

## ROCKWOOL LIMITED SPECIFICATION:

<b>SYSTEM</b>	:	REDArt™ Silicone External Wall Insulation System
<b>FINISH</b>	:	Rockwool Silicone topcoat – 1.5mm grain size
<b>PROJECT NAME</b>	:	LB Camden – 138-152 Weedington Road
<b>RC NUMBER</b>	:	113096089
<b>SUBSTRATE</b>	:	Blockwork/brick
<b>U VALUE REF</b>	:	RWCM3830
<b>LABC CERTIFICATE</b>	:	Registration No. RD369A
<b>SPEC VERSION</b>	:	V1
<b>SPEC AUTHOR</b>	:	Rockwool Technical
<b>SYSTEM SUPPLIER</b>	:	Rockwool Limited, Wern Tarw, Pencoed, Bridgend, South Wales, CF35 6NY. Tel: 0871 222 1780 Fax: 0871 222 1781 Web. <a href="http://www.rockwool.co.uk">www.rockwool.co.uk</a>

### TO BE READ WITH THE PRELIMINARIES -

- Facades Systems Installation Manual
- Standard details pack –
- <http://rwiembracouknew.inforce.dk/media/295192/facade%20systems%20standard%20details.pdf>
- MSDS documents for products detailed below are to be found on the

Rockwool website.

<http://www.rockwool.co.uk/technical+resources+centre/downloads/product+datasheets>

ROCKWOOL make and supply a full range of smart and sustainable insulation products for the construction industry based on innovative stone wool technology.

**VERTICAL FIRE BARRIERS:** Vertical Cavity fire barriers are not required with ROCKWOOL Ltd EWI Systems.

<b>INSULATION</b>	:	Rockwool External Wall Dual Density board board size is supplied at 1200mm x 600mm x 100mm
<b>REVEAL INSULATION</b>	:	Rockwool External Wall Mono density Board board size is supplied at 1200mm x 600mm x 30mm
<b>FIXINGS</b>	:	Rockwool TFIX 8M 135 Fixing type is subject to pull out tests. Ref:2904

<b>BOARD ADHESIVE</b>	:	Rockwool Board adhesive: Ref 129817 Rockwool Insulation Board Adhesive is used to glue mineral wool boards onto different bases inside and outside a building. It can be used on various substrates including concrete, hollow brick, cement plasters and cement-lime plasters. Rockwool Insulation Board Adhesive is a dry mineral mixture, modified with synthetic polymers to improve elasticity. The product is frost and water-resistant.
<b>BASE COAT</b>	:	Rockwool FS Mortar 2: Ref 129819 Rockwool FS Mortar 2 is used to apply a reinforcing layer when insulating buildings.  FS 2 Mortar is a cement-polymer based adhesive which is frost and water resistant and provides improved vapour permeability and enhanced mechanical strength. It has been designed and ideally suited for building refurbishment. Rockwool FS 2 Mortar is additionally reinforced with fibres
<b>MESH</b>	:	Universal Glass fibre plastic coated alkali resistant reinforcing mesh, Ref: 128132
<b>SEALER/PRIMER</b>	:	Rockwool Primer is ready to use and provides a layer that is firmly bound to the substrate and ensures optimum adhesion for the finish coat. Where coloured renders are used, the priming coat must be coloured to match.
<b>TOP COAT</b>	:	Rockwool Silicone Topcoat render grain size 1.5mm, colours TBC
<b>BASE PROFILE</b>	:	Aluminium starter track 105mm ref:128332
<b>CORNER PROFILE</b>	:	See section 8.0 - Bead to be exposed PVC corner bead – size 10mm
<b>EXPANSION BEAD</b>	:	<b>(If required)</b> as per system designers detail and outlined in section 8.0
<b>SUNDRY ITEMS</b>	:	Rockwool Sealing Tape 15mm wide x 8.0 m long <b>(Must be used)</b> (ref.128162). Rockwool Base Profile Fixing Screw (ref.128171) Connection clips (ref.128309)

