

# KEYMER

EST. 1588

## HANDMADE

CLAY ROOF TILES

SINCE 1588



THE KEYMER-BRICK & TILE

WORKS CO - LIMITED

PHILADELPHIA, 1876



International Terra Cotta and  
Glaze Society

BRICK, TILE,  
and  
TERRA COTTA WORKS  
SUSSEX.

THE KEYMER BRICK  
WORKS CO. LIMITED

ORNAMENTAL  
Moulded Bricks, Terra Cotta  
FINIALS, RIDGE TILES

Manufactories

KEYMER JUNCTION

SUSSEX

KEYMER

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# OUR HISTORY

## 1588

### HISTORY IN THE MAKING

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One of the oldest, most established industries in Burgess Hill, Keymer Brick & Tile Company evolved from the former Ditchling Potteries, a collection of various works including Dunstalls Farm owned by John Billinghamurst, John Palmer and John Pomfrey - a renowned brick maker in Keymer in 1588.

*“In the late 1800s, it’s reported that the works were the largest in the South and employed over 300 people”*

When the Ditchling Common site was sold, having exhausted its supply of clay, production was moved to Nye Road over a period of 80 years between 1860 and 1940. The factory and clay pit are still situated here and cover an area of approximately 50 acres.

In the late 1800s, it’s reported that the works were the largest in the South and employed over 300 people. At the turn of the century, it was famous for the manufacture of red terracotta ware - winning awards in London in 1862 and Philadelphia in 1876. This bespoke product was used throughout the British Isles and, largely due to its early success, was re-introduced by the modern-day Keymer in the 1990s.

## 1800-1900’S

### AN EVOLVING CRAFT

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Back in the 1800s, the site had many tall brick chimneys, which belched smoke from time to time - have since been demolished in line with the ‘Clean Air Act.’ Coal was used for the drying and firing of products, and was regularly delivered to the site. Finished products were also dispatched by rail via Keymer’s own siding, adjacent to the Lewes-Eastbourne train line. Since the closure of the railway sidings, during Dr Beeching’s time, Keymer now uses Natural Gas to dry and fire tiles.

*“From 1939 to 1945, the tile manufacturing works were completely closed down. Buildings and kilns were used by the Admiralty for storage purposes, and played a major part in the ‘D-Day’ landings”*

In the early days, a considerable number of Keymer employees also lived in cottages on site. Further cottages were built in Cants Lane - which have now been demolished - that housed brick making tables on the ground floor with living quarters upstairs. These were commonly known as birdcages.

From 1939 to 1945, the tile manufacturing works were completely closed down. Buildings and kilns were used by the Admiralty for storage purposes, and played a major part in the ‘D-Day’ landings. Then, in 1946, a considerable investment was made to introduce new clay preparation machinery whilst ensuring that traditional methods were maintained.

## 1900-2000’S

### A NEW ERA

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Since 1969, the Company has been subject to take-overs including the ‘Cavenham’ empire when Sir James Goldsmith was Chairman. Keymer is now owned by a Trust set up by Neil Wates (deceased), who acquired the business in 1980. Due to dramatic fluctuations in the demand for bricks during the early 1970s, a decision was made to stop brick manufacturing and concentrate on the production of handmade clay roofing tiles.

In 1978, architects and planners were concentrating more on the conservation and preservation of all types of buildings; this attitude gave new life to the company and resulted in the increased production of

*“Keymer, the premium handmade roof tile brand, is now owned by Wienerberger, the leading supplier of wall, roof and landscaping innovations”*

roofing tiles and fittings. In 1981, the very latest micro-processor controlled kilns were installed to reduce fuel consumption and provide better working conditions whilst still retaining the traditional production methods. Recession in the construction industry during the 1990s led to a decline in the home market and a reduction in the production of tiles.

Keymer, the premium handmade roof tile brand, is now owned by Wienerberger, the leading supplier of wall, roof and landscaping innovations. Renowned as one of the world’s oldest operational roofing manufacturers, made its fourth move in its 400 year history and was re-launched from its new home at Wienerberger’s factory in Ewhurst, Surrey in 2015. Situated in the plain tile heartland and 20 minutes from the original site, Keymer’s handmade clay tiles will continue to be produced using the orange clays of the South Weald and the same traditional equipment and processes at its new home. The company has invested heavily to ensure the handmade manufacturing process is retained, meaning that all Keymer products will boast the quality and performance they have become famous for.

## TODAY

### IN SAFE HANDS

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Keymer still uses Wealden clay native to the area and many of the traditional craft skills, have been passed down from maker to maker through the generations.

Demand and production for Keymer’s handmade clay roof tiles have shown a steady increase in recent years. Now dispatched throughout the British Isles, used on roofs from cottages to castles, supermarkets to town centres; also export to the Continent, America and lately even Russia and Japan.

*“used on roofs from cottages to castles, supermarkets to town centres”*

Keymer continue to invest in up-to-date techniques to strengthen commitment to fuel efficiency and a safe working environment - and, at the same time, to manufacture the finest genuine hand made clay roofing products.



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# DISCOVER KEYMER

*“The Keymer range has been born over many generations, defined by time and mastered by hand.*

*The character of the product is inherent within every Keymer tile which ages beautifully and naturally over time.*

*From the period Peg Tile, to the standard handmade brown Goxhill Range, you are guaranteed to find a colour or texture bespoke to your project.*”

# KEYMER TILE RANGE AT A GLANCE



PEG TILES




Weathered (County)



Antique (Kent)





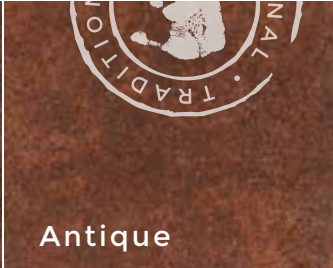
TRADITIONAL




Wealden Red



Elizabethan



Antique





SHIRE



Priors



Heritage



Downs Red





GOXHILL



Autumn Brown



Dark Red

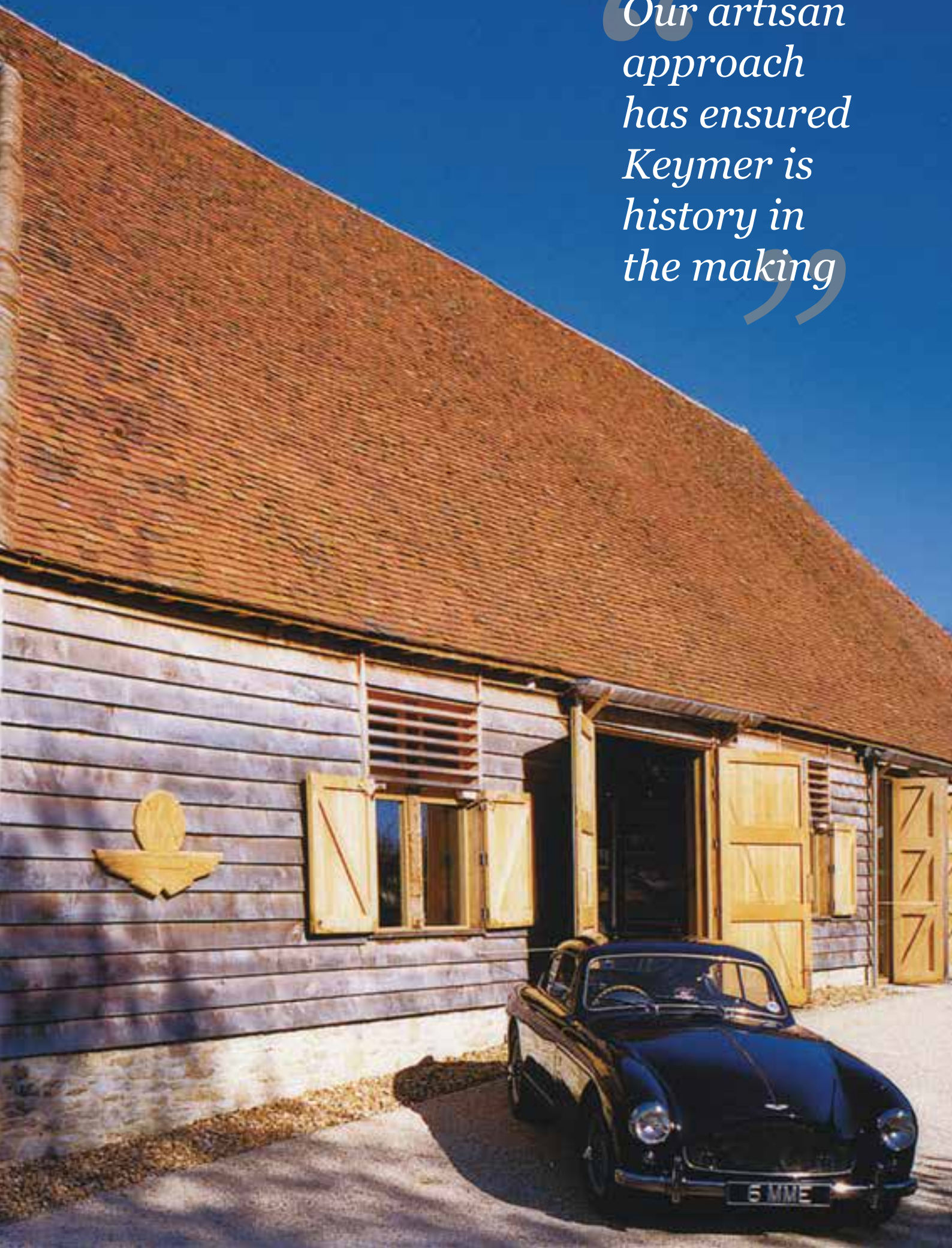


Dark Chestnut





*“Our artisan  
approach  
has ensured  
Keymer is  
history in  
the making”*















# PEG TILES

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## SHAKESPEARE'S BIRTHPLACE TRUST

### STRATFORD UPON AVON

#### County Peg - Weathered

Our County peg tiles are innovative in design. They are created for renovation use, with three nail holes and one nib, to make fitting easier and less disruptive. These tiles are the ideal choice for the refurbishment of older peg tiled buildings or for use on oast houses.

#### Kent Peg - Antique

Our Kent peg tiles are Britain's best peg tiles, handmade by craftsmen using the company's rich Wealden Clay. They are better and more cost effective than using second hand tiles which can quickly deteriorate once stripped off and re-used.

#### PEG TILE - TECHNICAL INFORMATION

	County Single Nib	Kent Nibless
Nominal size	250x150mm	250x150mm
Colours available	Weathered	Antique
Minimum pitch	40°	40°
Gauge	95mm	95mm
Coverage	70/sq.m	70/sq.m
Weight at max. gauge	79kg/sq.m	79/sq.m
Weight per 1,000	1,130kg	1,130kg
Weight per 1,000 eaves	822kg	822kg
Weight per 1,000 gables	1,650kg	1,650kg
Average quantity per pallet	830 tiles	830 tiles
Average weight per pallet	938kg	938kg



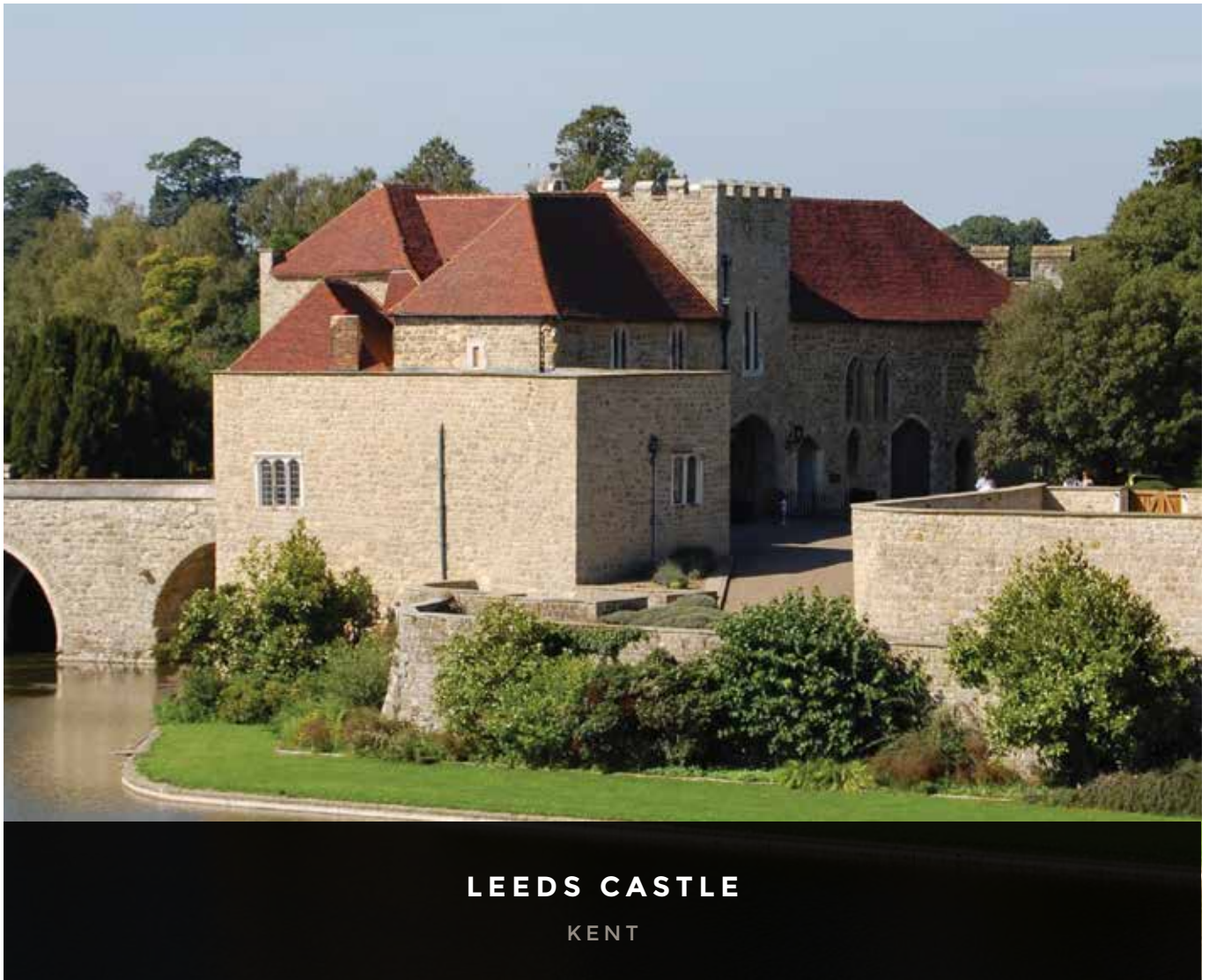


# TRADITIONAL

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## Keymer Traditional Tiles

are traditional to look at, but innovative in design. They are created for renovation use. These tiles are the ideal choice for the refurbishment of older peg tiled roofs and elevations or for use on oast houses.

### TRADITIONAL HANDMADE CLAY TILE TECHNICAL INFORMATION

	Traditional tiles
Nominal size	265x165mm
Colours available	Wealden red Antique Elizabethan
Minimum pitch	40°
Gauge	100mm
Coverage	60/sq.m
Weight at max. gauge	76kg/sq.m
Weight per 1,000	1,270kg
Weight per 1,000 eaves	969kg
Weight per 1,000 gables	1,880kg
Average quantity per pallet	830 tiles
Average weight per pallet	1,054kg





SHIRE

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## Keymer Shire Tiles

A Genuine handmade British made clay tile that offers a serious alternative to the traditional style of clay roof tiles. Produced in three colours, every tile weathers naturally to look better and improve with every passing year.

