

10 June 2020

Southern Housing Group
Spire Court
Albion Way
Horsham
West Sussex
RH12 1JW

For the attention of Aydin Gunay – Amber Construction Services Ltd

Project Number: SM-10-001889

1-24 Florence Court , 6 Park Side Road , Reading, Berkshire, RG30 2DP

Dear Sirs,

Further to your enquiry via our Technical Specification Manager Mark Wooldridge on 05 June 2020 regarding the above project, we have the pleasure of 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.

Our detailed windloading calculations which give values for wind uplift and tile resistance are also included. 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 all the Redland products listed in the following section are purchased new and installed in accordance with Redland fixing instructions and that the works are carried out entirely in accordance with the specification provided.

contl...

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW



10 June 2020

Project Number: SM-10-001889

The ventilation recommendations provided ensures 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 Mark Wooldridge.

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,

A handwritten signature in black ink, appearing to read 'T. Marshall'.

Tom Marshall
Technical Advisor

10 June 2020

Project Number: SM-10-001889

Required Products List for SpecMaster Guarantee

The Redland 15 Year SpecMaster Guarantee for this project is only valid if the following list of Redland products is purchased and installed in accordance with Redland fixing instructions and the NBS-based specification clauses in the next section. Substitution of any of the listed Redland products without written prior approval from Monier Redland Limited will invalidate the SpecMaster Guarantee.

Zone 1 - Main Roof

Code	Description
426152	Mini Stonewold
426352	Half Slate Pairs (Mini Stonewold)
915700	Divoroll Elite 200 2S (50m x 1.5m)
930200	HR Continuous Ridge (Flat Tiles 5m)
988036	Dry Verge Gable End Pack
908400	Dry Vent Mono Ridge Pack (Plain/Slates 2.7m)
907600	Underlay Support Tray (1.5m)
939036	Dry Verge (Pack of 18 LH & 18 RH)
959300	Redvent 25 Over-Fascia Vent (6m)
810136	HR Ridge Without Nail Hole (450mm)
751936	HR Block-End Ridge (450mm)
720336	HR Monoridge (450mm)
951800	'C' Clips (Pack 12)
933800	50mm long x 3.35mm diameter Aluminium Alloy Clout Nails
911852	RedLine Ventilation Tile (Mini Stonewold)
726636	LH HR Block-end Monoridge
726736	RH HR Block-end Monoridge
998400	Rapid EavesVent Rafter Roll (6m)

Other products referenced in this specification that are not listed in above Required Products List for SpecMaster Guarantee can be sourced from other manufacturers.

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW

10 June 2020

Project Number: SM-10-001889

Zone 1 - Main Roof

H65 SINGLE LAP ROOF TILING TO Main Roof

- To be read with Preliminaries/General conditions.
- REDLAND TECHNICAL SOLUTIONS
- SpecMaster number SM-10-001889
- 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

121 CONCRETE SLATE ROOF TILING

- Base: Traditional Construction at 600 mm centres (Estimated).
- Pitch: 17.5° (Estimated).
- Insulation: Insulation Between Joists.
- Underlay: Divoroll Elite 200 2S (50m x 1.5m).

Lay as clause 240 Lay underlay to provide a drape between the rafters or supports sufficient to ensure that any water discharges away from the batten fixing holes at the rafters or supports and allows it to drain into the eaves gutter. Contact between the underlay and the underside of the roof covering should be avoided both during and following installation. A maximum drape of approximately 15 mm avoids noise nuisance caused by excessive flapping of the underlay under wind action, and prevents the transfer of wind loads to the roof covering for which it has not been designed to resist..

Minimum horizontal lap: 150 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. Fix each batten to each support, splay nailing at ends, using 65mm long x 3.35mm diameter Galvanised Smooth Round Nails.
- Tiles: Redland Mini Stonewold (426152).

Colour: Breckland Brown (52).
Size: 418 x 334 mm.
Headlap: Minimum 100 mm, maximum 125 mm.

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW

10 June 2020

Project Number: SM-10-001889

- Fixing Recommendation: A band of full tiles 6 wide around all perimeters must be twice nailed using 50mm long x 3.35mm diameter Aluminium Alloy Clout Nails. All tiles in the remaining roof area must be once nailed in right hand nail hole using 50mm long x 3.35mm diameter Aluminium Alloy Clout Nails.
- See clause 275 for more detailed information on fixing.
- This construction is rated A+ in the 2008 BRE Green Guide to Specification.