## **STANDARD DETAIL REFERENCE:**

**Door frame chamfer** – RWSD (31) 009 Jamb-Chamfered Reveal to Opening Detail

**Window surround detail** - RWSD (31) 006 Jamb – Surround Detail Embossed Un-insulated Reveal

**Reveal detail where insulated return not possible** – RWSD (31) 002 Jamb – Embedded Corner

Bead Un-insulated Reveal Detail

Patressing Detail – RWSD (21) 036 Penetration Detail – Surface Fixing Detail (timber landing zones)

Standard Fixing Pattern – RWSD (00) 010 Standard Fixing Pattern

REDArt Silicone Build-up – RWSD (00) 001

## **NON-STANDARD DETAIL REFERENCE:**

Door access system detail – RWSD (99) 001

Window Surround Detail (additional design option) – RWSD (99) 002

Fence, gate detail – RWSD (99) 003

Stairwell detail – RWSD (99) 004

**Aluminium / UPVC sills and end caps – to be supplied by others if required.**

### **1. DELIVERY RESTRICTIONS**

Delivery restrictions should be agreed and all parties notified prior to this specification being written.

### **2. SAMPLES**

Small scale samples must be used for the selection of the project colour to ensure a true visual representation of the material is obtained.

Once colour selection has been made, a sample reference panel must be constructed on site for approval. This panel should be a minimum of 1m<sup>2</sup> and constructed using the approved colour as final confirmation. If possible, the reference panel should incorporate indicative junction details such as window sill.

### **3. PROTECTION**

Responsibility of protection is to be decided between main contractor and installer. All doors, windows, frames, fascia's and other areas of the of the existing structure not forming part of this section of works shall be fully protected by means of masking tape and polythene sheeting or other acceptable alternative means. All area's of existing paths and paved areas and landscaped works shall be adequately covered to avoid damage by all external insulation works including scaffolding erected in connected therewith.

Protection to new work during inclement weather must be provided taking into account the worst weather conditions that can reasonably be anticipated. Local weather forecasts must be monitored and if necessary, modify the form of protection accordingly. Failure to carry out such protective measures will make any resulting failure in the Rockwool products the sole responsibility of the designated contractor.

Any damage caused by the specialist external insulation installer to the existing surface of the windows, and /or the paved and landscaped area's during the execution of the works shall be made good, cleaned off or replaced to the satisfaction of the client, before practical completion.

### **4. WEATHER CONDITIONS**

Application of the system must only be carried out in suitable weather conditions. Rockwool renders and adhesives must not be applied in rain, fog or mist or at temperatures below 5°C

on a falling thermometer or 3°C on a rising thermometer or above 30°C, or if exposure to frost is likely to occur during curing. Rockwool renders and adhesives must not be applied to saturated or frost bound walls and insulation boards that may have become wet. In sunny weather, work should commence on the shaded elevations and be continued round following the sun to prevent the renders and adhesives being prone to accelerated curing.

## 5. PROGRAMMING THE WORKS

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 inclement weather.

## 6. SCAFFOLDING

**Scaffolding is the sole responsibility of the contractor.**

Wherever possible independent scaffolding should be used to avoid the need to subsequently make good holes and other breaks in the work. Any making good will be visible and it is recommended that if this is unavoidable, this should be incorporated into the reference sample panel and agreed with the Contract Administrator.

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 face 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 made included for the thickness of the finished system on the face of the building.

The working platform must be clear from debris and site dust prior to the application of the finish coats to avoid dirt lines on the finished system.

## 7. PREPARATORY WORK

Prior to the installation it is essential that on-site investigation and pull out tests are to be carried out by Rockwool to determine the type and length of fixings.. Results of these tests shall be made available to the architect, the main contractor and the system designer. The amount of fixings to be installed as per the relevant BBA certificate or from the result of wind loading calculations.