### SHIRE TILE - TECHNICAL INFORMATION

	Shire
Nominal size	265x165mm
Colours available	Downs Red Heritage Priory
Gauge	100mm
Coverage	60/sq.m
Weight at max. gauge	66/sq.m
Weight per 1,000	1,100kg
Quantity per pallet	860
Weight per pallet	990kg
Recommended minimum pitch	40°



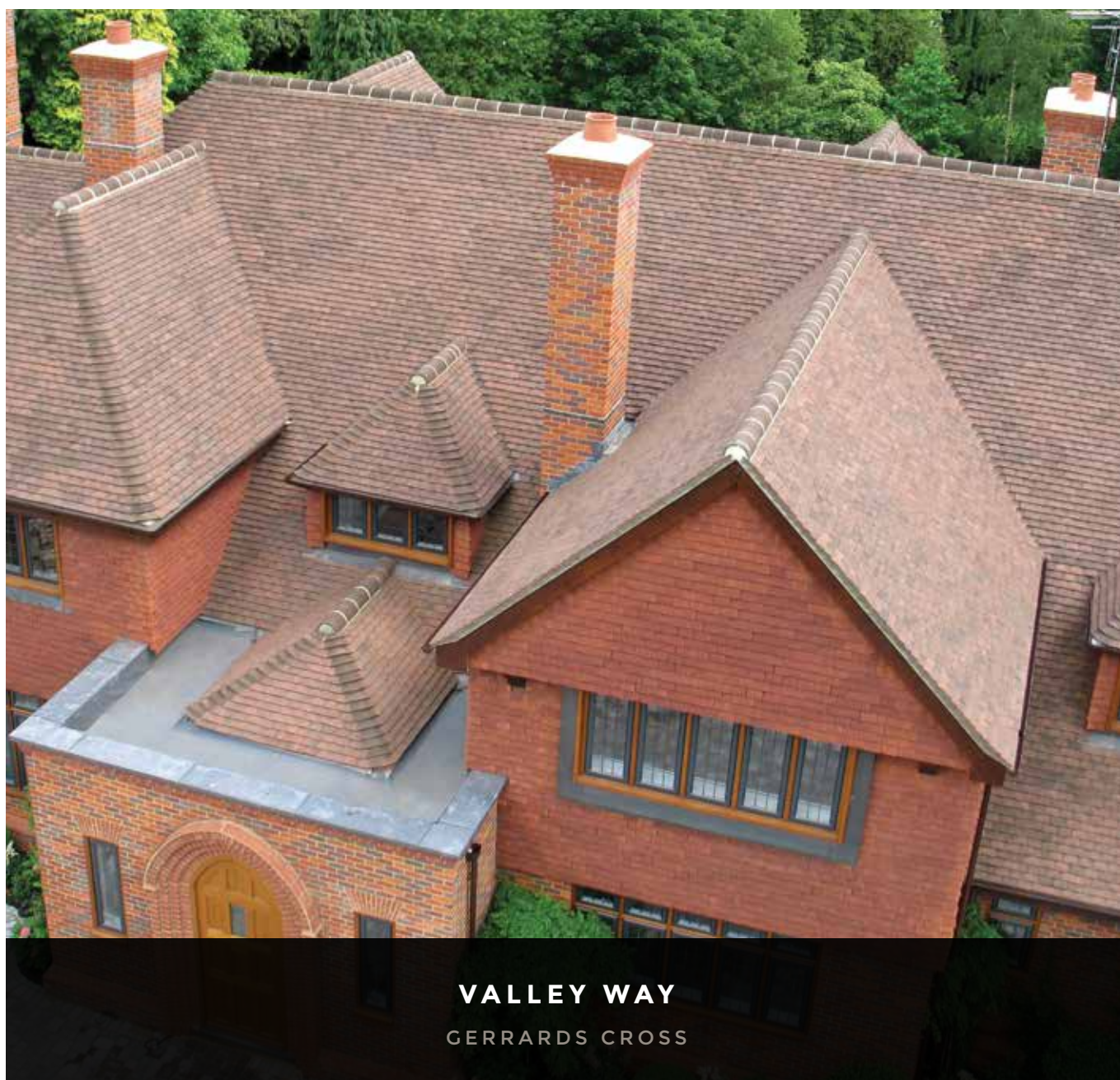


# GOXHILL

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## Keymer Goxhill Tiles

The Keymer Goxhill range of tiles is one of the finest and most distinctive roof coverings available. This handmade plain tile gives a rich textured roofscape that will become more and more attractive with age.

### GOXHILL TILE - TECHNICAL INFORMATION

	Roof	Vertical
Nominal size	265x165mm	265x165mm
Colours available	Autumn brown Dark red Dark chestnut	Autumn brown Dark red Dark chestnut
Minimum roof pitch*	40°	75°
Headlap (minimum)	65mm	38mm
Gauge coverage	100mm	114mm
Weight at max. gauge	79kg/sq.m	79 sq.m
Weight per 1000	1.2 tonnes	1.2 tonnes
Weight per tile	1.25kg	1.25kg
Quantity per pallet	530	530





# GOXHILL FITTINGS

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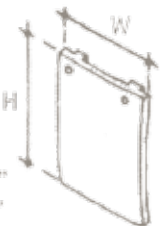

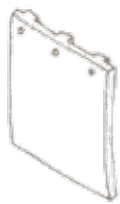
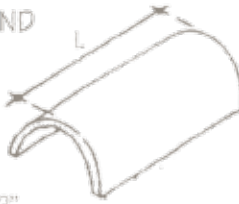





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## PRIVATE HOUSE

BARONSMEAD

<p>PLAIN TILE</p>  <p>H. 265 H. 10 1/2" W. 165 W. 6 1/2"</p>	<p>EAVES TILE</p>  <p>H. 200 H. 8" W. 165 W. 6 1/2"</p>	<p>GABLE TILE</p>  <p>H. 265 H. 10 1/2" W. 240 W. 10"</p>
<p>HALF ROUND</p>  <p>L. 305 L. 12"</p>	<p>HOGBACK</p>  <p>L. 305 L. 12"</p>	<p>THIRD ROUND</p>  <p>L. 305 L. 12"</p>
<p>STANDARD BONNET</p> <p>40-50 SLOPE 5:12 - 6:12</p> 	<p>VERTICAL ANGLE 90° (HANDED)</p>  <p>EXTERNAL</p>	<p>VERTICAL BAY ANGLE 135° (HANDED)</p>  <p>EXTERNAL</p>

\*Also available in: Baby Ridge, InvisiVent, Valley Tile, Arris Hip, Half Round Concealed Air Vent Ridge 457mm





# FITTINGS
























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## Keymer Fittings

Keymer manufacture the largest range of handmade clay fittings you'll find. The true skill of the Keymer master tile maker is well displayed, from the valley to the ridge. Using Keymer's own Wealden clay, these fittings are not only the natural choice in conservation areas but also add character and value to any new building too.

<b>PLAIN TILE</b>  H. 265 H. 10 1/2" W. 165 W. 6 1/2"	<b>EAVES TILE</b>  H. 200 H. 8" W. 165 W. 6 1/2"	<b>GABLE TILE</b>  H. 265 H. 10 1/2" W. 248 W. 10"	<b>PLAIN TILES</b>	
<b>PEG TILE (KENT or COUNTY)</b>  H. 250 H. 10" W. 150 W. 6"	<b>PEG EAVES</b>  H. 150 H. 6" W. 150 W. 6"	<b>PEG GABLE</b>  H. 250 H. 10" W. 225 W. 9"		<b>MODERN PEG</b>  H. 250 H. 10" W. 150 W. 6"
<b>HALF ROUND</b>  L. 305 L. 12"	<b>HOGBACK</b>  L. 305 L. 12"	<b>THIRD ROUND</b>  L. 305 L. 12"	<b>RIDGE TILES</b>	
<b>STANDARD BONNET</b> 40-50 SLOPE 5:12 - 6:12 	<b>TRADITIONAL BONNET</b> 40-45 SLOPE 5:12 	<b>KENT BONNET</b> 50-60 SLOPE 6:12 - 7:12 		<b>HIP TILES</b>
<b>STANDARD VALLEY</b> 40-50 SLOPE 5:12 - 6:12 	<b>GULL WING VALLEY (CAMBERED)</b> 40-45 SLOPE 5:12 	<b>60° VALLEY</b> 50-60 SLOPE 6:12 - 7:12 	<b>VALLEY TILES</b>	
<b>THREE PIECE VENT SET</b> 	<b>LOUVRED VENT HALF ROUND</b> L. 305 L. 12" 	<b>LOUVRED VENT HOGBACK</b> L. 305 L. 12" 		<b>VENT TILES</b>
<b>MONOPITCH RIDGE</b>  L. 305 L. 12"	<b>PORCH RIDGE</b>  L. 305 L. 12"		<b>SPECIAL RIDGE TILES</b>	
<b>VERTICAL ANGLE 90° (HANDED)</b>  EXTERNAL	<b>VERTICAL BAY ANGLE 135° (HANDED)</b>  EXTERNAL	<b>*Only apply to Traditional, Shire and Peg tiles</b>		



\*GINGERBREAD  
Bespoke Tile



# TRADITIONAL ORNAMENTS

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## Keymer Handmade Clay Ornamental Tiles

Since handmade clay tiles first went into production, their makers recognised that special design could set a roof or clad wall apart from the rest - enhancing the building in looks as well as worth.

To ensure compatibility with all Keymer products, the range of ornamental tiles can be made to order in all the standard colours.

Keymer can also make ornamental tiles to individual specification - whether for matching or to realise an original concept.

Because all these products have the same renowned Keymer weathering properties, they soon blend in with existing materials for renovation work - looking better and lasting longer.

### TRADITIONAL HANDMADE CLAY TILE - TECHNICAL INFORMATION

	Club	Arrow	Point	Bull Nose
Nominal size	265x165mm	265x165mm	265x165mm	265x165mm
Coverage	53/sq.m	53/sq.m	53/sq.m	53/sq.m
Weight per 1,000	1,100kg	1,100kg	1,100kg	1,100kg
Average Weight per pallet	943kg	943kg	943kg	943kg
Average quantity per pallet	830 tiles	830 tiles	830 tiles	830 tiles







# FINIALS

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BESPOKE FINIALS

MADE TO ORDER



“Our expertise means that anything can be made in clay to suit the needs of any project, whether to match an authentic piece or fulfil a new specification. Each item is individually made by hand using Wealden clay from Keymer’s own sources.”





# HERITAGE SERVICE



KEYMER HERITAGE SERVICE  
IS A SPECIALIST CONSERVATION AND  
RESTORATION SERVICE THAT CREATES  
BESPOKE HANDMADE ROOF TILES  
AND FITTINGS





*“There is a growing demand for highly trained craftsmen who understand the wide range of skills and methods used in conservation projects. Companies such as Keymer play a valuable part in the programme, allowing students to see the techniques being used in a real working environment...”*

HERITAGE



*“Part of the charm  
of our built heritage  
stems from the wide  
diversity of roof  
coverings adorning  
our historic buildings...”*

From cottages and barns to stately homes, many of our older buildings offer a profusion of detail that, today, would be deemed an architectural luxury.

Over the centuries, the use of roofing material has varied from place to place, with a diversity determined by local geography and material availability.

One of the most enduring and appealing of these materials was natural clay; which became desirable for its mellow appearance and weathering properties. Its popularity as a roof covering was enhanced by its unique ability to be pressed into a multitude of shapes and designs.

This enabled past designers to create an endless landscape of decorative roofs through the inclusion of ornate finials, ridges and hips. Builders in the 17–19th centuries in particular placed great emphasis on appearance and detail and strove to add character to their work.

Family homes that would be passed down through generations were often constructed to include bespoke features that reflected the occupants’ tastes or even personal wealth. Individuality within a style in keeping with the overall local vernacular was of paramount importance.







WELL COURT  
EDINBURGH





# KEYMER SPECIFICATION GUIDE

The Keymer specification guide is a piece of roofing history, its drawings and explanations have become as much a part of the heritage of handcrafted roofing as has the brand in the hearts of those that touch, use and feel its products.

This guide is intended to act as a walkthrough for the many uses of clay plain tiles and the versatility of the products, all of the practices are still viable today, but many have become lost to the market apart from the few skilled roofers still working today.

Keymer wishes to thank David Baker Architects for their invaluable and extensive expertise in preparing the following drawings and details.



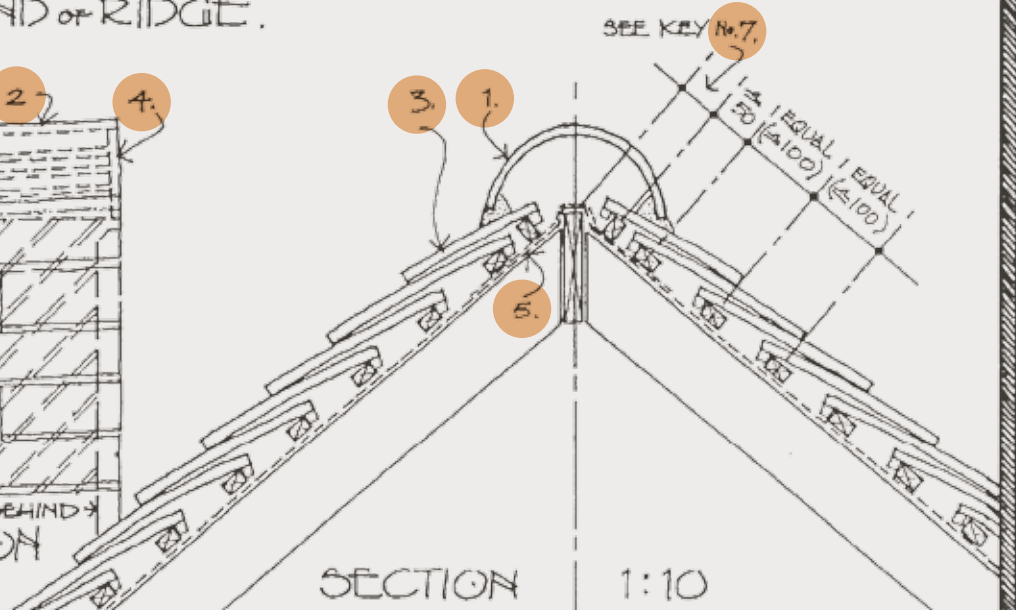
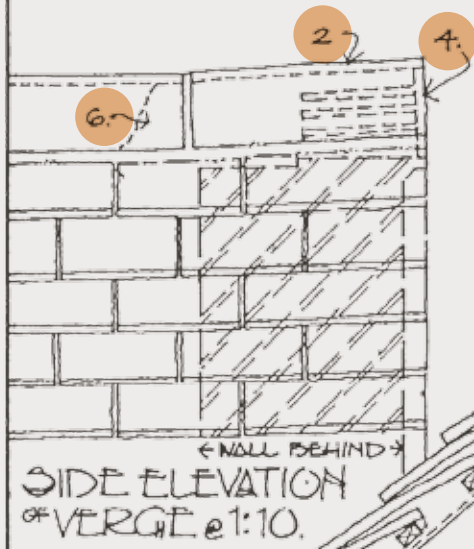
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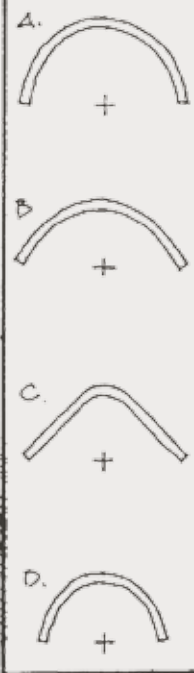
# RIDGES

TILE SLIPS, SEMI-ARC. BOTTLE.  
PIECE OF TILE, END.  
IDEAS FOR END OF RIDGE.



A - HALF ROUND B - THIRD ROUND  
C - HOGBACK D - PORCH/HIP\*

\*PORCH RIDGES ARE MOST SUITABLE FOR USE ON HIPPS OR SMALLER SCALE APPLICATIONS, SUCH AS PORCHES.



## KEY

# RIDGES

- 1** Ridge tile

---

- 2** Ridge is tilted up at verge and creasing tile slips inserted in ridge end to reduce visual impact of mortar bedding

---

- 3** Use 165 x 210 "Top Tile" here on batten turned through 90° to give correct pitch to top tile

---

- 4** Pointing to ridge struck back 10mm or so, to keep tile edge clean, protect mortar, + make shadow line.<sup>1/2 1/2 3/4</sup>

---

- 5** Strip of underlay fixed over ridge board to overlay general underlay by not less than 150mm

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- 6** Mortar bedding of ridge tiles