TILING GENERALLY

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 Redland Limited 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.
- 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.

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW

10 June 2020

Project Number: SM-10-001889

245 BATTENS

- Sawn softwood, species to BS 5534, clause 4.11.1. 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 Tiles using 50mm long x 3.35mm diameter Aluminium Alloy Clout Nails (933800)
- Use 'C' Clips (Pack 12) (951800)

EDGES/JUNCTIONS/FEATURES

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. 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 tile colour and finish unless specified otherwise.
- Cut tiles only where necessary with an appropriate tool to give straight, clean edges.

10 June 2020

Project Number: SM-10-001889

- 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 tiles 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 Training Academy (LSTA). Tel 01622 872432.
- A roof maintenance program, as recommended by the RTA should be built into any contract. More information can be downloaded from our website using the following link
https://redland.co.uk/settings/resources/files/documents/redland_care_maintenance_repair_guide_aug2011v11.pdf

325 FIRE SEPARATING WALLS

- Ensure that separating wall is cut on the rake 25-50 mm below top of adjacent rafters.
- Fill space over top of wall with layers of mineral fibre quilt so that when underlay and battens are laid it is lightly compressed. Tuck edges of quilt between edges of wall and adjoining rafters.
- Lay 300 mm wide pads of mineral fibre quilt thick enough to seal all gaps cut to fit snugly between battens.
- For boxed eaves completely seal air paths in the plane of the separating wall with 50 mm wire reinforced mineral fibre nailed to sides of rafters and carefully cut to shape.

346 EAVES UPVC FASCIA

- Ensure that top of uPVC fascia board is fixed at the correct height to ensure all tiles are laid in an even and level plane.
- Fix an additional fixing batten to the top of the rafter behind and level with the top of the uPVC fascia board.
- Fix RedVent 25 Over Fascia Vents (959300) continuously along all eaves.
- Fix Underlay Support Tray (907600) butt jointed and fixed to each rafter.
- Lay and fix underlay over Underlay Support Tray starting at front edge of fascia.
- Rapid EavesVent Rafter Roll (6m) (998400).
- Fix all tiles in the eaves course with tails projecting 50 mm.

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW

10 June 2020

Project Number: SM-10-001889

425 DRY VERGE

- Carry underlay over full width of gable.
- Project tiling battens 35 mm beyond gable, ends aligned.
- Fix standard slates, with interlock removed, and left hand half slates in alternate courses to left hand verges. Fix standard slates and right hand half slates in alternate courses to right hand verges. Use Half Slate Pair (426352).
- Fix Dry Verge Interlocking System (939036) to battens by screwing into batten ends with stainless steel screws provided.
- At eaves and ridge use Gable End Pack (988036).

691 ROOF DORMER

- Turn underlay up against dormer surround and cover with integral flashing all round.
- Cut or fit standard slates, with interlock removed, and left hand half slates closely to right hand side. Cut or fit standard slates and right hand half slates closely to left hand side. Use Half Slate Pair (426352).
- At roof dormers, where small vertically cut tiles cannot be fixed using the standard nails, screws and/or verge clips, we recommend a two-point fixing using 'C' Clips (Pack 12) (951800) at the head

720 CONTINUOUS 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 tiles.
- Ridge tiles: HR Ridge Without Nail Hole (450mm) (810136).
Colour: Tudor Brown (36).
- Fix using Continuous Ridge Pack (930200).
- Block Ends with wood screw for gables (751936).

770 DRYVENT MONORIDGE

- Ensure that a 25 mm thick continuous ridge batten is fixed to rafter ends.
- Finish underlay 10 mm from apex to allow an air gap.
- Fix top course of tiles.
- Fix using DryVent Monoridge Pack (908400).
- Monoridge tiles: HR Monoridge (450mm) (720336).
Colour: Tudor Brown (36).
- Left Hand Block Ends for gables (726636).
- Right Hand Block Ends for gables (726736).

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW

10 June 2020

Project Number: SM-10-001889

810 JUNCTIONS

- Fix a lead saddle to provide a weathertight detail at each:
- Junction of Mono-Ridge to Verge.