The condition of the stability of the substrate must be considered and that of the integrity of any coatings or finishes applied to it. All loose and friable coatings and renders must be removed. In the case of render removal, isolated patches must be re-rendered flush with the sound existing render. Should render to the entire wall or elevation facades be removed, it is not necessary to re-render unless required for levelling or structural reasons. Where wholesale render has been removed, the use of mechanical fixings is still required.

Should the substrate have been exposed to atmospheric conditions, any organic growth this must be removed and neutralized prior to the installation of the system using Rockwool Fungicidal Wash ref. 128274 (supplied in 10l units).

All associated builders works such as removal of fixtures and fittings, alterations to services, fences, gate posts, restricting foliage, temporary or light structures (greenhouses, garden sheds and the like), porches, canopies, removal of unnecessary architectural features etc.is to be carried out prior to commencement of the system.

This specification is based on the substrate being of sound condition and capable of supporting the additional loads being applied. Should any remedial work be required, this should be surveyed and carried out by a competent person.

If required, window cills and copings are to be extended to ensure a minimum 30mm overhang (preferably 35-40mm) from the face of the finished system to the back of the drip.

Repairs to major defects and cracks in the surface of the existing structure are deemed to have been carried out prior to the application of the Rockwool system.

## 8. SYSTEM INSTALLATION

- a. **LINE AND LEVEL:** 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 system cannot correct major variations in line and level over several storeys in height and over large areas, and in these cases will follow the line of the existing building unless these irregularities are overcome by a prior treatment.

The contractor must inspect the existing wall and agree a suitable line and level with the Contract Administrator. If deemed necessary, a suitable levelling coat should be applied. If a levelling coat is applied, please check the mechanical fixing length to ensure the specified embedment is being achieved.

- b. **BASE PROFILE:** Existing concrete bell cast drips (if fitted) at DPC level should be hacked off and, made good to except the base profile. The aluminium base profile is to be fixed using Rockwool Base Profile Fixing Screw (ref.128171) at maximum 300mm centres just above the DPC line. Care must be taken to ensure a true horizontal line is maintained. Adjoining sections of base profile must be connected using connection clips (ref.128309) to provide continuity and accommodate expansion and contraction of the Base profile. The base profile should be carefully cut, mitred and formed at corners ensuring all cut sections are connected using connection clips.

The standard Rockwool base profile should be used with the addition of a PVC clip on nosing. Alternatively, purpose made base tracks with an integral drip nosing can be used.

- c. **EXTERNAL FIXTURES & FITTINGS:** Treated timber blocks or battens to the depth of the insulation shall be fitted to enable the refit of the rainwater pipes and other items that require refitting to the façade. Care should be taken to locate the timber blocks once the system has been installed and covered with render. The patters blocks should be covered with a 250mm x 500mm scrim patch at 45° with a minimum 100mm overlap.

**Fixtures that are not fitted to patresses should be installed strictly as per the Fixtures manufactures instructions and recommendations.**

**These will need to have Rockwool approval before installation can take place.**

- d. **INSULATION BOARDS:** The insulation boards are to be Rockwool Dual Density external wall boards supplied at 1200mm x 600mm in size and a thickness of 100mm. The insulation is to be fixed using mechanical fixings as detailed in Clause 7.6. The Rockwool Dual Density Insulation boards shall be fixed starting at the base profile and working up the building. The vertical joints shall be staggered in a brick bond format and no cut boards less than 200mm wide shall be used. Together with all the necessary standard accessories and fixings, insulation shall be fixed strictly in accordance with the Rockwool BBA certificate and standard installation procedures. Around all openings the insulation board should be cut and fixed to ensure that no board joint occurs within 200mm of the corner of the opening.

**Please to refer the Installation manual**



Rockwool Dual Density insulation boards are branded on the harder outer surface. This surface is to be installed facing outwards ready to receive the base coat. Any insulation boards fitted the wrong way need to be removed and replaced accordingly.