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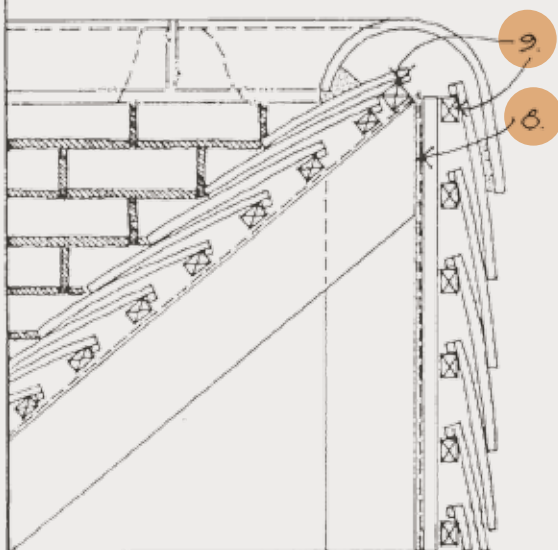
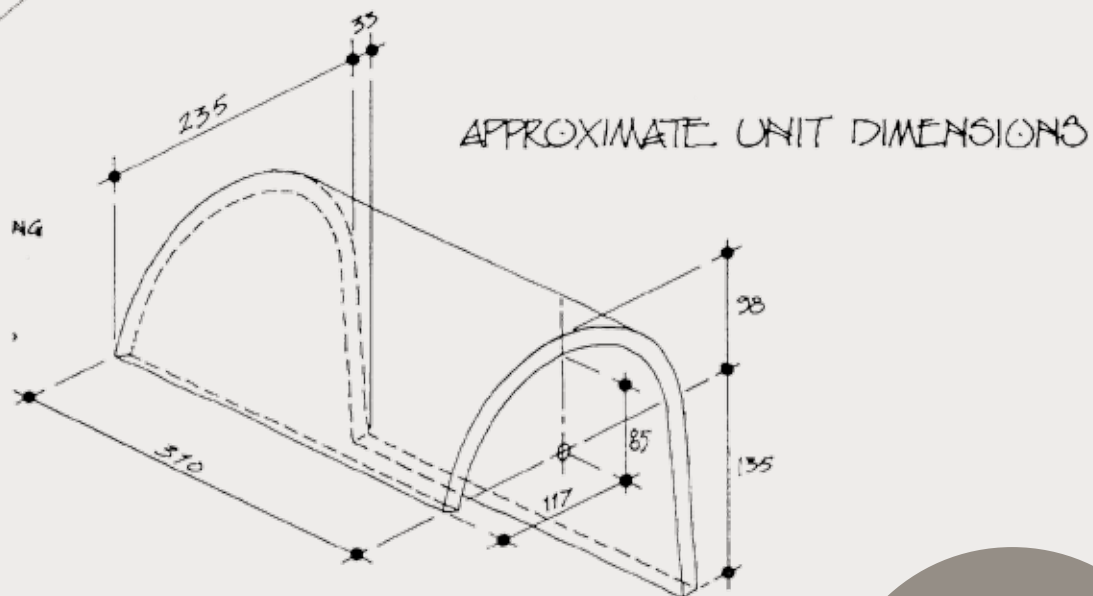
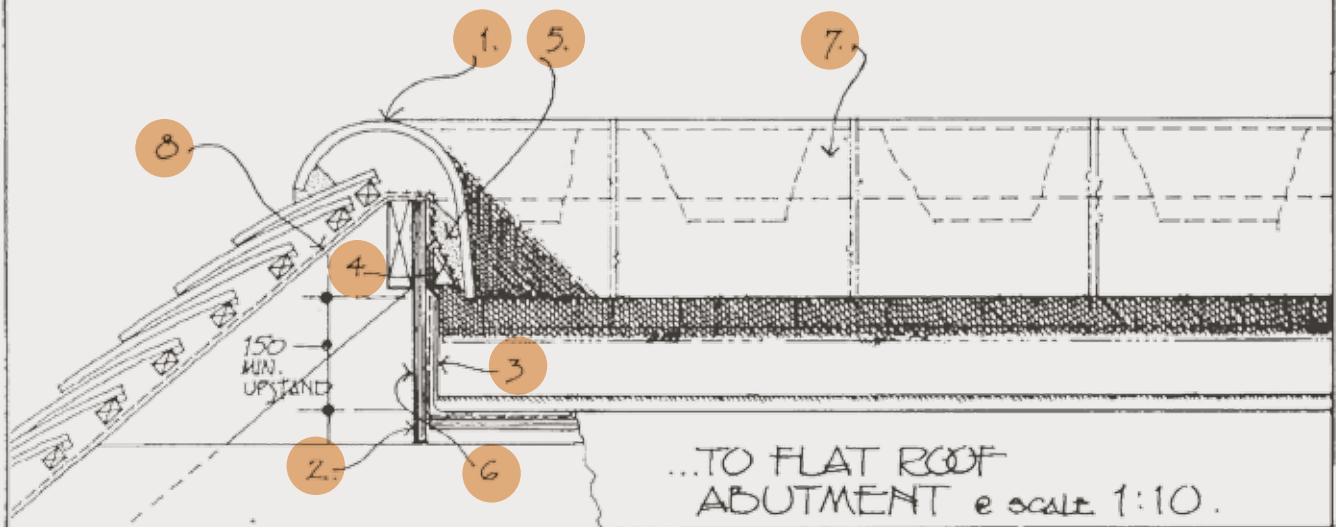
- 7** Setting out the top tile batten requires care, + depends on the spread of the ridge tile. The line chosen must ensure that the ridge tile overlaps the top tile by a minimum of 65mm

Please note, these drawings are only intended as an aid to the correct usage of Keymers products.



# MONOPITCH RIDGE

1A



KEY

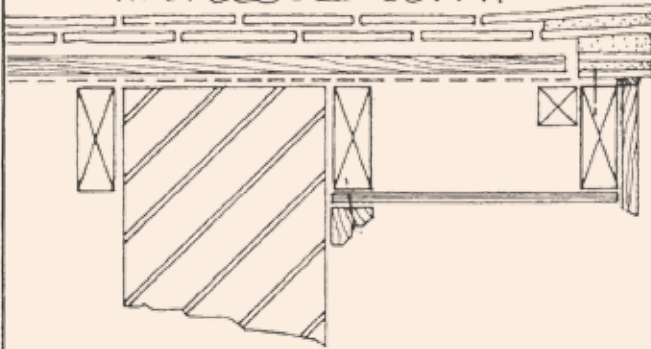


# MONOPITCH RIDGE

- 1** Monopitch ridge unit
- 2** Vertical board/sheet substrate for membrane roof covering
- 3** Flashing
- 4** Timber fillet carrying expanded metal mesh as key for mortar bedding
- 5** Mortar bedding
- 6** The flat roof covering is turned up under flashing min 150mm, and fixed/restrained to manufacturer's recommendations
- 7** Solid bedding under butt joints - see model spec
- 8** Underlay
- 9** For guidance on setting out first batten



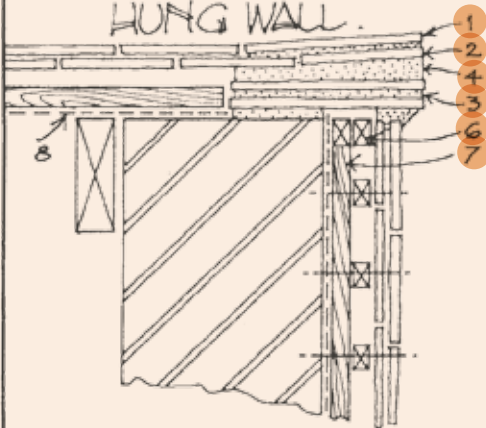
EXTENDED BARGEBOARD WITH CLOSED SOFFIT



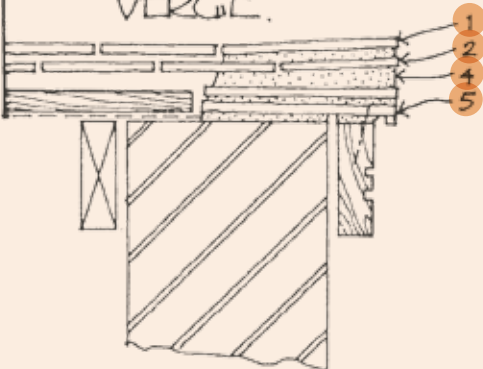
THE ESSENTIALS OF A GOOD VERGE ARE :-

- Ⓐ IT MUST BE WELL BEDDED + POINTED SO THAT WATER WILL NOT PENETRATE BETWEEN THE VERGE TILES + GO INTO THE ROOF.
  - Ⓑ IT MUST OVERHANG THE WALL BELOW BY AT LEAST 35mm, + PREFERABLY 50mm, SO AS TO PROTECT THE SURFACE IMMEDIATELY UNDER THE VERGE.
  - Ⓒ IT MUST BE TILTED SO THAT WATER IS ENCOURAGED TO RUN DOWN THE ROOF, RATHER THAN OVER THE VERGE.
- ALL OF THESE DETAILS SHOW A DOUBLE UNDERCLOAK COURSE, WHICH ASSISTS IN PRODUCING THIS INWARD TILT, + ALSO MAKES A ROBUST DETAIL IN ELEVATION, PARTICULARLY SUITABLE FOR LARGER BUILDINGS. A SINGLE UNDERCLOAK COURSE WOULD BE QUITE ADEQUATE FOR ONE OR TWO STOREY BUILDINGS OF MODEST SCALE.

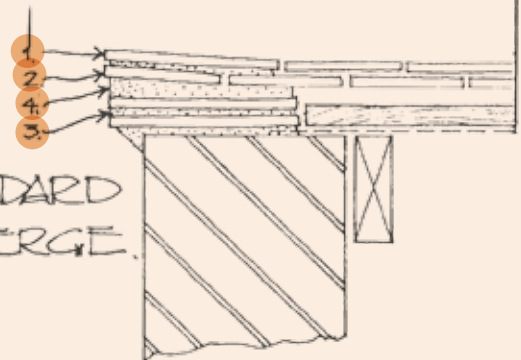
VERGE TO TILE HUNG WALL.



BARGE BOARDED VERGE.



STANDARD VERGE.



KEY

# VERGES

**1** Tile and a half tile

---

**2** Standard tile

---

**3** Double undercloak course of standard or nibless tiles with 165mm edge showing and face side downwards

---

**4** Mortar bedding, pointed when verge is bedded, or as soon as possible thereafter

---

**5** 'Tile-on-end' undercloak course fixed to bargeboard with nibs showing to give dentil effect

---

**6** Battens

---

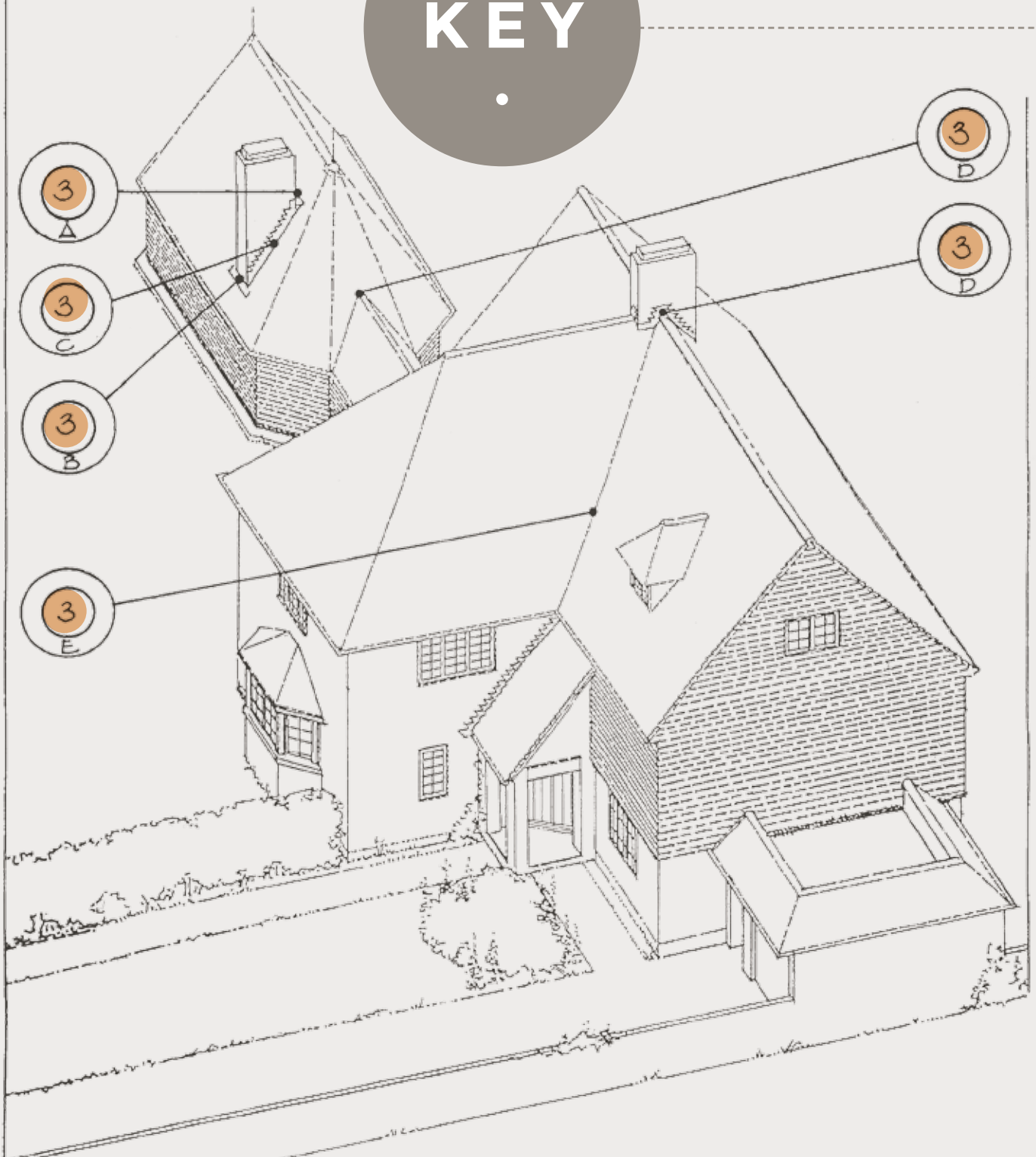
**7** Counterbattens

---

**8** Underlay. In cavity work, this should bridge the cavity and lap onto the outer leaf by 25mm



## KEY





# ABUTMENTS

**3A**

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**3B**

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**3C**

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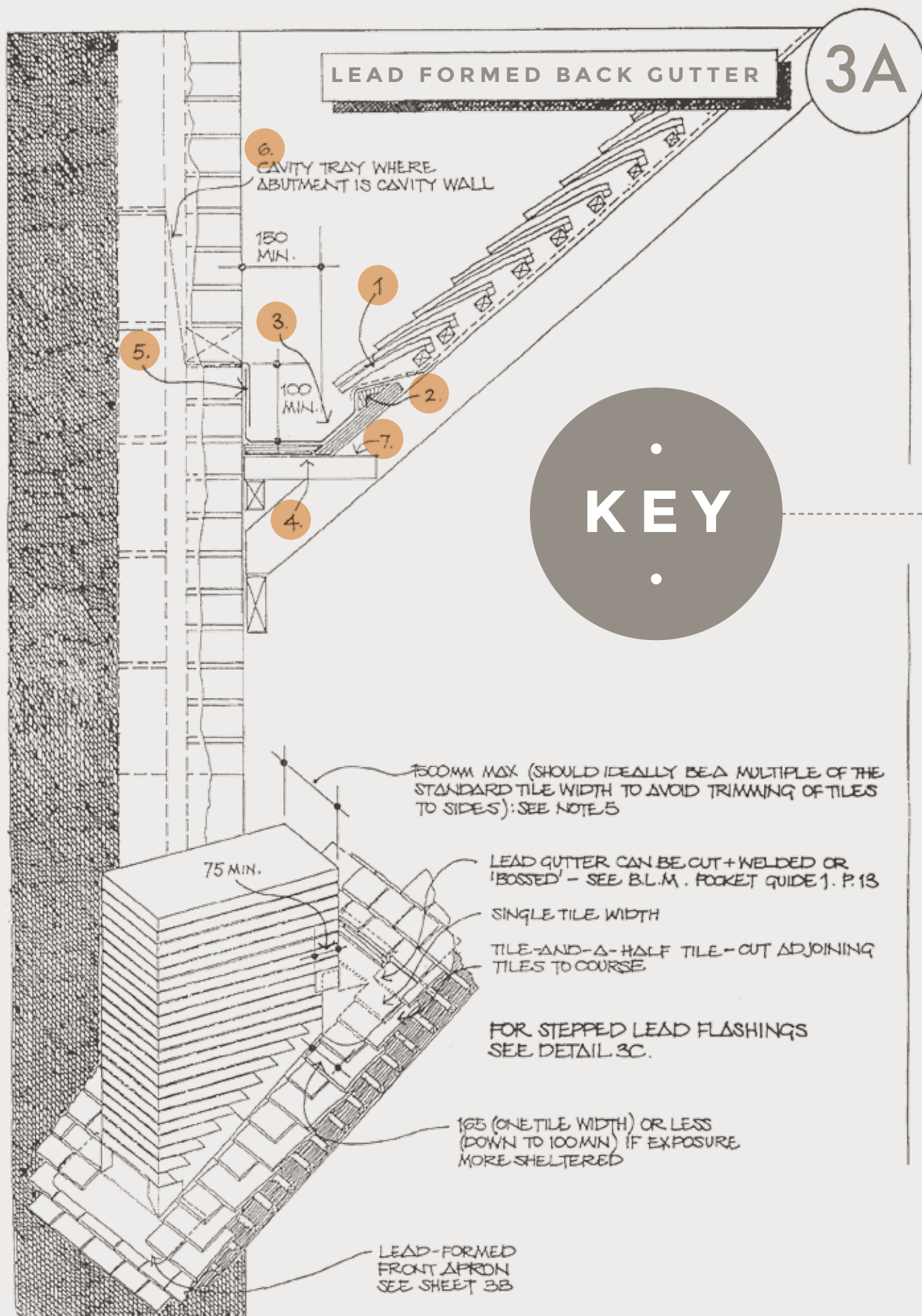
**3D**

Page 15-16

**3E**

Page 17-18







# LEAD FORMED BACK GUTTER

- 1** Eaves tile course

---

- 2** Treated timber fillet with lead-formed gutter bossed\* over (\*gutter gently worked to form)

---

- 3** British Lead Mills code 5 lead formed gutter. The gutter here is nominally flat, having a relatively short length. Maximum length for this detail is 1500. For longer abutments a stepped lead gutter should be used

---

- 4** Board/Sheet gutter former for lead-formed gutter

---

- 5** Code 5 lead flashing to masonry course.

