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GOOD ROOFING PRACTICE

KEYMER
hand made clay tiles

Certificate No.Q05516

This guide gives practical advice on good workmanship when using Keymer Hand Made Clay Tiles on site.

All KEYMER products are manufactured under a Quality Assurance System approved by BSI, Certificate No. Q 05516 and complying with EN ISO 9002, and meet the performance criteria of EN 1304.

KEYMER tiles to be laid in accordance with BS 5534 : Part I : 2003, Code of Practice for Slating and Tiling, and BS 8000 : Part 6 : 1990, Code of Practice for Workmanship on Building Sites for slating and tiling of roofs and cladding.

WORKMANSHIP

Careful and sympathetic use of the product is the essence of a good Keymer roof or vertically tiled wall.

As a genuine hand made product, Keymer clay tiles vary quite naturally during the kiln firing process. In order to achieve the desired results it is most important that the tiler selects tiles of compatible shape when laying.

On loading out the roof before tiling, it is recommended that tiles taken from different pallets should be mixed on the roof to achieve an attractive blend of colour. To avoid straight lines of colour, tiles should be laid across and not vertically up the roof, when coursing in, tiles should be adequately spaced to avoid shunting one tile on top of another.

MATERIALS RECEPTION & HANDLING

Proper reception and storage on site are essential. Pallets should be placed on level ground and not stacked one upon another.

UNDERLAY

1. *Eaves*

The underlay should allow drainage of moisture and extend over the tilting fillet, fascia board and well into the gutter at eaves.

2. *Verges*

At verges with gable brickwork the underlay should bridge the cavity and overlap the outside brickwork by 25mm. On extended verges the underlay should be carried over the extension but must not cover the barge board.

3. *Ridge*

A length of underlay should be fixed over the ridge to overlap the general underlay by not less than 150mm.

4. *Hips*

A length of overlay not less than 600mm wide should be laid along the length of the hip overlapping the general underlay.

UNDERLAY (continued)

5. *Valleys*

A continuous strip of underlay not less than 600mm wide should be fixed along the length of the valley beneath the main courses of underlay.

6. *Abutments*

Underlay should be turned up at abutments a minimum of 50mm.

7. *Fixing*

The underlay should be secured using l9mm x 3mm extra large head felt nails of galvanised steel, copper or alloy, keeping the number of fixings to a minimum. Repair any accidental punctures prior to tiling.

SETTING OUT

Setting out is governed by fixed points. If the roof is set out correctly, unequal verge overhangs and cutting of tiles is avoided.

(a) **Fixed Points.** The three most basic fixed points are:-

- i) The tail of the tile at eaves should overhang to discharge water into the center of the gutter.
- ii) The tile and undercloak at the verge must overhang the gable wall or barge board by between 38mm and 50mm.
- iii) The ridge tile should give a minimum 65mm lap to the top course of tiles.

(b) **Batten Positioning.** Establish the position of the top of the batten of the eaves and top course and mark with a chalk line. To establish the position of the intermediate battens the distance between the top of the eaves and top tile battens is divided to give the number of courses needed to maintain a minimum headlap of 65mm. These spacings should also be marked out with a chalk line.

(c) **Fixing Battens.** Battens on boarded roofs must be supported on counter battens to increase ventilation under the tiles and to allow free drainage of any water that may reach the underlay. The underlay should be laid over the counter battens.

Battens and counter battens must be fixed through to rafters or to fixing pads when over brickwork, not through boarding alone.

Feather edged boarding must not be used as a support to tiling.

Battens should be not less than 1200mm in length and should be of sufficient length to be supported at each end and intermediately by at least three rafters, trusses or walls. Ensure that all joints are square-cut and butted centrally on the supports. Splay nail each batten end.

Nail battens to each support.

On hips where bonnet hip tiles are to be used it may be necessary to fix a counterbatten along the hip to give good mechanical fixing to the bonnet hip tile and maintain good hip alignment with minimum mortar bed.

LAYING OF ROOF TILES

Once the underlay and battens have been fixed the eave tiles should be set out over the length of eaves starting at the right hand verge. Joints between tiles should be open up to a maximum of 3mm. This allows some flexibility in setting out to give minimum cutting and equal verge overhangs of 38mm-50mm.

Every effort should be made to maintain half bond by laying tiles to horizontal courses with each vertical joint located over the centre of the tile below.

JOCKEYING OF BONNET HIPS & VALLEYS

Traditionally hand made fittings vary slightly in any batch. It is good practice to divide the hip tiles to be used into two groups, flatter and sharper. These groups should then be divided equally between the number of hips to be tiled with the flatter hips used at the bottom of the slope. The reverse is true for valley tiles.

BEDDING

All mortar bedding should consist of 1 part cement to 3 parts of fine aggregate, or 1 part cement and 1 part of lime to 5 parts of fine aggregate. Do not use soft building sand.

Colouring pigment can be added, but should comply with the requirements of BS EN12878 : 1999.

LAYING OF VERTICAL TILES

All vertical tiles should be twice nailed.

Bottom edges: Eaves are to have double courses throughout, using purpose-made eaves tiles supplied by the manufacturers for the under-course. In both courses each tile is to be twice nailed.

Top edges: Twice fix top course tiles as for pitched roofs. Cover with lead flashing, dressed down over the top edge.

Square abutments: Cut tiles to abutment and weather with sheet metal soakers or cover flashings as necessary, leaving a neat 5mm gap between tiling and abutment.