- e. **BOARD ADHESIVE:** Two methods can be used for applying the adhesive to the back of the insulation board. Both methods use Rockwool Insulation Board Adhesive Ref: 129817 which is a dry mineral mixture, modified with synthetic polymers to improve elasticity and supplied in 25kgs bags. Mix the mortar with approximately 5.5 litres of clean water.
- i. **FULL COMB METHOD:** The adhesive is to be applied to the back of the insulation board using a 10 X 10 square notched stainless steel trowel ensuring the adhesive knits with the fibres. The ridges created using the notched trowel should not be made level as this allows for some minor adjustment once offered to the wall.
  - ii. **DOT AND DAB:** A continuous ribbon band of adhesive is to be applied to the outer edge on the rear of the insulation board. A minimum of 3 Dabs of mortar are to be applied to the rear of the board to a maximum thickness of 15mm ensuring a minimum coverage rate of 50%. Prior to the application of the adhesive dabs, a tight scratch coat is required in these locations to ensure the adhesive knits with the fibres.
- f. **INSULATION FIXINGS:** Fixings are positioned 100 – 150mm in from each corner and one in the centre of the 1200 x 600mm insulation board, equalling a total of 5 per board (8 per m<sup>2</sup> approx.). Extra fixings are required around windows and door reveals at a maximum spacing of 300mm. Please refer to Rockwool standard detail RWSD (00) 010

## **2, 3 & 4 storey**

Fixings are positioned along the centre line of the 1200 x 600mm insulation board 150mm in from the side, equalling a total of 3 per board (5 per m<sup>2</sup>). Extra fixings are required around windows and door reveals at a maximum spacing of 300mm. Please refer to Rockwool standard detail RWSD (00) 011 and 012.

## **5 storey**

Fixings are positioned along the centre line of the 1200 x 600mm insulation board 150mm in from the side, equalling a total of 3 per board (5 per m<sup>2</sup>). Extra fixings are required around windows and door reveals at a maximum spacing of 300mm. Please refer to Rockwool standard detail RWSD (00) 013.

Fixings are positioned 100 – 150mm in from each corner of the 1200 x 600mm insulation board, equalling a total of 4 per board (6 per m<sup>2</sup>). Extra fixings are required around windows and door reveals at a maximum spacing of 300mm. Please refer to Rockwool standard detail RWSD (00) 014.

## **8 storey**

Fixings are positioned 100 – 150mm in from each corner of the 1200 x 600mm insulation board, equalling a total of 5 per board (8 per m<sup>2</sup>). Extra fixings are required around windows and door reveals at a maximum spacing of 300mm. Please refer to Rockwool standard detail RWSD (00) 015 & 016.

**Fixings lengths are to be specified after the pull out test has been carried out.**

- g. SEALANTS:** All junctions between the insulated render system and other building materials such as window and door frames, overflow pipes, boiler flues, eaves and wall vents must be sealed using the Rockwool Sealing Tape (ref.128162).

On completion of the top-coat render/finish application a 5mm bead of silicone sealant must be applied to all junctions of the insulation of the insulation render system and other buildings materials such as window and door frames, eaves and wall vents. All work shall be executed by competent tradesmen employed by the approved specialist contractor, and who have completed the Rockwool training course.

- h. VERTICAL EXPANSION JOINTS:** Should vertical expansion joints be required this should be in the form of: -

- i. **MOVEMENT UP TO  $\pm$  3mm:** A 5mm gap should be left between the insulation boards in a vertical line at the location of the expansion joint. This gap should be sealed using the Rockwool Sealing Tape (ref.128162). A surface mounted movement joint should be installed to the face of the insulation breaking up the reinforcing render and finish coat (ref. 128529) (ref. 128682 for 10mm and 128683 for 15mm).
  - ii. **MOVEMENT UP TO  $\pm$  20mm:** The required gap should be left between the insulation boards in a vertical line at the location of the expansion. A full depth gasket movement joint should be installed to the face of the insulation breaking up the reinforcing render and finish coat (please contact Rockwool).
  - iii. **HORIZONTAL EXPANSION/COMPRESSION JOINTS:** Please contact Rockwool for project specific guidance.
- i. CORNER PROFILES:** Corner profiles shall be installed at all external corners. The profile is to be Rockwool Universal Corner Profile, plastic with pre-bonded mesh (ref.128540), or Rockwool Exposed Corner Bead 10mm (ref. 128527). Exposed corner beads are also available without the nosing upon request.