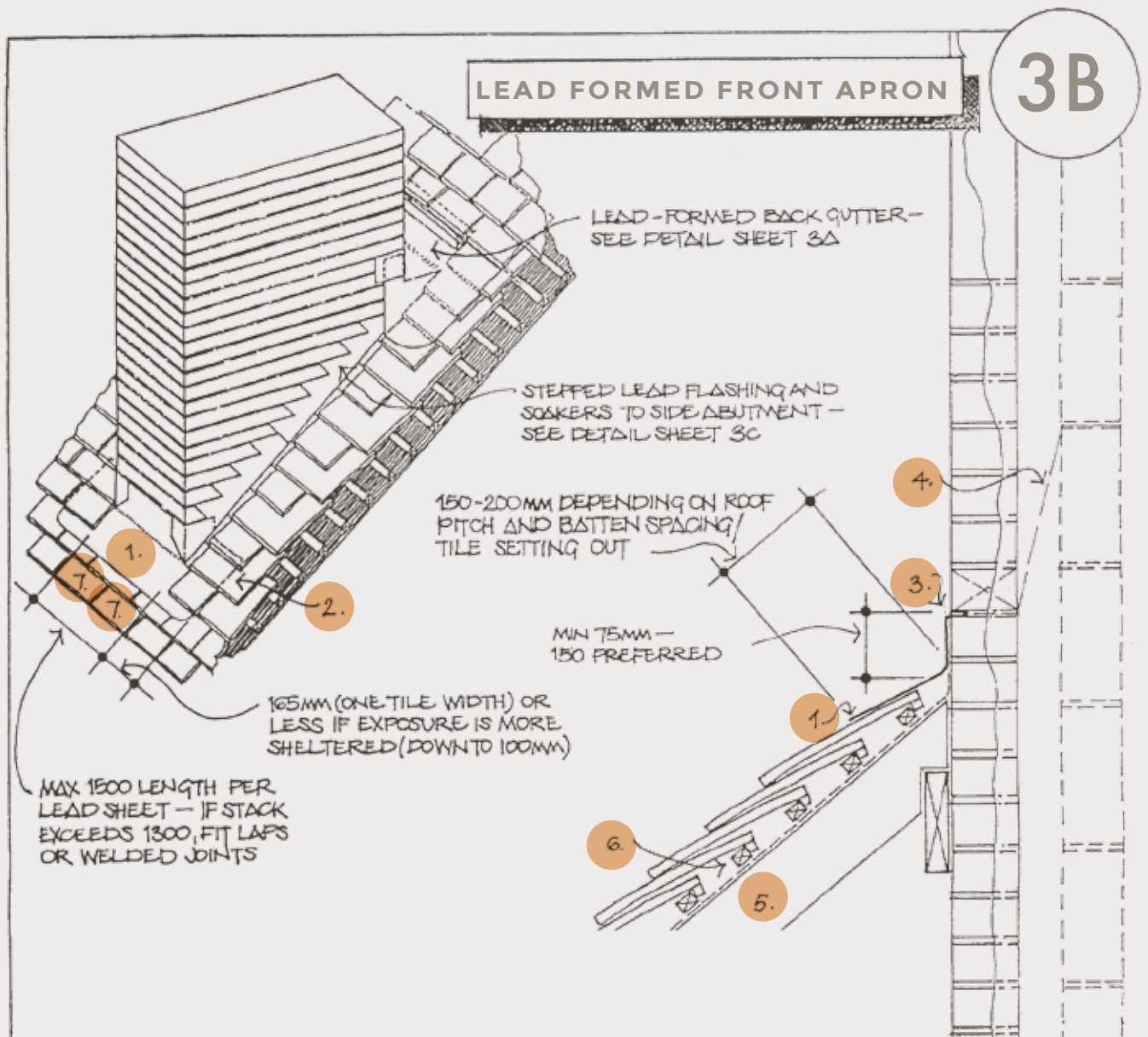
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- 6** Where abutment is to solid masonry, consider installing a through-wall D.P.C. to reduce damp penetration down through wall. Where abutment is to cavity wall, install cavity tray and weepholes.

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- 7** Treated timber bearer supporting gutter former





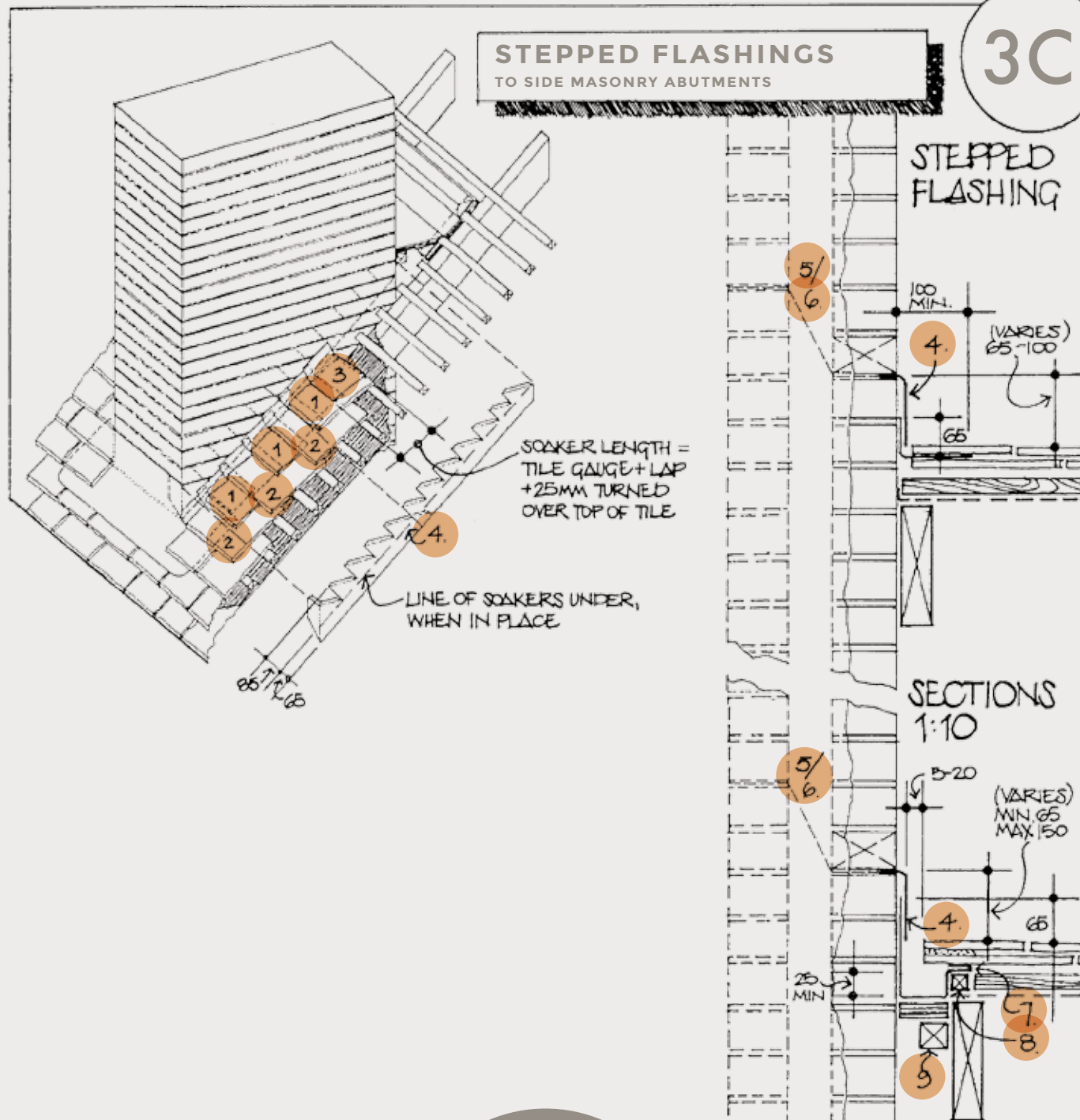
# LEAD FORMED FRONT APRON

- 1** British Lead Mills Code 5 lead-formed front apron
- 2** Apron is fitted under side abutment flashings and extends under tile courses as shown
- 3** Where abutment is to solid masonry, consider installing through-wall D.P.C. to reduce damp penetration down through wall
- 4** Where abutment is to cavity wall, install cavity tray and weepholes, for similar reasons
- 5** Rafter
- 6** Tile battens and underlay
- 7** If the width of the abutment is not a tile module, cut gable tiles to achieve half tile coursing



3C

# STEPPED FLASHINGS TO SIDE MASONRY ABUTMENTS



KEY

# STEPPED FLASHINGS

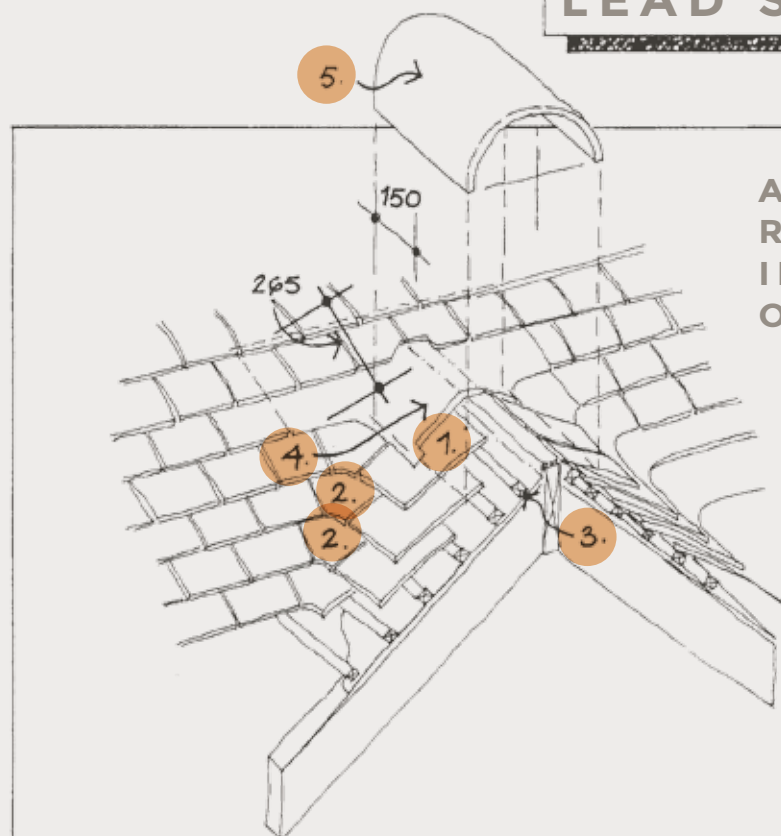
To side masonry abutments

- 1** Full width tile (165mm) - cut adjoining tiles as necessary to achieve half-tile coursing
- 2** Tile-and-a-half to alternating courses
- 3** British Lead Mills code 3-4 lead soakers to each abutment tile.
- 4** Stepped code 4 or 5 lead flashings fitted over soakers and fixed to masonry joints with lead wedges. Note lower extremity of stepped flashing is brought over and around front abutment flashing
- 5** Where abutment is to solid masonry wall, consider installing through - wall D.P.C. to reduce damp penetration down through
- 6** Where abutment is to cavity brickwork, install cavity tray and weepholes for similar reasons
- 7** Edge tiles are laid down over open welled lead secret valley lining. Upper edge tiles to be pointed
- 8** 25 x 25 treated counter batten
- 9** Treated bearer / sheet valley former

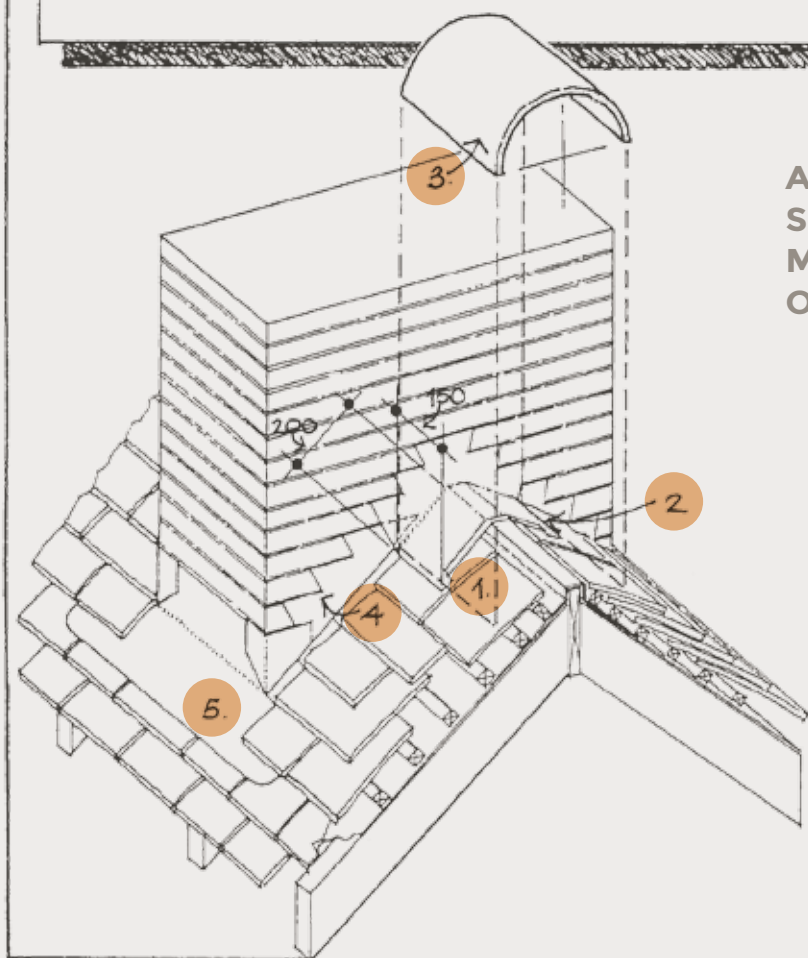


# LEAD SADDLES

3D



ABUTMENT  
RIDGE FLASHING  
INTERSECTION  
OF ROOF/RIDGE



ABUTMENT  
SADDLE FLASHING-  
MASONRY ABUTMENT  
OF ROOF/RIDGE

KEY

# LEAD SADDLES

## Abutment ridge flashing intersection of roof/ridge

- 1** Top tile

---

- 2** Purpose made valley tile

---

- 3** See ridge on pages 1 -2 or batten/felt details

---

- 4** British Lead Mills Ltd. Code 5 formed lead saddle to abutment junction  
Saddle can be bossed or have welded gusset for steeper roof pitches  
– see BLM details

## Abutment ridge flashing intersection of roof/ridge

- 1** Top tile

---

- 2** British Lead Mills Ltd. Code 5 formed lead combined saddle/flashing.  
Flashing is wedged 25mm into masonry joints with lead wedges

