silicone topcoat GRTC102 In accordance with section 1.0

1.9 EXPANSION JOINTS.

Expansion joints are only required in the render at junctures between differing substrates or if there is an expansion joint within the structure. It may prove preferable to use expansion joints as day joints to assist in the programming of the works. In these instances it is advisable to position them at non-conspicuous points such as behind down pipes. All expansion joint should be fitted in accordance with Envirowall's installation instructions. The requirement for expansion joints in timber frame structures should be agreed with Envirowall's Technical Department and indicated on drawings prior to contract proceeding

2. APPLICATION

2.1 Installation of Envirowall materials in the UK is to be performed by an Envirowall approved contractor. Under no circumstances should any of the Envirowall products be altered with any additives, except for small amounts of clean water as directed on the label.

2.2 All substrates must be free of loose particles, dust, grease and oils.

2.3 Align base profile and fix with Envirowall anchors spaced at a maximum of 300mm apart – ensure that the base rail is not distorted. Corners should be made with mitred cuts.

- 2.4** Fix corner beads with continuous dabs of base-coat render at corners and align until plumb. Ensure correct line, level and square fixing of corner beads.
- 2.5** For base profiles and corner beads fixed with continuous dab of base-coat mortar, allow approx. 12 to 24 hours drying time, depending on weather conditions. Subsequent rendering or finishing work must NOT be carried out until mortar has set.
- 2.6** 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.
- 2.7** 10mm Cement particle board to be fixed to metal stud-work using ESH3042 fixings at 200mm centres. Fixings to be minimum 12mm from edge of board and 50mm from corners. Boards to be butt jointed at vertical studs and joints staggered vertically.
- 2.8** All joints in the cement particle board shall be filled with a mastic or sealed by tape. Fill only the joints, not the bevelled edges. Limit the depth of vertical joints if necessary by packing with non-absorbent round foam cord to 2/3 the depth.
- 2.9** Granol G adhesive mortar to be applied to insulation board using serrated trowel. The boards to be applied to the cement particle boards ensuring good contact, working from the base rail with joints staggered. Insulation to be also mechanically fixed using 5no. ETKR_ _ _ fixings with ITS 5/60 nylon washer per board.
- 2.10** Adhesive must be allowed to cure for at least 24 hours after which the surface of the lamellas or polystyrene may be rasped flat if required prior to application of the base coat.
- 2.11** Apply Granol -G base coat Ref.GRBC101(as specified in section 1.1) to the sound substrate using a stainless steel trowel. Comb through with a 10x6-tooth trowel to achieve a consistent depth of base-coat (see section 1.1). Float specified reinforcing mesh Ref.EM1(see section 1.1) into the top of the base-coat 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 base-coat render. Leave base-coat render to completely set for at least 2 to 3 days before applying Granol Acrylic topcoat finishes.
- 2.12** Install propriety sealant in conjunction with detail drawings.

- 2.13** Apply Granol acrylic primer Ref.GRP101 or silicone primer Ref.GRP102(see section 1.1) to dry basecoat render using a short pile roller, prior to applying stated Granol topcoat. Drying time 2-6hrs (weather dependent).
- 2.14** 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; therefore work sequencing should ensure that little or no work is carried out around the render after application of topcoat. Where scaffold plugs are to be retained, appropriate scaffold ties should be used in accordance with system details.
- 2.15** Apply specified topcoat render (see section 1.1) using a stainless steel trowel and immediately create the desired effect using a plastic-finishing trowel. Drying time of topcoat render is approximately 1 to 2 days (weather dependent).
- 2.16** The topcoat render is applied in accordance with the following general rules.
- i.** Using a clean rust-free low speed mixer, thoroughly stir the finish to a uniform consistency.
 - ii.** 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.
 - iii** 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 sills. Apply masking tape at the desired position of the joint and administer the finish coat to overlap 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.
 - iv.** Weather conditions will be a factor in the application of the finish as well as the drying time.

3. GENERAL COMMENTS

- 3.1** 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.

- 3.2** Finish surfaced 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.
- 3.3** Prevent excessively rapid or localised drying out.
- 3.4** British Standards recommend that any variation in gap under a 1.8m straight edge (with feet) placed anywhere on the surface should not be more than 3mm.
- 3.5** 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.
- 3.6** 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.

4. PROTECTION AND CLEANING

- 4.1** Installation of Envirowall materials in the UK shall be performed by Envirowall approved contractors. Under no circumstances shall any of the Envirowall products be altered with any additives, except for small amounts of clean water as directed on the label.
- 4.2** All renders described should never be applied if ambient and surface temperatures cannot be kept above +3°C for mineral products, +5°C for acrylic and silicone products. Prior to installation, the wall shall be free of residual moisture. The stored material should be protected from frost and strong sunlight.
- 4.3** Most Envirowall products are water based, therefore, the normal conditions for working in winter and during periods of inclement weather should be respected during and after application. Please refer to the Envirowalls winter working policy for advice on protection of finishes.
- 4.4** It is recommended when working with highly pigmented renders to mask or protect other building elements such as windows, sills, etc. Any spilled or dropped materials may be removed 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.