These are to be fixed using the base coat adhesive in Clause 8.1. The corner profile is to be pressed into the mortar with any excess mortar trowelled smooth. Should a temporary mechanical fix be required, this should be in the form of a non-ferrous nail which must be removed prior the application of the base coat or fir tree fixings which can be left insitu.

- j. RENDER/COLOUR SEPERATION DRIP BEAD.** Should this be required for the separation of different colour choices, this is to be PVC drip bead (ref. 128528) for 10mm render, (ref.128682) for 15mm render. This is to be installed on top of the main reinforcement coat in a horizontal line with the adhesive outlined in Clause 8.1. A minimum 100mm wide mesh bandage must be applied to the top half of the bead for additional security at this location (Rockwool standard detail RWSD (21) 026).

- k. PARTY WALL JUNCTIONS:** At junctions of private properties, the insulation should be stopped 20mm short of the party wall and the render and decorative finishes returned to the face of the existing wall, this should then be sealed with a low modular silicone sealant. OR use a full system stop as per detail RWSD (21) 010

## 9. RENDER WORKS

All work shall be carried out in strict accordance with **BS EN 13914-1:2005 and BS 8000 Jan 2011**. The renders are pre-bagged, only water is required on site and is to be mixed strictly in accordance with the manufacturer's instructions as printed on the bag. **No other additives are required or permitted.**

- a. **BASE COAT/SCRIM ADHESIVE:** To be mixed the mortar with approximately 5.5 litres of clean water. A thickness between 4 – 8mm coat of Rockwool FS Mortar 2: (Ref.129819) shall be applied and reinforcement mesh (Ref.128132) is trowelled in with all joints overlapped by 100mm. Extra patches approximately 250mm by 500mm shall be applied diagonally at each corner of all openings and penetrations such as windows, doors and boiler flue outlets (please see Rockwool standard details RWSD (00) 020 and (21) 030). Coating of newly applied render is to be delayed as long as possible, particularly in wet weather, mist, and fog or cold conditions, to allow the base coat to cure. A minimum of **48 hours** in good conditions is normally accepted.
- i. **ROCKWOOL MASONRY SEALER / PRIMER:** Prior to the application of the Top-coat, suction of the base coat should be assessed on site and if deemed necessary, the base coat should receive a mist coat of clean water to reduce the suction levels. Alternatively another coat of Rockwool Masonry Sealer / Primer can be used.
  - ii. **LIME BLOOM:** Render material containing Portland cement may be subject to lime bloom during the application and curing process. The occurrence of this may be reduced by programming the work to be carried out during suitable weather conditions and by provision of adequate protection from rain, cold and mist or fog conditions during curing and hardening of the render. Lime bloom is a natural occurrence and it can be expected to disappear with time, the rate depending on the environment to which it is exposed.

**Adequately priming the base coat can greatly reduce the risk of lime bloom.**

- b. **ROCKWOOL SILICONE TOPCOAT FINISH:** When the base coat has cured as above, apply one coat of Rockwool silicone topcoat through colour render, all to the satisfaction of the supervising officer.
- i. **AVOIDANCE OF COLOUR SHADING:** To minimise colour shade variations and to avoid joints, continuous surfaces should be completed without a break. If breaks cannot be avoided they should be made where services or architectural features, such as downpipes, reveals or lines of doors and windows to help mask the joints. Where long uninterrupted runs are planned, sufficient material should be ordered in one batch to complete this section of works. Mixing of batch numbers on one elevation is not advisable.

When planning the works, sufficient material should be placed to one side for making good any works such as, but not limited to scaffold ties. This material should be from the same batch number as the material used for that elevation. If the making good is to be carried out later in the programme, it should be noted that the making good will need time to weather the same as the completed works. Any making good will be visible and it is recommended that if this is unavoidable, this should be incorporated into the reference sample panel and agreed with the Contract Administrator.