---

- 3** Ridge sits on lead saddle and is pointed to masonry abutment

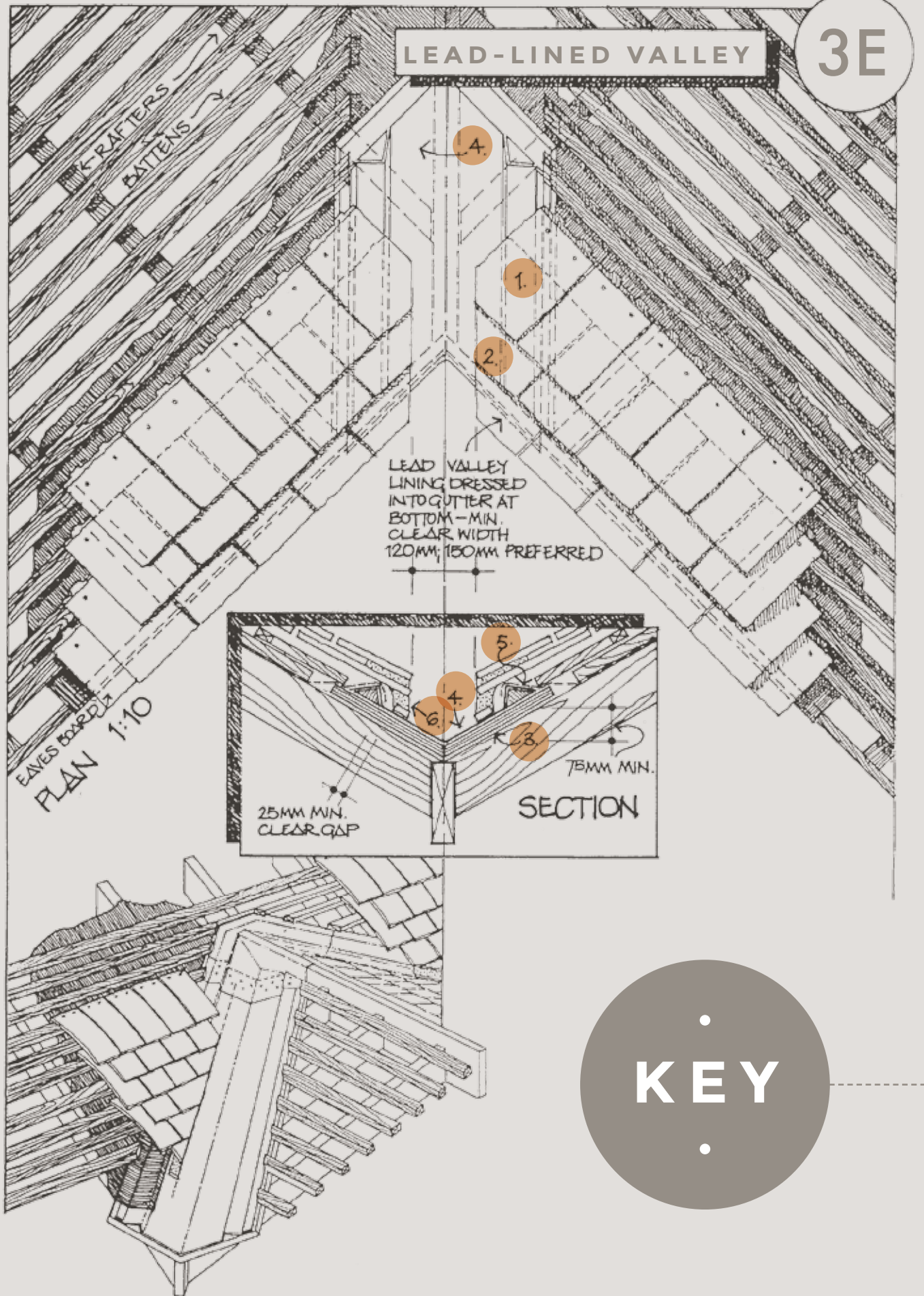
---

- 4** See detail: Page 13 for C3 side abutment flashing details

---

- 5** See detail: Page 11 for 3B for front lead formed abutment



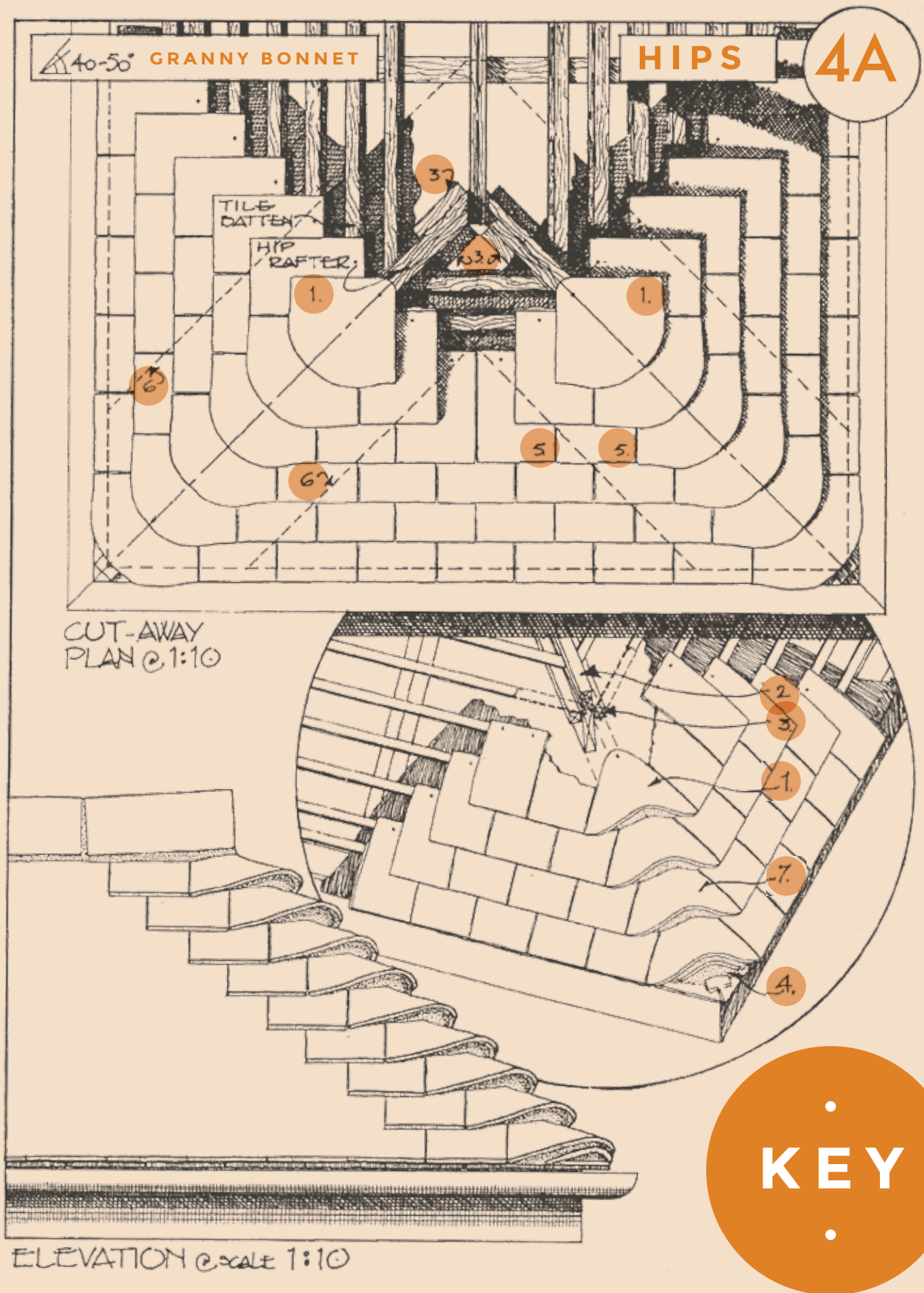




# LEAD LINED VALLEY

- 1** Cut plain tiles to form valley channel
- 2** Cut gable (tile-and-a-half) tiles may be required to maintain half tile coursing
- 3** Ply valley board + timber fillets each side to support tiles at valley channel
- 4** British Lead Mills Ltd. Code 5 lead valley lining
- 5** Roofing felt to be dressed over fillet into 25mm gap
- 6** Mortar bedding on plain tile slips





# 40-50° GRANNY BONNET-HIPS

- 1** Granny bonnet
- 2** For lower roof pitches (ie 40-45°) it is recommended to fix a double batten along the hip rafter to tip the bonnet up, and so reduce the thickness of mortar bedding
- 3** Treated S.W. bearers support batten ends when doubled hip battens are used
- 4** Bonnet tile trimmed as 'undercloak' and tile 'tongue' to reduce visual impact of mortar bedding to bottom bonnet
- 5** Use gable tiles and out tiles as needed to achieve half tile coursing to main slopes
- 6** 600mm wide strip of roofing felt laid over general roofing underlay
- 7** Jockeying of bonnets



4B

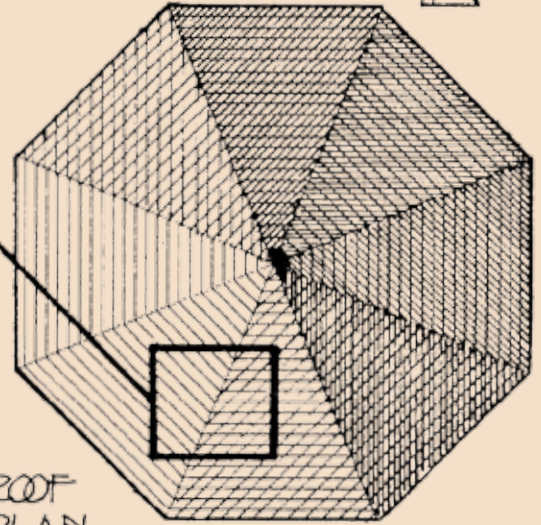
PLAN @ 1:10

135°

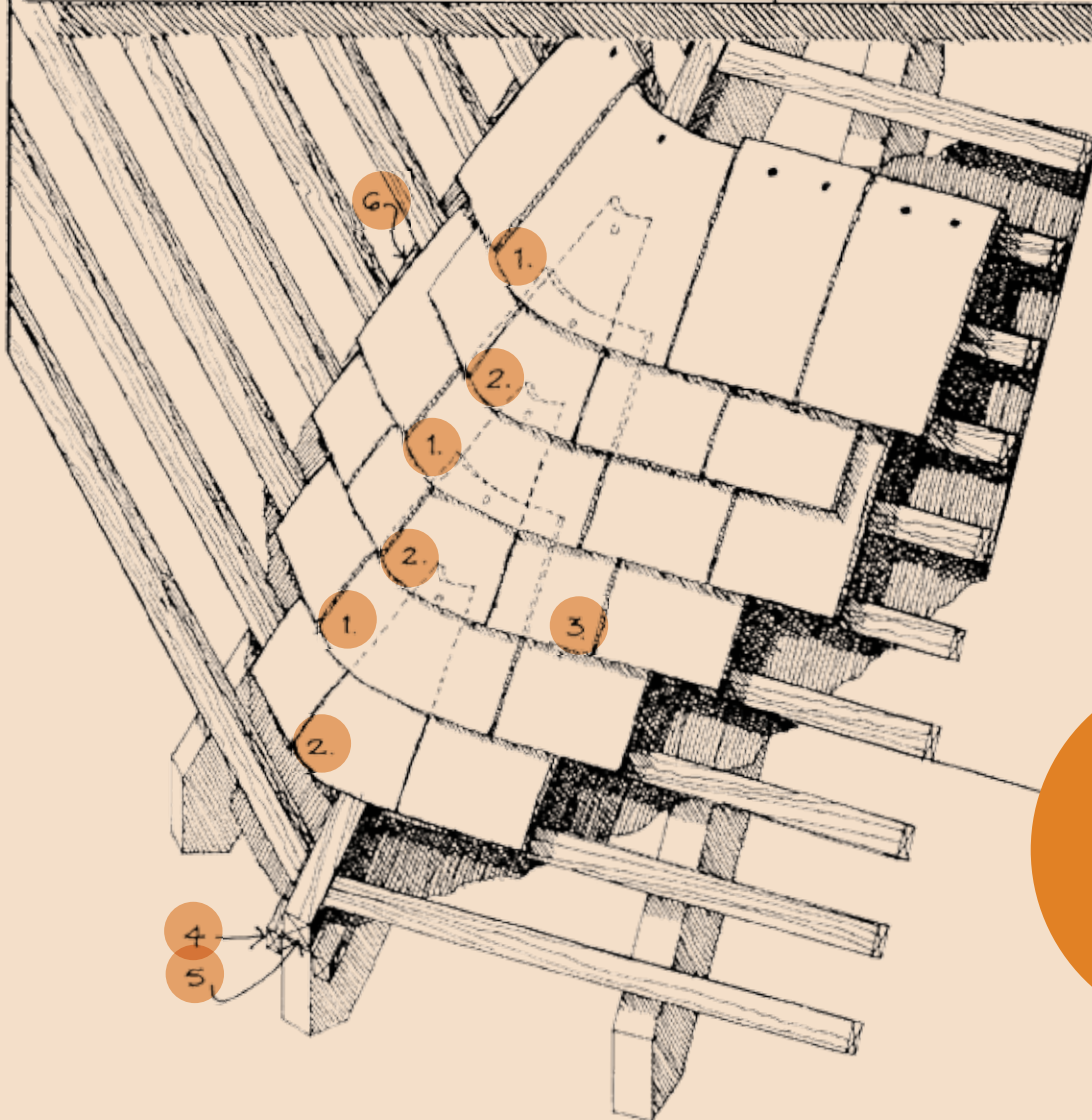
# 'LITTLE & LARGE' BONNET HIP TILES

FOR USE ON HIPS OF ROOFS  
PITCHED BETWEEN 60° & 70°.  
FOR LOWER PITCHES USE  
'135' OR STANDARD BONNET HIP.

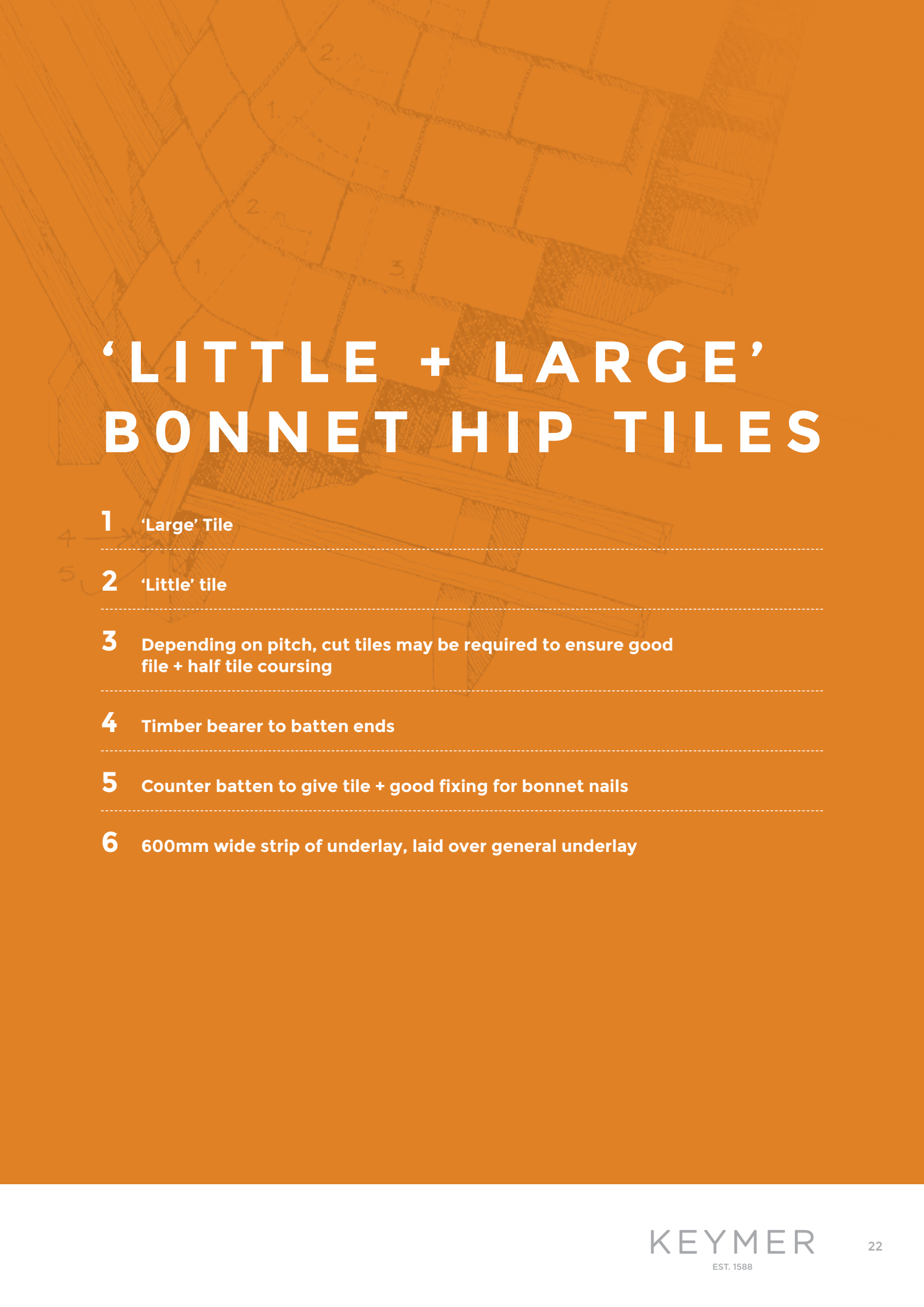
60° 70°



ROOF  
PLAN



KEY



# ‘LITTLE + LARGE’ BONNET HIP TILES

**1** ‘Large’ Tile

---

**2** ‘Little’ tile

---

**3** Depending on pitch, cut tiles may be required to ensure good  
file + half tile coursing

---

**4** Timber bearer to batten ends

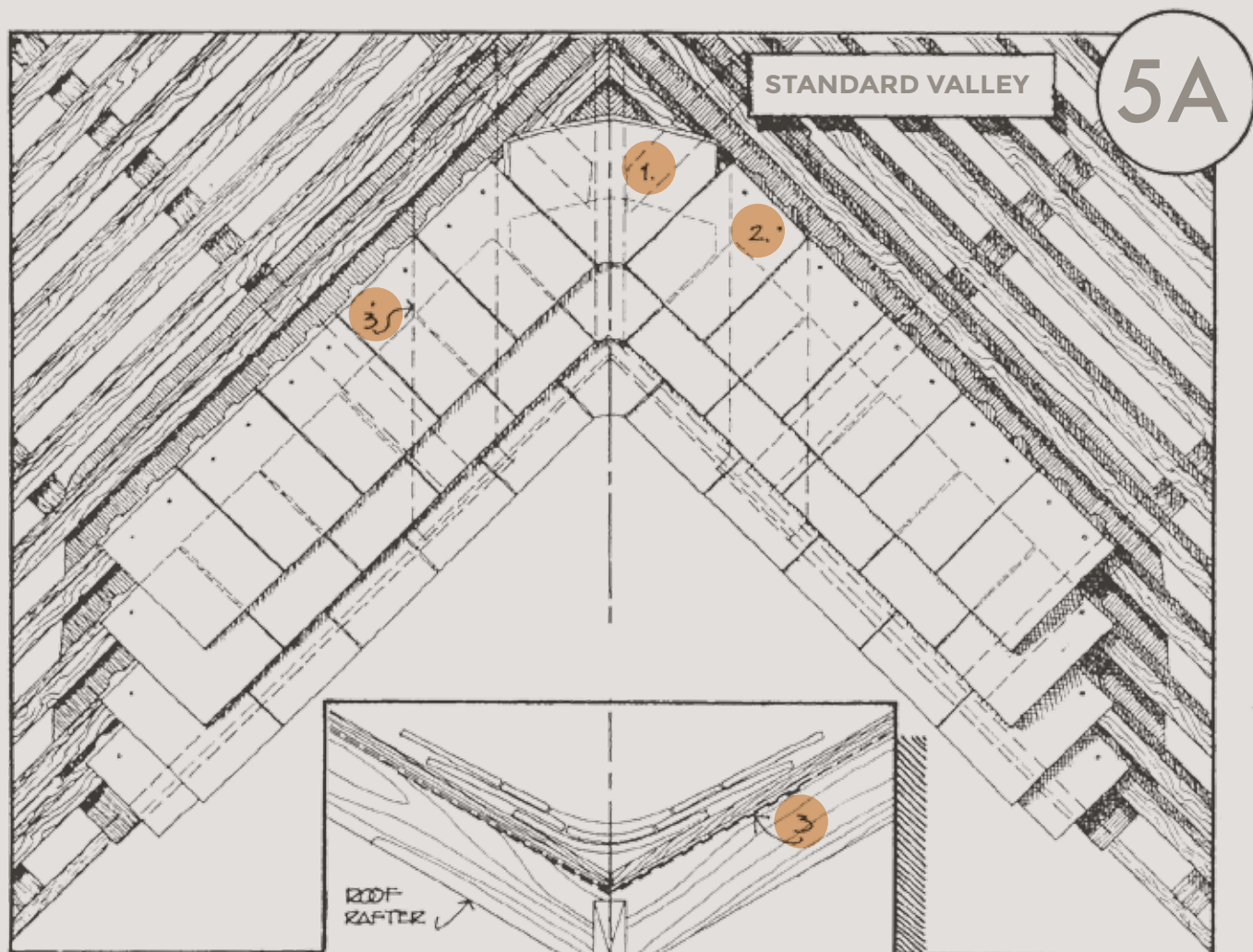
---

**5** Counter batten to give tile + good fixing for bonnet nails

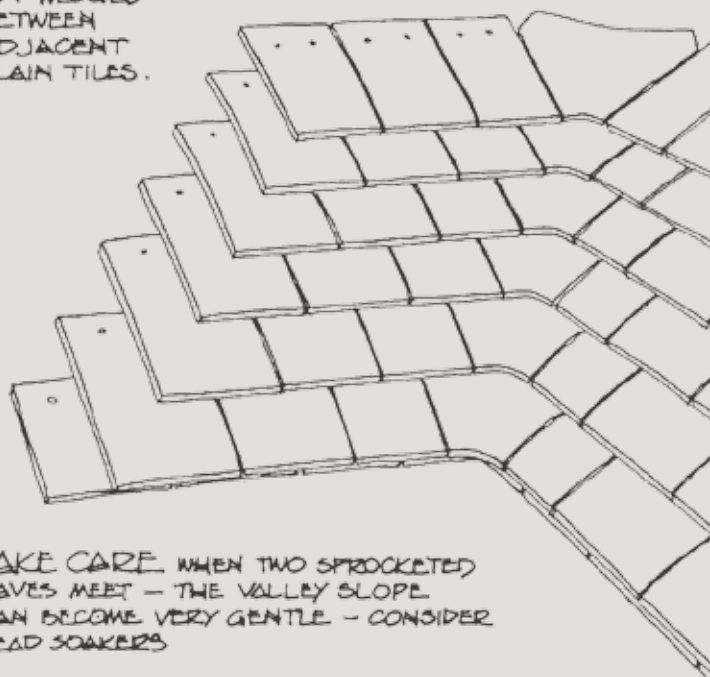
---

**6** 600mm wide strip of underlay, laid over general underlay





NOTE: THESE VALLEY  
TILES ARE NOT NAILED,  
BUT WEDGED  
BETWEEN  
ADJACENT  
PLAIN TILES.