838 ROOF SLOPE VENTILATORS

- Fix RedLine Ventilation Tiles (911852), with underlay seal, to ventilate roof space as follows:
- Roof dormers, in second top tile course below at 1.2 m centres

855 ROOF SLOPE TERMINALS

- Soil Vent Pipe Terminals: Lead Slate.
- Gas Flue Terminals: Lead Slate

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW

10 June 2020

Project Number: SM-10-001889

INFORMATION PROVIDED BY CUSTOMER

Roof Type	:	Duopitch
Roof Pitch	:	17.5 degrees
Maximum Rafter Length	:	8.8 metres
Maximum Height to Ridge	H	: 8.5 metres
Building Length	L	: 32 metres
Insulation Location	:	Insulation Between Joists
Insulation Type	:	Soft Fill
Timber Sarking	:	None
Rafter Centres	:	600 mm
Batten Size	:	50 mm x 25 mm (Imported)
Duo Ridges	:	Continuous Ridge System HR (Used as Vented)
Mono Ridges	:	Dry & Dry Vent Mono Ridge Pack (Used as Vented)
Hips	:	None
Verges	:	Dry Verge
Valleys	:	None
Side Abutments	:	None
Roof Windows	:	No
Fascia Vent	:	Yes
Solar Panels	:	None
Well Sealed Ceiling	:	No

CALCULATED VALUES

SITE

Effective Height	He	: 8.50 metres
Altitude Factor	calt	: 1.06
Exposure Factor	ce(he)	: 2.25
Site Wind Speed	vb	: 22.77 metres per second
Peak Velocity Pressure	qp	: 715.25 Newtons per square metre

LOCAL AREAS

Local Area Width (x) = 6 tile(s)

TILING

Roof Areas	Cp, net	Uplift (N)	Resistance	Loading
General Areas	-0.30	20.06	55.49	36.16%
Local Areas	-1.00	66.65	71.05	93.80%

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW



10 June 2020

Project Number: SM-10-001889

UNDERLAY

Design Wind Pressure	Pu	643.72 Newtons per square metre
Design Uplift Resistance	Pd	2,200.00 Newtons per square metre

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW



10 June 2020

Project Number: SM-10-001889

FROM SITE LOCATION INFORMATION

Basic Wind Speed	vb,map	: 21.5 metres per second
Maximum Site Altitude		: 59 metres
Minimum Distance From Sea		: 68 kilometres
Nominal Site Terrain		: Town
Distance Inside Town		: 0 kilometres
Within an Airport Zone		: No

SITE INFORMATION PROVIDED BY CUSTOMER

Site Bordered by Open Space		: Yes
Nearby Tall Structures		: No

SITE WIND SPEED FACTORS

Directional Factor	cdir	: 1
Seasonal Factor	cseason	: 1
Design Life of Building		: 50 years
Annual Risk	Q	: 0.02
Probability Factor	cprob	: 1

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW

10 June 2020

Project Number: SM-10-001889

GENERAL NOTES

The fixing specification complies with the requirements of the following standards:

BS EN 1991-1-4:2005 + A1:2010, Eurocode 1 - Actions on structures, Part 1-4: General actions - Wind actions;

NA to BS EN 1991-1-4:2005 + A1:2010, UK National Annex to Eurocode 1 - Actions on structures, Part 1-4: General actions - Wind actions;

BS 5534: 2014, Slating and tiling for pitched roofs and vertical cladding - Code of practice.

BS 5534 requires that perimeter tiles are mechanically fixed using a minimum of two fixings (subject to meeting the wind loading requirements), one of which can be a tile clip, adhesive, suitable dry hip or dry verge system where appropriate. To avoid the use of small pieces of cut tiles, which are difficult to fix, double tiles, tile-and-a-half or half tiles should be used where available. Small pieces (less than half tile width) of cut single lap tiles that cannot be fixed as above should be bonded or mechanically fixed to the adjoining full-width tile using C-clips (9518) and Tail Clips (9519/9522), or secured using Kro-clips (9142).

The specification is based upon the information provided by you and the correctness of this information remains your responsibility. On re-checking, should you find a need to revise your specification, please let us know and we will re-run the program and produce a revised fixing specification.

For practical reasons on site, the fixing recommendations have been consolidated into a simplified format where appropriate.

Standard building design values have been used for calculation of the probability factor. Should you wish to revise either of these values, again please let us know and we will re-run our computer based program and produce a revised fixing specification.

Redland Head Office

Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW
T +44 (0) 330 12345 85 www.bmigroup.com/uk

Registered Office Monier Redland Limited, BMI House, 2 Pitfield, Kiln Farm, Milton Keynes, MK11 3LW