## 10. FINAL CLEANING

Remove masking tape and polythene sheeting, clean off all marks, blemishes and splashes and all traces of render and mastic from windows, door frames, sills and other affected surfaces and leave the works complete to the satisfaction of the architect, client etc.

- a. **PLANTS AND SHRUBS:** Where practical and in consultation with the occupants, all plants and shrubs shall be carefully pulled away from the wall/property. Any plants/hanging baskets that need to be re-attached must be fixed using the approved fixing



- b. TEMPORARY WORKS:** During the progress of the external insulation works temporary diversions to the existing gutters (after temporary removal of the rainwater pipes) must be provided and maintained, such diversions shall be to the architects satisfaction and must not impede the erection of the scaffolding or the progress of the works.

## 11. STORAGE AND HANDLING

Care should be taken in offloading, distribution and storage of the materials. Products should be protected, until ready for use, by maintaining the wrappings and protection afforded since factory dispatch.

Ideally all products should be stored within a secure location, protected from the weather and with a provision for temperature moderation to eliminate damage to the products.

Powder bags to be stacked on pallets, above ground, clear of surface water and splash back, with overall precipitation protection. In cold weather bag products should be stored in protected environs.

Tub products, such as primers and top coats, must be stored in temperature controlled conditions in cold periods to avoid frost/freeze damage and to avoid prolonged or intense exposure to the sun.

## 12. INSPECTION

All work shall be subject to regular inspection and acceptance by the Architect or his representative, and by the manufacturer's technical representatives. All work to be executed in compliance with the employer's requirements, good practice and in strict accordance with the systems instructions. Any work failing to comply with any of the above shall be taken down and re-fixed, at the contractor's own expense if they fail to comply with any of the above.

## 13. REMOVAL OF CONSTRUCTION WASTE

Insulation boards can be recycled as per Rockwool's recycling scheme. Please follow the link here to find out about the Rockwool recycling scheme.

<http://www.rockwool.co.uk/why+rockwool-c7-/sustainability/recycling+rockwool%C2%AE>

Remove and dispose of all debris, surplus material and redundant protective material during the course of the work as per the site waste management plan.

Mortar and cement based products should be disposed of in accordance with the relevant MSDS documentation.

## 14. COVERAGE RATES

Rockwool 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 Rockwool Limited will be allowed relating to coverage of materials.

## 15. DUBBING OUT

Where necessary, existing walls which are to receive the insulation render system shall be dubbed out using a dubbing mortar.

## 16. EXTERNAL PLUMBING

Modification of overflows shall be made to accommodate the new system thickness. These alterations must be continuous through the Rockwool Insulation system without any joints.

## OUR SPECIAL INGREDIENT

ROCKWOOL® insulation products are made from stone wool – a blend of naturally occurring volcanic diabase rock. It's the special ingredient that ensures ROCKWOOL® insulation protects against unwanted noise, fire, and provides unrivalled durability at no cost to the environment.

It's a 4-in-1 solution.



## **SUPERIOR FIRE RESISTANCE**

Put simply, rock won't burn. That's why our stone wool products have naturally occurring fire resistant qualities that cannot be matched and improve the fire resistance of the construction.



## **EXCELLENT ACOUSTICS**

ROCKWOOL®'s unique properties can help to reduce the effect of noise.



## **UNRIVALLED DURABILITY**

Nothing lasts like solid rock. ROCKWOOL® won't shrink, won't move and won't crumble. It is so durable it will maintain its performance for the lifetime of the building.



## **SUSTAINABLE MATERIALS**

Made from a renewable and plentiful natural resource, ROCKWOOL® insulation saves fuel costs and energy in use. And it's 97% recyclable, too.

ROCKWOOL® is the economical and practical insulation choice to:

- Reduce waste
- Achieve thermal and acoustic benefits in one
- Maximise performance of the building

PRELIMINARY