



15 April 2016

Rhomco
Westview House
Oak Tree Court
Mulberry Drive
Cardiff Gate Business Park
Cardiff
CF23 8RS

For the attention of Paul Lewis

Project No. S10-004093

Dear Sirs,

The Symington Building, Adam & Eve Street, Market Harborough, Leicestershire,
LE16 7AG

Further to your recent enquiry via email regarding the above project, we have pleasure in submitting our detailed Redland SpecMaster for the roofing based upon the product(s) selected and information provided.

Our specification has been compiled so it can be readily incorporated, along with all other relevant NBS sections, into your formalised specification for the project.

There is important information contained in the specification that should be transferred to the carpentry sections to ensure preparatory work is carried out correctly.

Also attached is our FixMaster FM3-10-001915 which contains detailed windloading calculations which give values for wind uplift and tile resistance. This data has been included for your structural engineer's information.

This specification is only applicable to the Redland products specified and will be incorrect for any other products in our range and will not be correct for products supplied by other manufacturers.

We enclose the SpecMaster Guarantee and would ask you to give careful attention to the conditions under which the guarantee is valid. In particular, it is a condition of the guarantee that the works are carried out entirely in accordance with the specification provided.

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Redland Technical Solutions

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The ventilation recommendations provided ensure compliance with BS 5250:2011 - Control of Condensation in Buildings and Building Regulations Approved Document C.

Our specification has been compiled using information provided by email.

Please check the information you have provided and should you wish to alter anything please let us know and we will be happy to provide a revised specification.

Should you wish to discuss any aspect of our recommendations please do not hesitate to contact us.

Yours faithfully,
For REDLAND TECHNICAL SOLUTIONS,

Julie Pullen
Technical Advisor

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H65 SINGLE LAP ROOF TILING TO MAIN ROOF - RE-ROOF

To be read with Preliminaries/General conditions.
REDLAND TECHNICAL SOLUTIONS
SpecMaster number S10-004093

It is a condition of the SpecMaster guarantee for this project that the works are carried out entirely in accordance with this SpecMaster specification and in accordance with Redland advice and instructions using normal standards of good workmanship and the requirements of British Standards for slating and tiling (BS 5534 and BS 8000 - Part 6). Failure to comply with this condition will invalidate the guarantee (see terms and conditions of SpecMaster guarantee).

TYPE(S) OF TILING

130 RECONSTITUTED SLATE ROOF TILING:

- Base: Traditional Construction at 450 mm centres.
- Pitch: 45°.
- Insulation: Insulation Between Rafters (Partial Fill) and Insulation Between Horizontal Ceiling Joists (Cold Apex).
- Underlay: Redland Spirtech 400 2S (920200).
- Lay as clause 240 Lay underlay with a nominal 10mm drape.
- Minimum horizontal lap: 100 mm.
- Battens: As clause 245, size 50 x 25 mm.
- Joints must not occur more than once in any group of four battens on any one support. An additional batten must be provided where an unsupported lap in the underlay occurs between battens. Fix each batten to each support, splay nailing at ends, using 65 x 3.35mm diameter galvanised smooth round nails.
- Tiles: Redland Cambrian Slate (470130).
- Colour: Slate Grey (30).
- Size: 300 x 336 mm.
- Headlap: Minimum 50 mm, maximum 90 mm.
- Fixing recommendation: All Slates must be twice nailed using 30mm long x 2.65 mm diameter stainless steel ring shanked nails and clipped.
- See clause 275 for more detailed information on fixing.
- This construction is rated A in the 2008 BRE Green Guide to Specification.

TILING GENERALLY

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200 WELL SEALED CEILING:

- Ensure that all constructional gaps in the ceiling and at the wall/ceiling junction are sealed in accordance with BS 9250. In particular, any roof access hatches should incorporate compression seals and have an air leakage rate less than 1m³/hr at a pressure difference of 2 Pa when tested to BS EN 13141-1:2004 and recessed light fittings should be rated IP60 to IP65 or incorporate an appropriate sealed hood. The total air leakage through all recessed light fittings should not exceed 0.06 m³/h.m² of ceiling at 2 Pa. No access door or hatch should be located in rooms where large amounts of moisture are produced, including kitchens or bathrooms.

205 MANUFACTURERS INFORMATION:

- Check the supporting roof structure to be roofed upon is in a suitable state to receive roof covering. It must be free from harmful conditions such as timber rot and must be structurally sound. Monier Ltd cannot be held responsible for problems with roof performance caused by pre-existing conditions that are not discovered and corrected prior to any roofing works.
- It is your responsibility to ensure the submitted information on which this specification is based is correct; often information has to be assumed due to lack of clarification until the roofing works commence on site.
- In this specification Redland product codes are given in parentheses, e.g. (8122).
- Comply with Redland fixing instructions for each product. Check that this is the current edition of the fixing instructions; if not consult Redland Technical Solutions and draw to the attention of the CA any relevant technical changes.