TAKE CARE WHEN TWO SPROCKETED  
EAVES MEET - THE VALLEY SLOPE  
CAN BECOME VERY GENTLE - CONSIDER  
LEAD SOAKERS



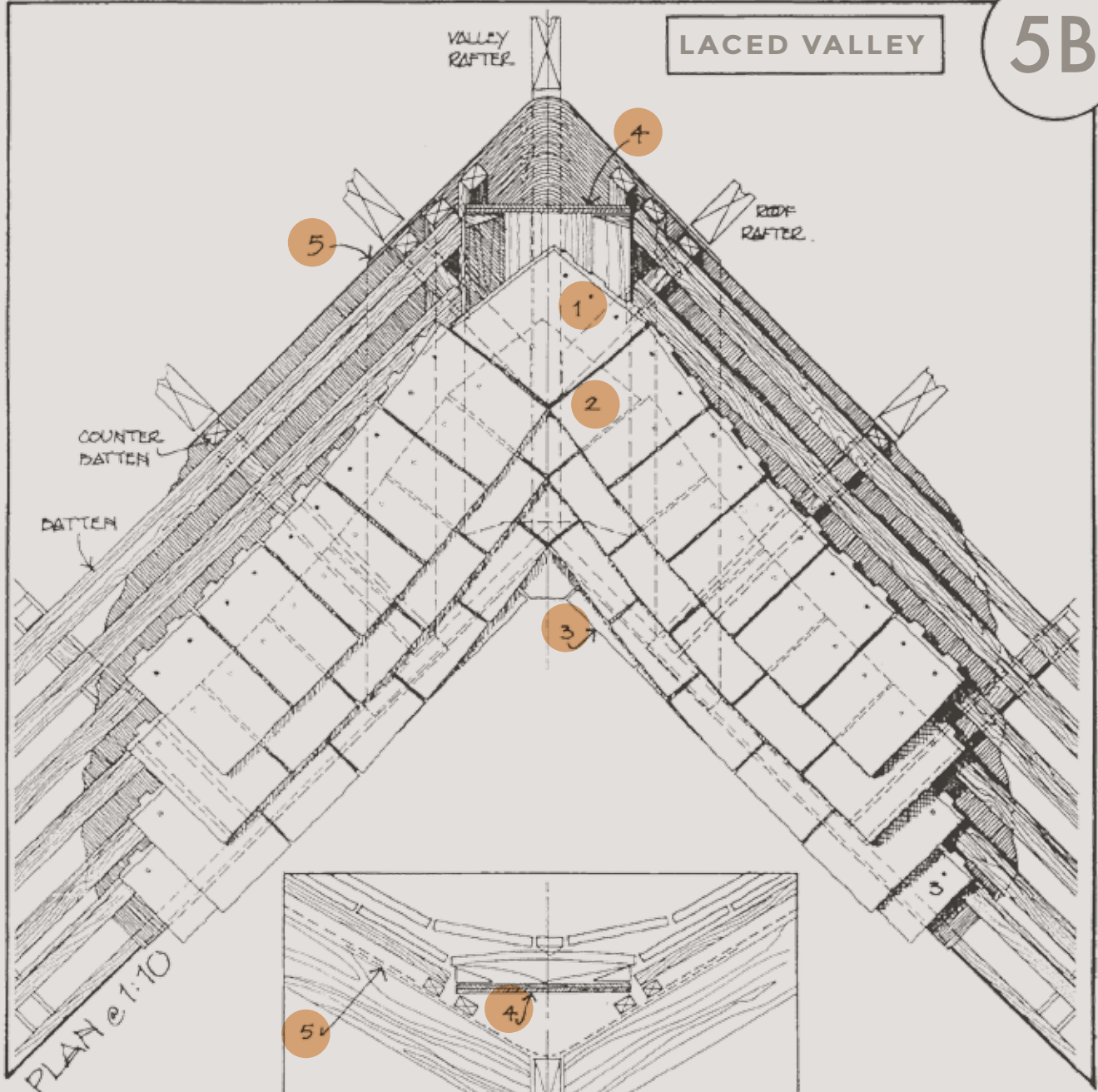


# STANDARD VALLEY

- 1** Tile-and-a-half ' tile turned through 90° in alternate courses
- 2** Adjacent plain tiles may require cutting to fit + course
- 3** Eaves tile course continues straight, but the next course (the first course of full size tiles) tilts up at the valley to start the 'lacing'



LACED VALLEY



N.B. THIS DETAIL SHOWS COUNTERBATTENS. THEY ARE NOT ESSENTIAL FOR A LACED VALLEY.

SECTION  
@ SCALE 1:10

KEY



# LACED VALLEY

- 1** Standard valley tile, suitable for the meeting of equal pitch slopes of 40-50°. For pitches of 50-60°, use the Keymer 60° valley. For pitches outside these ranges, consult Keymer who will make special valley tiles

---

- 2** Depending on pitch, adjacent plain tiles may require cutting to form neat junction, + to keep ½ tile coursing

---

- 3** Continuous 600mm wide strip of underlay, under general underlay, + overlapped by the general underlay by at least 150mm

---

- 4** Ply valley board + timber fillets each side to support tile-and-a-half tile

---

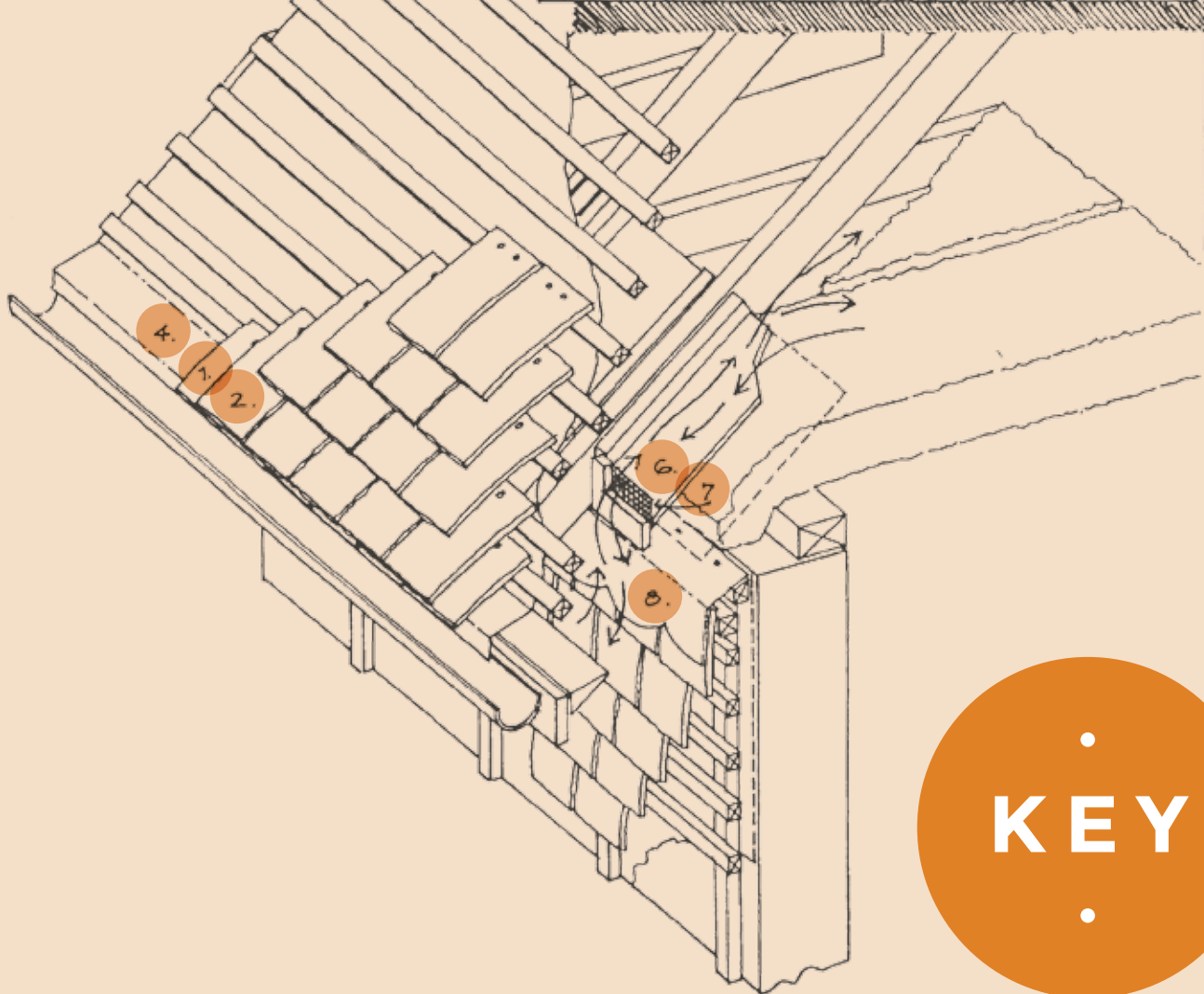
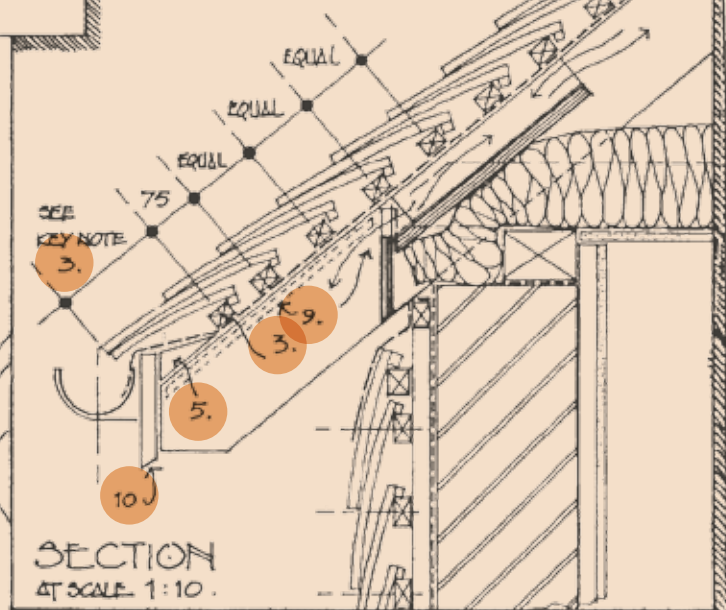
- 5** Continuous 600mm wide underlay strip, under general underlay



# EAVES DETAIL WITH OPEN SOFFIT & STRAIGHT

6A

## RAFTER FOOT



KEY

# EAVES DETAIL WITH OPEN SOFFIT & STRAIGHT RAFTER FOOT

- 1** Eaves tile (190mm long)
- 2** Standard tile (265mm long)
- 3** First batten set out to ensure that rainwater discharges to centre of gutter
- 4** Underlay extends into gutter and ponding is avoided by the use of a underlay support tray
- 5** Timber tilting fillet
- 6** Ply sheet + supporting noggins to maintain ventilation path
- 7** Mesh to keep out insects, birds etc
- 8** Flashing to neaten + weatherproof the top course of tile hanging
- 9** If the eaves overhang is large, consider using a dark stained timber under lining - looking up at underlay is not attractive - but make sure that it does not trap the underlay or obstruct the vent path
- 10** This detail shows a fascia - it can be omitted + the rafter feet exposed (but remember to use rafter brackets to support the gutter, not fascia brackets)

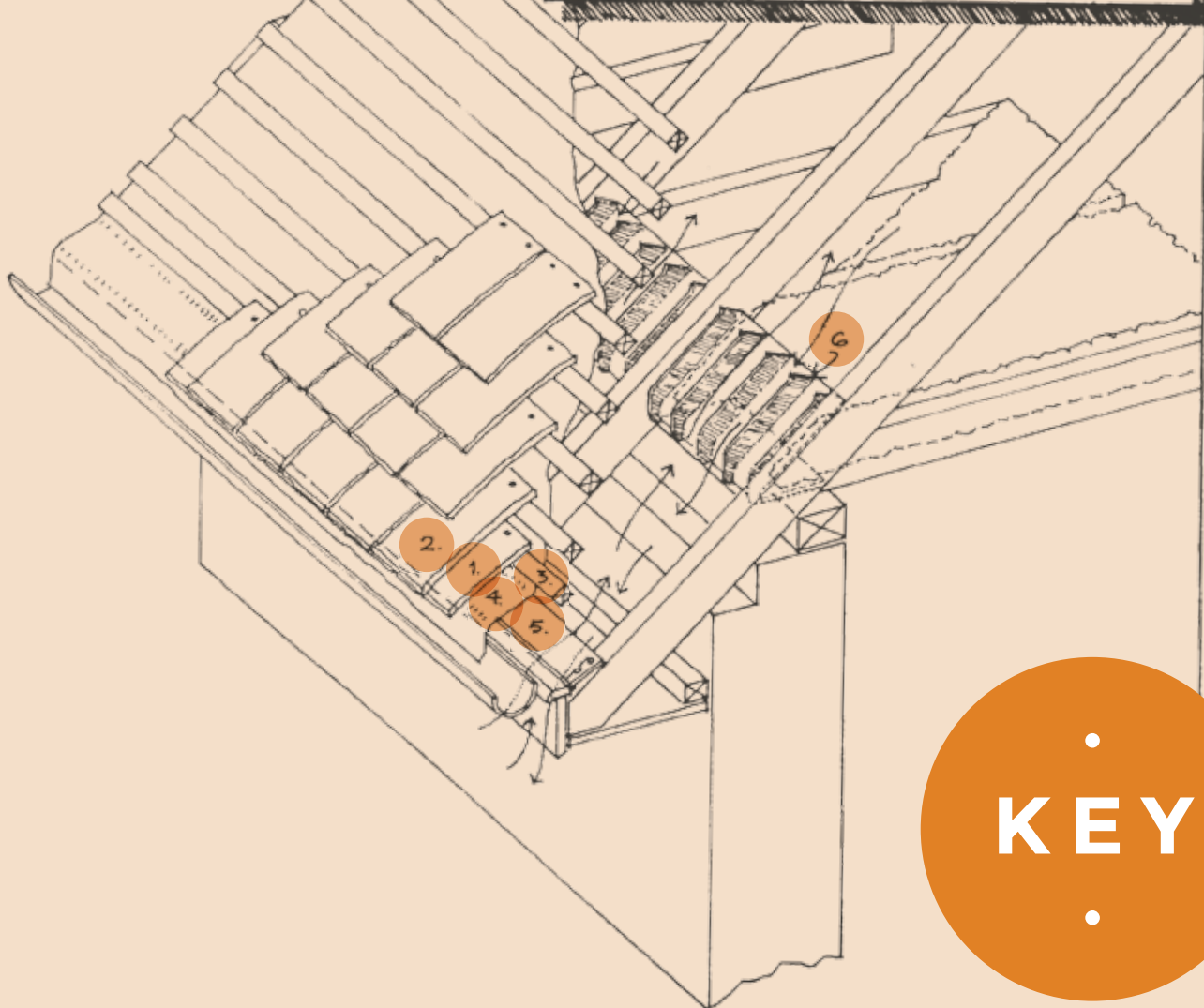
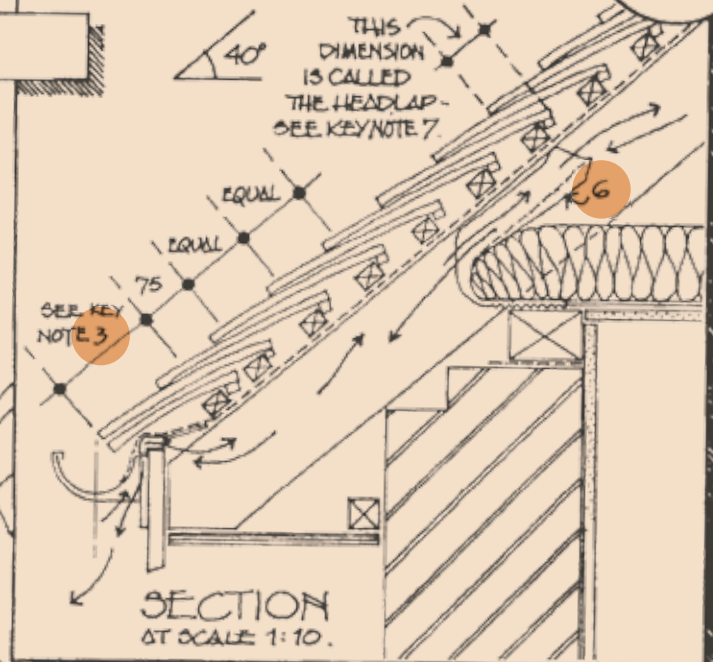