Raking abutments: For example, gable end tiling at the juncture with roof verges, tiles should be splay cut. To maximise security of fixing, ends of courses should finish with tile and a half tiles and splay cut full tiles where necessary, to avoid the use of small triangular pieces of cut tile.

Vertical tiling angles: Use manufacturer's purpose-made angle tiles, left hand and right hand in alternate courses to break bond, cutting adjacent tiles neatly, as necessary.

ROOF VENTILATION

Adequate air ventilation should be provided in order to control roof space condensation. The Keymer IN LINE roof ventilation system has been designed to fit Keymer Tiles and provide ventilation specifications to comply with current building regulations and BS5250 : 2002 'Control of Condensation in Buildings.'

SAFETY AND GENERAL PRECAUTIONS

Attention is drawn to the Health and Safety at Work Act 1974 which applies to the employer, employee and self-employed.

CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH

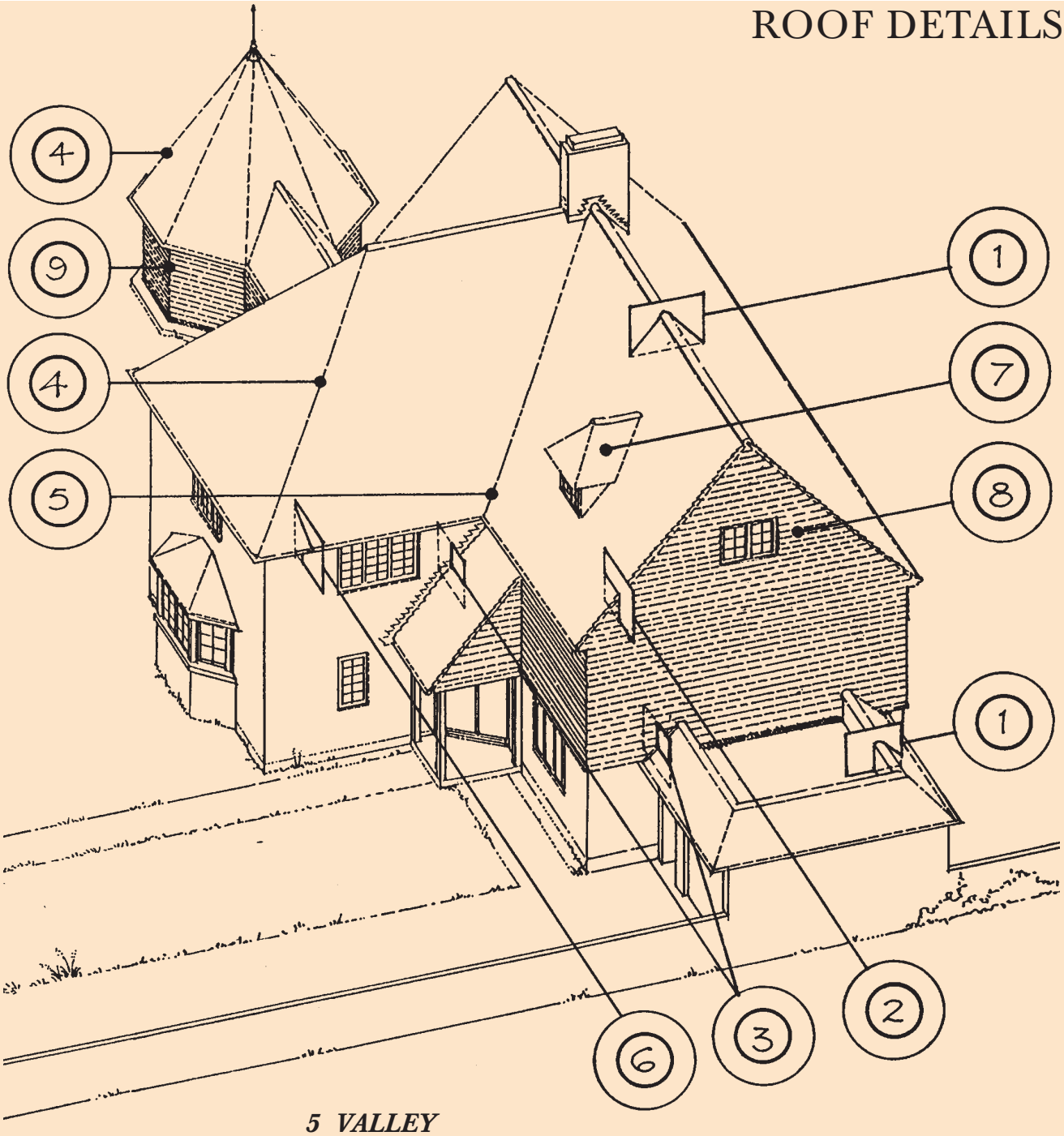
Keymer hand made clay plain tiles do not present any risks to health when used as supplied.

However, if either hand or power tools are used to cut Keymer products, a certain amount of dust and chippings will be produced. Persons carrying out these operations must wear suitable eye protection and a respiratory mask.

ROOFING CONTRACTORS

It is recommended that all pitched roofing work is carried out by a qualified roofing contractor. A list of roofing contractors experienced in using Keymer hand made clay tiles can be obtained from Keymer Technical Advisory Services - Telephone 01444 232931.

ROOF DETAILS



1 RIDGE	*5 VALLEY*
2 VERGE	*6 EAVES*
3 ABUTMENTS	*7 DORMER*
4 HIPS	*8 TILE HUNG GABLE*
	9 BAY ANGLES

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For further details please visit our web site at **www.keymer.co.uk** which now includes our award winning technical manual, or contact our sales office on 01444 232931

KEYMER

hand made clay tiles

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