210 BASIC WORKMANSHIP:

- Set out to give true lines and regular appearance fitting neatly at all edges, junctions and features. Fix roof covering to make the whole roof sound and weathertight at the earliest opportunity. Repair any defects as quickly as practicable to minimise damage and nuisance. Keep gutters and pipes free of debris and clean out at completion

240 UNDERLAY:

- Handle carefully to prevent tears and punctures and repair with adhesive tape any which do occur.
- Vertical laps not less than 100 mm wide, coinciding with supports. Horizontal laps of the dimensions specified.
- Where a horizontal lap occurs the lap should be sealed using the integral double glue strips provided; peel off the protective backing and press the glue strips firmly together using the hand to form a sealed joint.
- Fix with extra large head fixings, keeping the number of perforations to a minimum.
- Where pipes and other components penetrate the underlay, use proprietary underlay seals.

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245 BATTENS:

- Sawn softwood, species to BS 5534, clause 4.12.1. Grading: To BS 4978, clause 5 or 9. Moisture content not more than 22% at time of fixing.
- To be in straight horizontal lines aligned on adjacent areas with battens to be fully supported over no less than 3 supports.
- Batten joints to be square cut and butted centrally on supports.
- Preservative Treatment: In accordance with BS 8417, being suitable for Hazard Class 2.

275 TILE FIXING:

- Lay tiles broken bond in even courses with tails aligned.
- Nail and use tile clips (919600)
- Use eaves clips (919200) and verge/valley clips (919300)
- Use verge clips left hand (919300) and right hand (919300)

EDGES/JUNCTIONS/FEATURES

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305 GENERALLY:

- Ensure that related trades are provided with all relevant information relating to carpentry and other work, etc. Before starting work ensure that previous related work is complete and in accordance with the project documents.
- Form all details using the specified and Redland recommended fittings and accessories: do not improvise without approval.
- Please be aware that this SpecMaster specification complies with the minimum requirements set out in British Standards so as to conform with Building Regulations. For certain projects such as new housing there may be additional non-regulatory technical requirements from third-party insurers that have to be satisfied. For example, from January 1st 2012 all mortar-bedded ridge and hip tiles must be mechanically-fixed to comply with NHBC Technical Standards so as to be eligible for NHBC Buildmark Warranty Cover. It is your responsibility to check what if any non-regulatory requirements exist for your project and ensure they are complied with.
- Fittings and accessories to be supplied by Redland to match slate colour and finish unless specified otherwise.
- Cut slates only where necessary with an appropriate tool to give straight, clean edges.
- Fix edge slates and fittings securely to give neat, true lines. Ensure that all lead flashing are fixed with or immediately after the tiling and are neatly dressed down. For most flashing applications, Codes 3, 4 and 5 lead sheet will be adequate although on positions of extreme exposure thicker codes may be required. The fixed edge of any lead flashing into masonry must be adequately fixed, and sealed using suitable products; seek assurances from the product manufacturer regarding the fitness for purpose of their product for the application.
- Note also that the free edge of a lead flashing must always be adequately fixed typically using clips: The material used for the clips, their spacing and, most important, the method of fixing will depend on the site exposure. Furthermore, ensure that any widths of lead or laps in the lead work either horizontal laps or side laps over lead or the slates are sufficient for the application, roof pitch, and site exposure. Please note that in the clauses in this section the laps specified assume a moderate site exposure e.g. for side abutments and other similar details it may be necessary to increase side laps from 150mm to a minimum of 200mm. It is your responsibility to check that the appropriate specification and fixing of lead is selected for the project site. As soon as practical, a smear coating of patination oil should be applied to the lead evenly in one direction and in dry conditions. For specific advice on any of these issues contact the Lead Sheet Association. Tel 01622 872432.
- A roof maintenance program, as recommended by the CTMA should be built into any contract. More information can be downloaded from our website using the following link <http://www.monier.co.uk/literature/msds-and-maintenance-documents.html>

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341 EAVES CORBELLED:

- Ensure that top of timber batten support or fascia board is fixed at the correct height to ensure all slates are laid in an even and level plane.
- Fix Underlay Support Tray (907600) at centres not exceeding 300 mm.
- Remove rear section of tray by snapping or cutting along score line.
- Fix underlay over Underlay Support Tray.
- Fix all slates in the eaves course with eaves clips (919200), using appropriate size nails.
- Fix all slates in the eaves course with tails projecting 50 mm.

344 EAVES TIMBER FASCIA:

- Ensure that top of timber fascia board is fixed at the correct height to ensure all slates are laid in an even and level plane.
- Fix Underlay Support Tray (907600) at centres not exceeding 300 mm.
- Remove rear section of tray by snapping or cutting along score line.
- Fix underlay over Underlay Support Tray.
- Fix all slates in the eaves course with eaves clips (919200), using appropriate size nails.
- Fix all slates in the eaves course with tails projecting 50 mm.

415 AMBIDRY VERGE:

- Carry underlay over full width of gable.
- Project tiling battens 50 mm beyond gable, ends aligned.
- Fix standard slates and slate-and-a-half (470230) in alternate courses to left hand and right hand verges.
- Fix Ambi-Dry Interlocking Verge System (957000) to battens with verge clips and clout nails.
- At eaves and ridge use Eaves/Ridge Pack (949100).