# EAVES DETAIL WITH CLOSED SOFFIT & STRAIGHT

6B

## RAFTER FOOT

N.B.  
THIS SHEET SHOWS  
A ROOF PITCH OF  
40°, THE MINIMUM  
GENERAL PITCH  
FOR A KEYMER  
TILED ROOF.  
(SPROCKETS CAN BE  
A LITTLE GENTLER)



KEY

# EAVES DETAIL WITH CLOSED SOFFIT AND STRAIGHT RAFTER FOOT

- 1** Eaves tile (190mm long)

---
- 2** Standard tile (265mm long)

---
- 3** First batten set out to ensure that rainwater discharges to centre of gutter

---
- 4** Underlay extends into gutter + is always sloping to avoid ponding

---
- 5** Keymer 'in-line' eaves vent accessory supports the underlay and gives continuous vent. The need for insect mesh etc., cutting of soffit board and so on is avoided

---
- 6** Keymer 'in-line' eaves vent accessory keeps insulation from obstructing air path venting the roof space

---
- 7** Battens set out to give minimum headlap of 65mm. In practice, this means a maximum batten spacing of 100mm

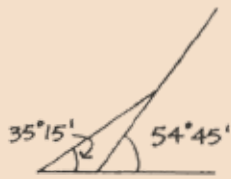
---



# EAVES DETAIL WITH SPROCKETED

6C

## RAFTER FOOT



THIS SHEET SHOWS THE MAIN ROOF RAFTERS AT  $54^{\circ}45'$ , THE ANGLE PRODUCED BY SETTING UP THE HIP RAFTERS AT  $45^{\circ}$ . THE SPROCKETS ARE AT  $35^{\circ}15'$ , WHICH IS THE RESULTANT ANGLE OF THE SQUARE.

SEE KEY  
NOTE 5.

SECTION  
AT  
SCALE 1:10.

•  
**KEY**  
•

# EAVES DETAIL WITH SPROCKETED RAFTER FOOT

- 1** Eaves tile (190mm long)

---
- 2** Standard tile (265mm long)

---
- 3** First batten set out to ensure that rainwater discharges to centre of gutter

---
- 4** These battens should be set out to miss the change in angle between sprocket and rafter. This gives a much gentler 'bell cast' shape to the roof

---
- 5** Underlay

---
- 6** Tilting fillet

---
- 7** Sprocket nailed to side of rafter foot

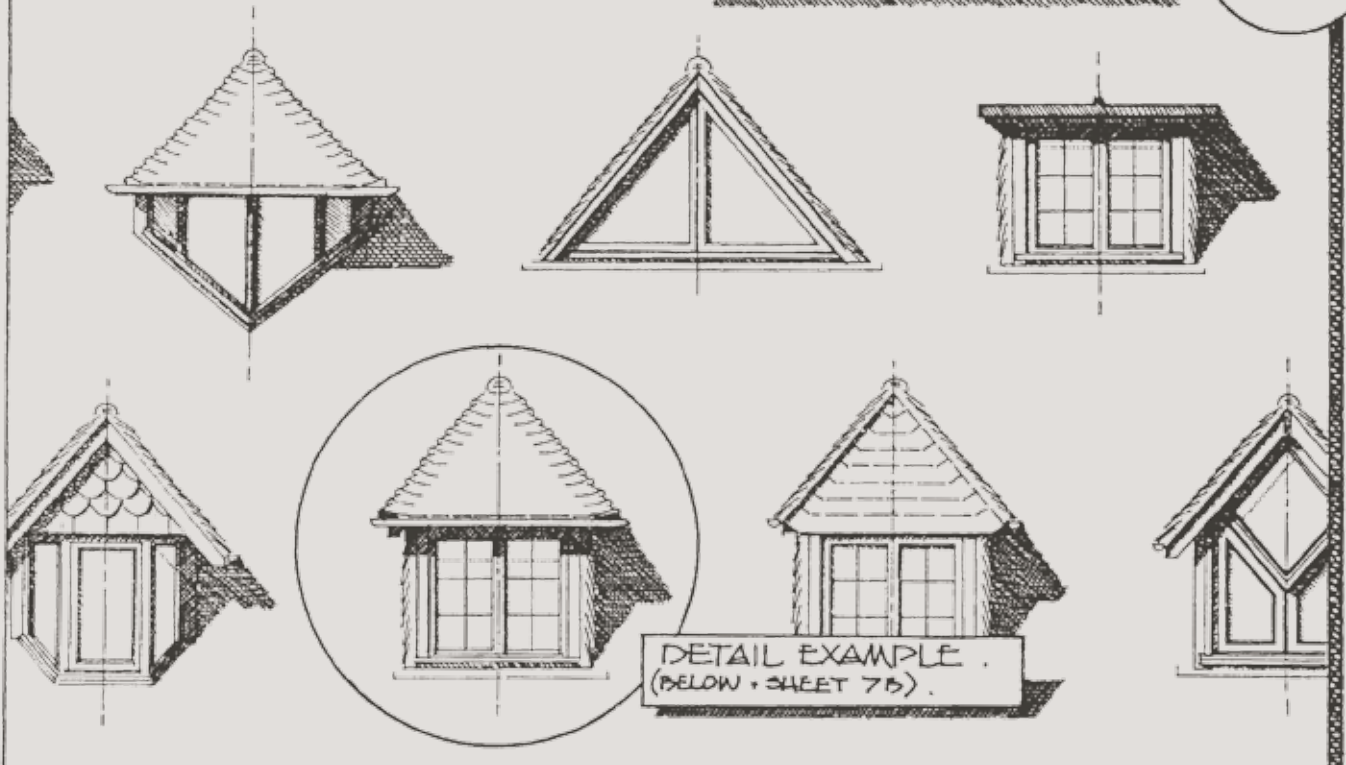
---
- 8** Ply sheet to maintain vent path\*

---
- 9** Counter-batten to produce air path.  
(Don't forget the insect mesh)



## DORMER WINDOWS

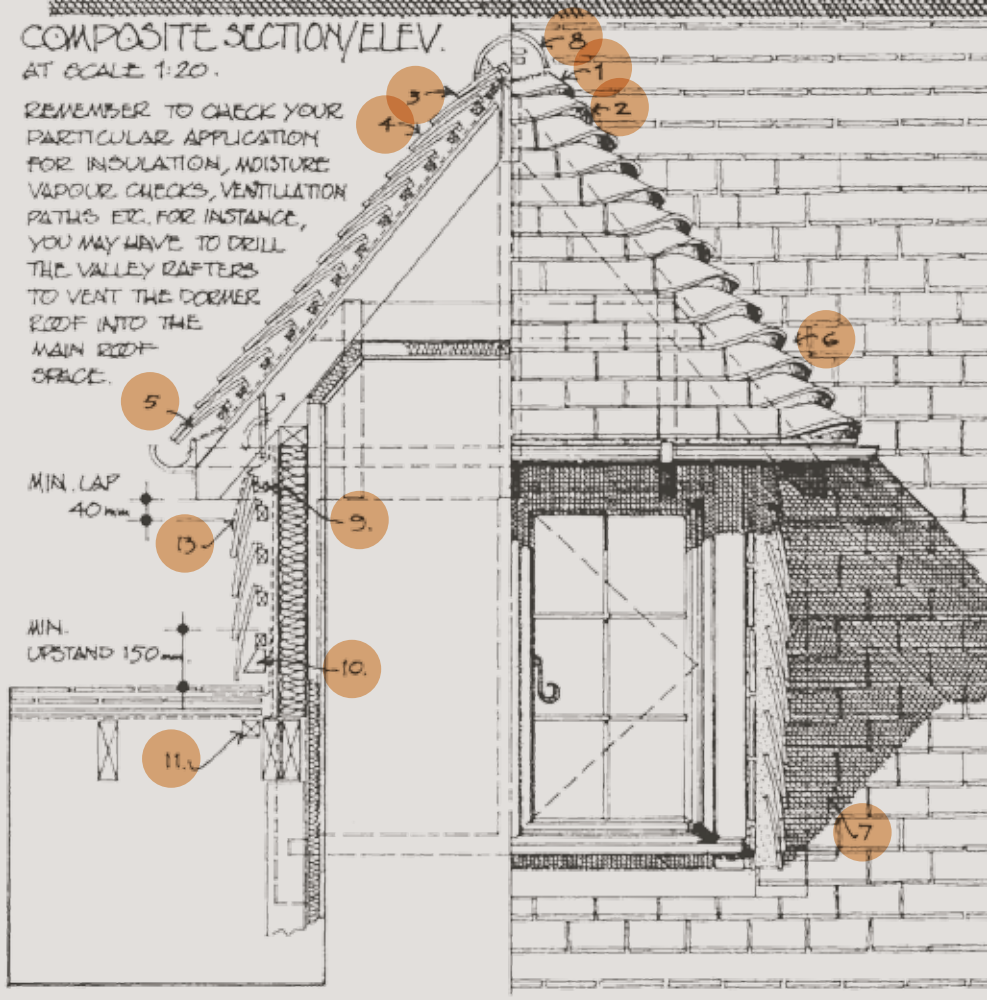
7A



### COMPOSITE SECTION/ELEV.

AT SCALE 1:20.

REMEMBER TO CHECK YOUR PARTICULAR APPLICATION FOR INSULATION, MOISTURE VAPOUR CHECKS, VENTILATION PATHS ETC. FOR INSTANCE, YOU MAY HAVE TO DRILL THE VALLEY RAFTERS TO VENT THE DORMER ROOF INTO THE MAIN ROOF SPACE.



KEY

# DORMER WINDOWS

From diagrams 7A - 7B

- 1** Top bonnets out to fit + to course, and to lift end ridge tile
- 2** Standard bonnet - sheet 2A for further guidance
- 3** Top tile (210mm long)
- 4** Standard tile (265mm long)
- 5** Eaves tile (190mm long)
- 6** Standard valley
- 7** Tile-and-a-half tile
- 8** ½ Round ridge tile. Tile slip end filling
- 9** Top batten turned through 90° to build out top course
- 10** Tilting fillet
- 11** Batten bearer may be needed, depending on width of dormer cheek structure



# DORMER WINDOWS

7B

KEY

LAP OF SOAKERS  
65mm (SAME AS  
HEADLAP OF TILES)

LONG  
SECTION  
AT 1:20.

ROOF  
PLAN  
@ 1:20

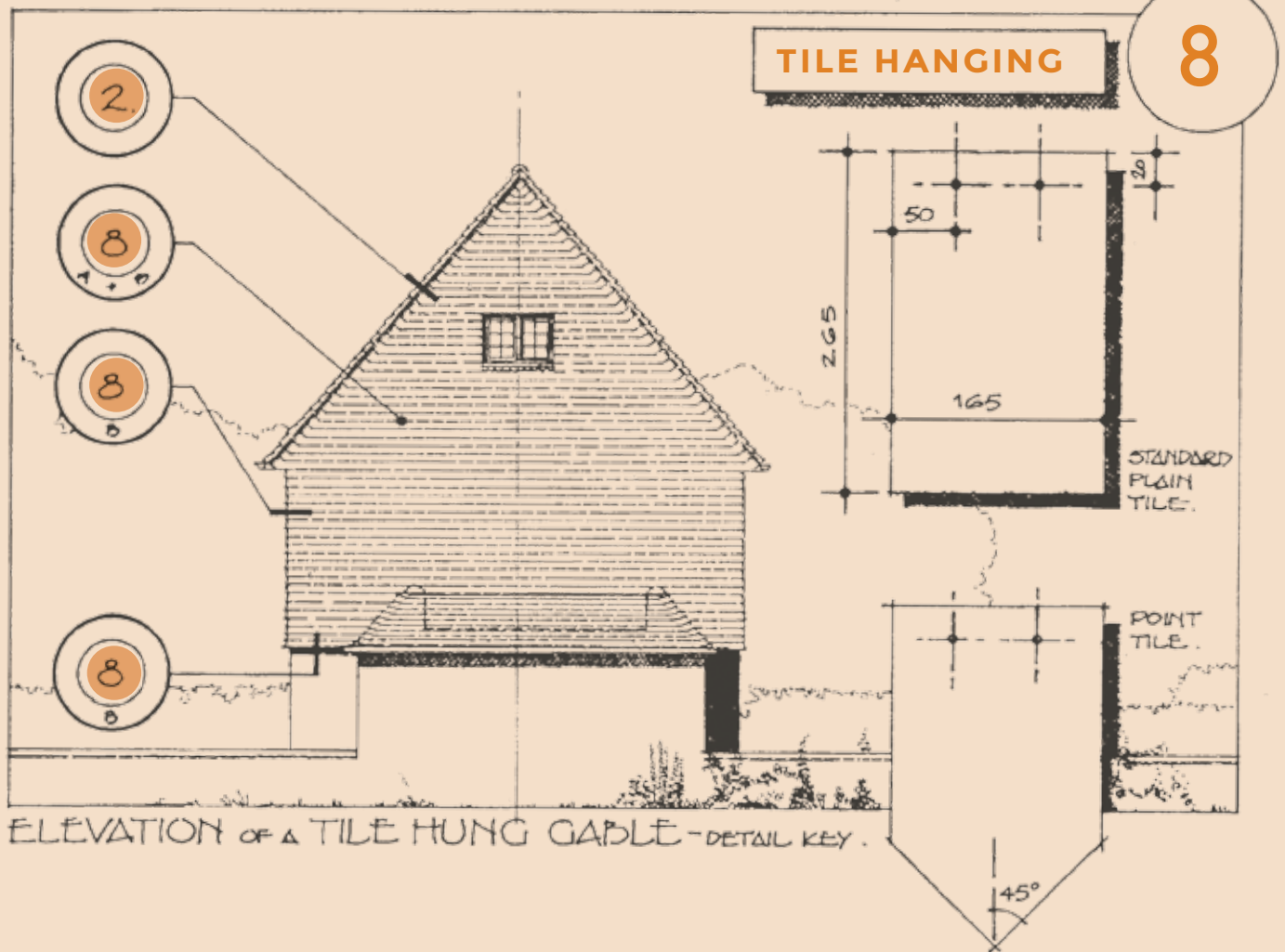
SECTIONAL PLAN  
AT SCALE 1:20.