530 RAPID HIP:

- Overlap underlay courses at the hip line by not less than 150 mm.
- Fix 50 x 25 mm noggins to sides of hip rafter with 50 mm galvanised nails to support ends of tiling battens, where required.
- Fix 38 x 50 mm high batten full length of hip.
- Cut slate-and-a-half (470230) to rake at not more than 30 mm from hip batten.
- For Plan Angles at 90°:
- Hip tiles: UA Hip With Nail Hole (777830).
- Colour: Slate Grey (30).
- Cover with Rapid Hip Pack (950300).
- Block Ends (777930).
- Hip Junctions - two hips meeting one ridge (952000).

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605 GRP VALLEY:

- Ensure that on each side of valley, 19 mm valley boards on noggins are cut between and flush with top of rafters to provide full support for valley.
- Fix 50 x 25 mm valley support battens to valley boards on each side of valley.
- Cut underlay to either rake and dress onto valley support batten. Alternatively first lay a single strip of underlay, full width of valley boards, up centre of valley below valley support battens, directly on top of valley boards and then lay underlay under GRP valley.
- For Plan Angles at 90° and Areas Draining up to 25m²:
- Fix Cambrian GRP Valley (955300) to support battens with 25 x 2.65 mm galvanised clout nails.
- Cut slate-and-a-half (470230) neatly to form a 125 mm gap centred on valley.
- Fix slates both sides every course with verge clips (919300) twice nailed to valley battens with 30 x 2.65 mm stainless steel ring shank nails.

662 GRP SECRET GUTTER SIDE ABUTMENT:

- Turn underlay not less than 50 mm up abutment.
- Fix Redland GRP Secret Gutter (959600) to ends of tiling battens with 25 mm galvanised clout nails.
- Fix a timber tilting fillet to support the gutter outlet at the base of the secret gutter. Gutter outlet should be splayed out to ensure that water is discharged into gutter at eaves or out over slates immediately below side abutment.
- Cut and fix Standard Slates (470130) and slate-and-a-half (470230) alternately to fit closely to abutment.
- Dress Lead over slates by not less than 150 mm and up wall by not less than 65 mm.
- Dress into wall and secure with clips and seal with suitable sealant.

670 TOP EDGE VENTILATED ABUTMENT:

- Turn underlay over and nail to top tiling batten allowing not less than 10 mm airgap to abutment.
- Fix top course of slates closely to abutment.
- Fix Abutment Ventilation Pack (954800).
- Ensure that lead apron flashing is firmly engaged into channel on the leading edge of tray provided.

675 TOP EDGE ABUTMENT:

- Turn underlay not less than 50 mm up wall at abutment.
- Fix top course of slates closely to abutment.
- Ensure that lead apron flashing is dressed closely over slates by not less than appropriate amount required.

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690 ROOF WINDOW:

- Turn underlay up against window surround and cover with integral flashing all round.
- Cut or fix slate-and-a-half (470230) and Double-Slates (470530) as necessary closely to both sides.
- Fix tiles both sides every course with verge clips.

691 ROOF DORMER:

- Turn underlay up against dormer surround and cover with integral flashing all round.
- Cut or fix slate-and-a-half (470230) and Double-Slates (470530) as necessary closely to both sides.
- Fix tiles both sides every course with verge clips.

720 RAPID VENTED RIDGE:

- Finish underlay 30 mm from apex on either side of roof to allow an air gap.
- Fix 38 mm wide batten to top of ridge board with fixing straps provided. Height of batten should provide a wood screw penetration of not less than 15 mm.
- Fix top course of slates.
- Ridge tiles: UA Ridge Without Nail Hole (450mm) (714630).
- Colour: Slate Grey (30).
- Fix using Rapid Vented Ridge Pack (930800).
- Block Ends with wood screw for gables (751830).

810 JUNCTIONS:

- Fix a lead saddle to provide a weathertight detail at each:
- Junction of ridge with abutment.
- Top of two valleys.

840 ROOF SLOPE VENTILATORS:

- Fix ThruVent 4.5k (Cambrian) (770530), with underlay seal, to ventilate above insulation between the rafters, with spigot clear of insulation. Position in each and every rafter space, to even spacing as follows:
- Top edge abutments, in second top slate course, where top edge ventilated abutment system is not being installed.
- Hips, both sides, in first full slate adjacent to hip.
- Roof windows, in second top slate course below.
- Roof dormers, in second top slate course below.

850 ROOF SLOPE TERMINALS:

- Soil Vent Pipe Terminals: Hi-Flow ThruVent Tile (Cambrian) (734930) with underlay seal, non-Redland Adaptor and Flexible Pipe.

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852 ROOF SLOPE TERMINALS:

- **Mechanical Extract Terminals: ThruVent 4.5k (Cambrian) (770530) with underlay seal and Flexible Pipe (918800).**

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