# DORMER WINDOWS

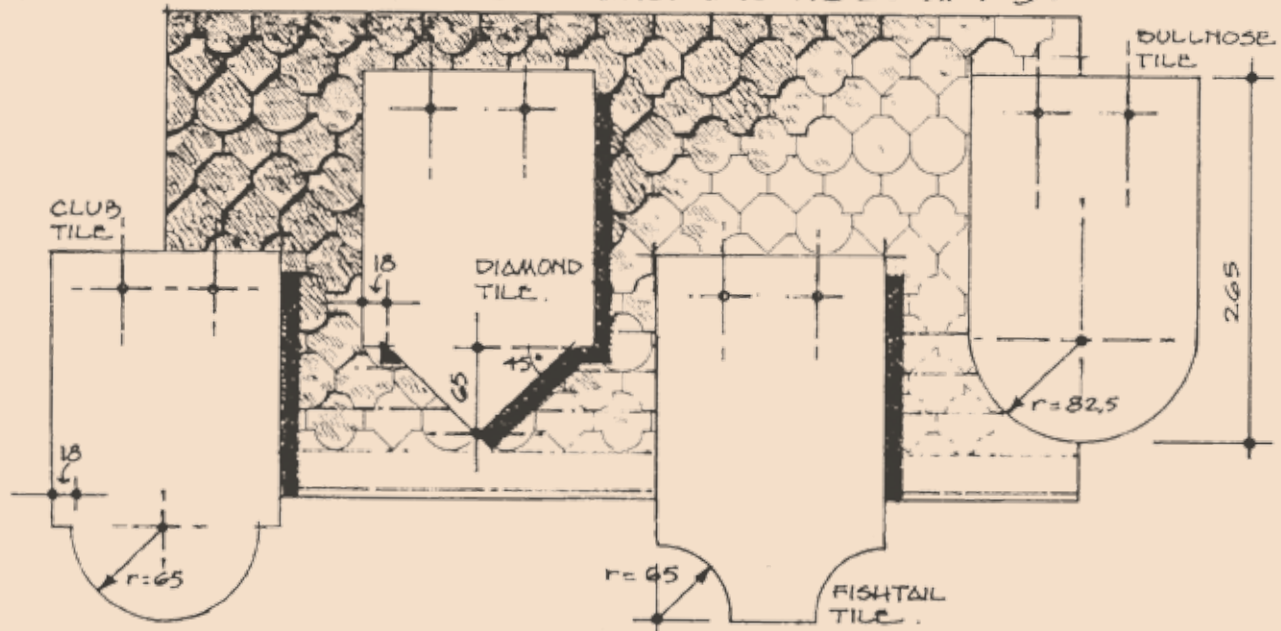
Continued from page 34

- 12** Lead soakers, 150mm upstand + 150mm under each tile, and projecting 10mm past leading edge of each tile
- 13** Lead dressing over top tile
- 14** Lead saddle under ridge and carried 150mm up slope
- 15** This area will receive rainwater from both the valley and the gutter. A lead apron would be sensible
- 16** Solid mortar bedding to ridge tile joints
- 17** ½ Tile slips nailed to post, to stop battens, give key for mortar, and to reduce visual mass of mortar. Set the mortar back a little, and take care to keep the tile edges clean
- 18** Mortar pointing to weatherproof edge of tile - hung cheeks. Again, keep the tile edges clean
- 19** ½ Round ridge tile. Tile slip end filling
- 20** Underlay is fixed in pieces + strips in accordance with the recommendations for each particular junction.





KEYMER STANDARD ORNAMENTAL TILES AT 1:5.



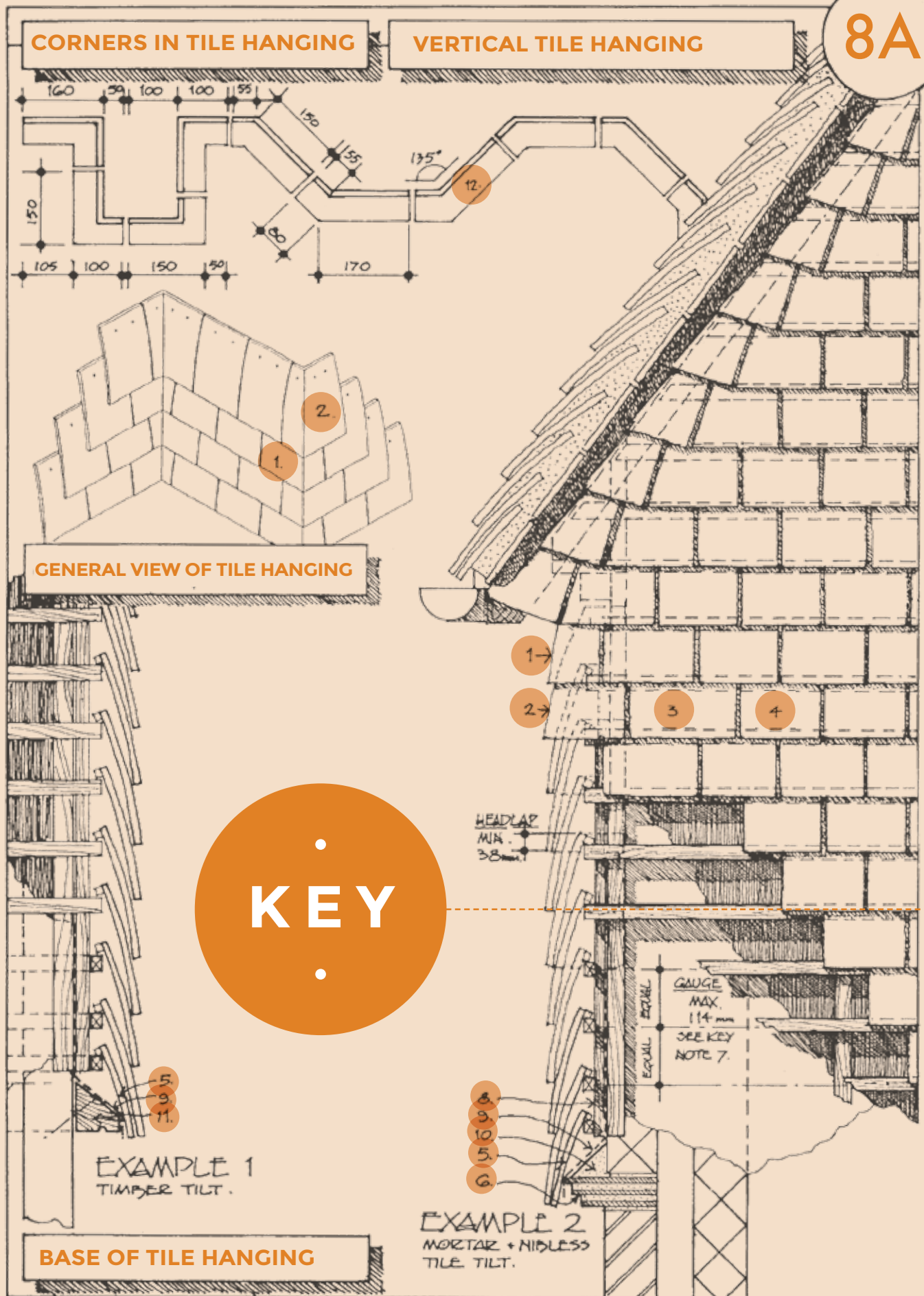


The background features a technical architectural drawing of a diamond tile pattern. The drawing is rendered in a light, sketchy style on an orange background. It shows a grid of diamond-shaped tiles with various annotations. A central rectangular area is labeled "DIAMOND TILE". To the left, there are dimensions "18" and "65" with arrows indicating specific measurements. A "45°" angle is also marked. The overall style is that of a professional architectural or engineering drawing.

# TILE HANGING

See key detail 8A + 8B on pages 39 - 42





# CORNERS IN TILE HANGING.

## VERTICAL TILE HANGING.

### GENERAL VIEW OF TILE HANGING.

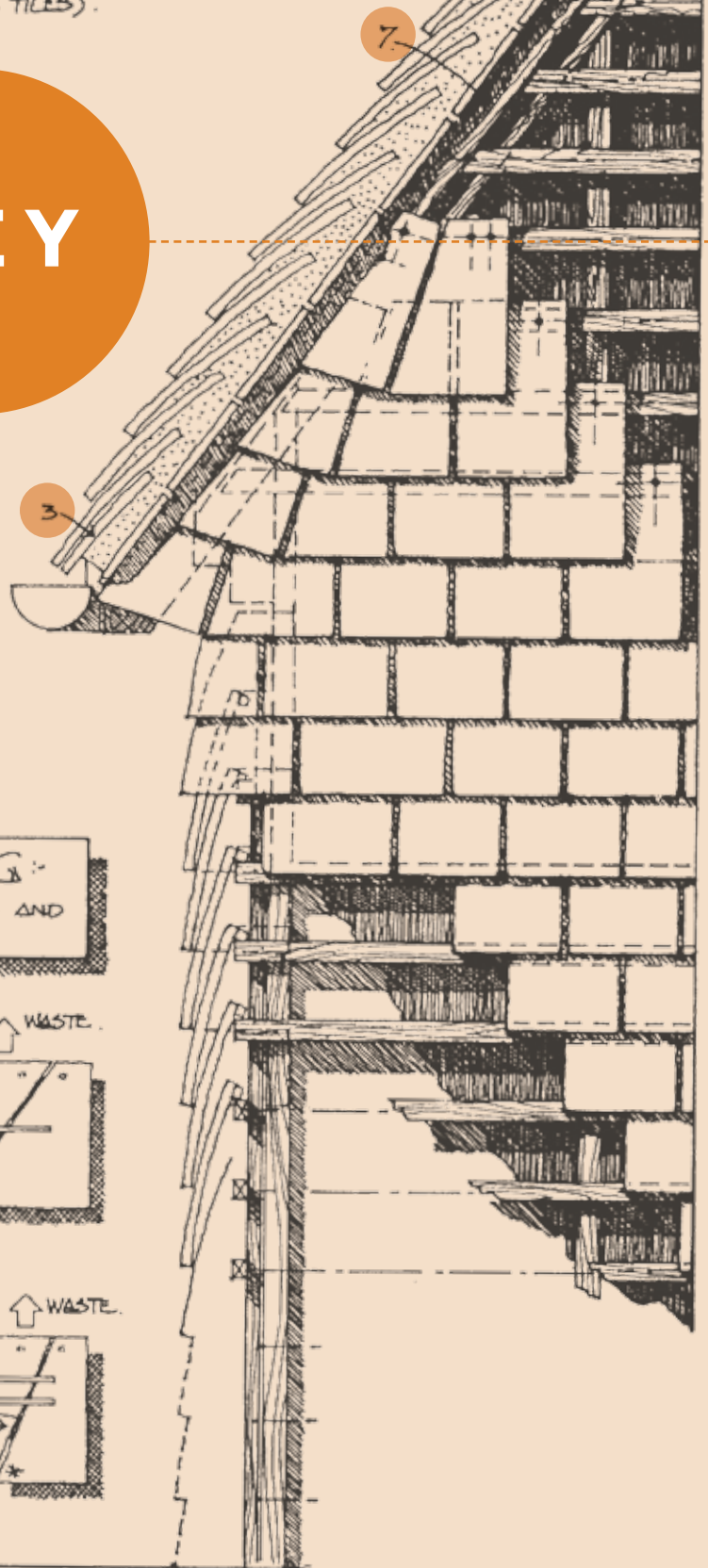
#### BASE OF TILE HANGING

- 1** 90° external angle (left hand)
- 2** 90° external angle (right hand)
- 3** Cut tile-and-a-half tile to achieve  $\frac{1}{2}$  tile coursing
- 4** Standard plain tile
- 5** Eaves tile (190 long)
- 6** Nibless tiles
- 7** Battens set out to give minimum headlap of 38mm. In practice this gives a maximum batten spacing for vertical tile hanging of 114mm. The formula is tile length-lap = gauge
- 8** Vertical counter battens
- 9** Underlay
- 10** Mortar tilting fillet
- 11** Timber tilting fillet
- 12** Keymer also produces 135° internal + external angles in handed sets



NOTE: THE WINCHESTER CUT DETAIL ILLUSTRATED HERE IS NOT RECOMMENDED FOR THE VERGES OF ROOFS PITCHED BELOW 35° (BUT THEN NEITHER ARE KEYMER TILES).

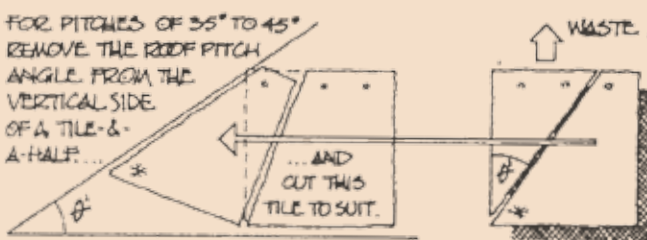
## KEY



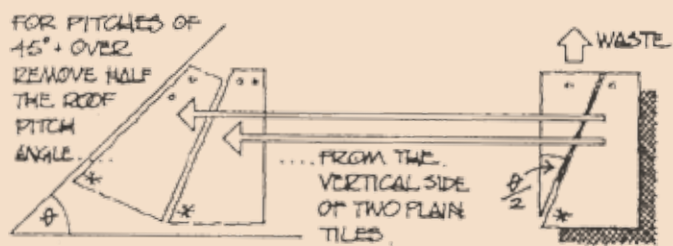
### WINCHESTER CUTTING:-

TILES CUT FROM TILE-AND-A-HALF TILES AND STANDARD PLAIN TILES.

FOR PITCHES OF 35° TO 45°  
REMOVE THE ROOF PITCH  
ANGLE FROM THE  
VERTICAL SIDE  
OF A TILE-AND-  
A-HALF...



FOR PITCHES OF  
45°+ OVER  
REMOVE HALF  
THE ROOF  
PITCH  
ANGLE...



NOTE SITE DRILLED NAILHOLES.

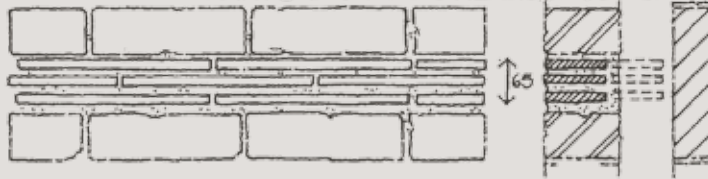
# RIDGE + VERGE JUNCTIONS. VERTICAL TILE HANGING

- 1** ½ round ridge tile with tile slip filling
- 2** Top tile (see sheet 1 for further guidance)
- 3** Eaves tile (see sheets 6A, B + C for guidance)
- 4** Special tile cut on site from tile-and-a-half tile, and fixed with mortar, lead clips and/or nailed through site-drilled nail holes
- 5** Special tile cut on site from standard plain tile = fixed as noted in 4 above
- 6** Nibless or standard plain tiles with short side showing as undercloak
- 7** With all roof pitches when Winchester cutting, it will be necessary to fix an additional tiling batten running parallel to the line of the roof pitch, in order to secure the last tile

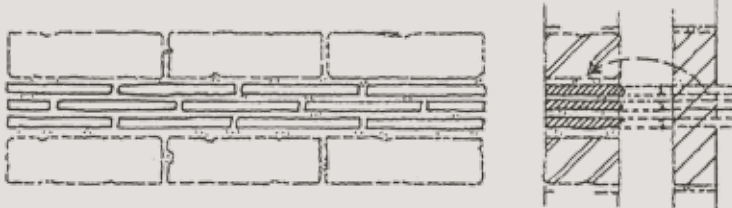


## BONDING

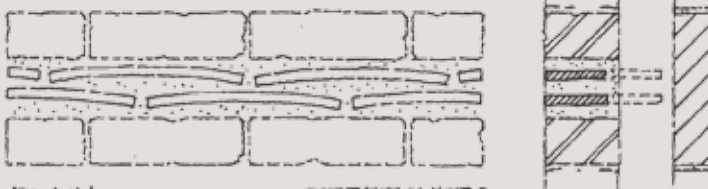
TILES IN WALLS SHOULD BE BONDED IN MUCH THE SAME WAY AS BRICKS. BUT REMEMBER! TILES ARE NOT THE SAME LENGTH OR WIDTH AS BRICKS  $\approx 50$  PERPENDS WILL NOT LINE THROUGH BUT COURSING GENERALLY WILL  $\approx$  THREE TILES PLUS MORTAR JOINTS EQUALS ONE BRICK COURSE.



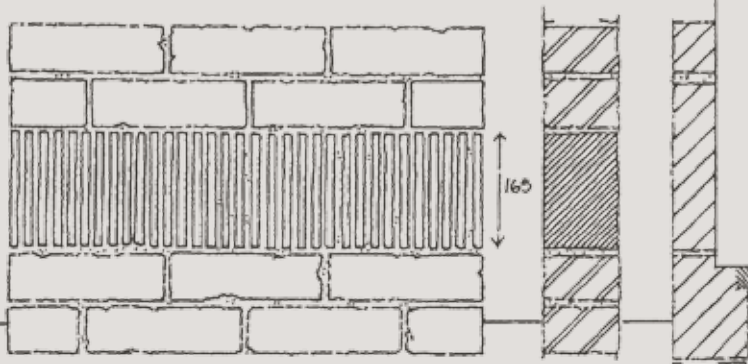
NIBLESS TILES LAID AS STRETCHERS @ SCALE 1:10



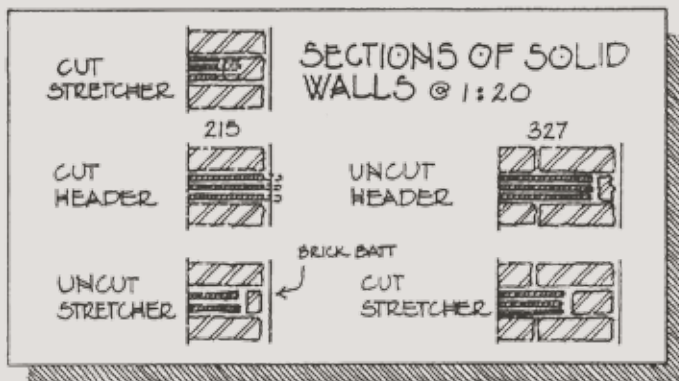
NIBLESS TILES LAID AS HEADERS  
- OR USE PLAIN TILES



PLAIN TILES LAID AS STRETCHERS



PLAIN OR NIBLESS HEADER SOLDIER COURSE



## TILES IN WALLS

INFO

# BONDING. TILES IN WALLS

## Why Use Tiles In Walls?

Weather resistance – use to resist the passage of moisture.

Non brick shapes – use to form arches, brackets + small module shapes.

Colour/texture contrast – use to break up large areas, introduce texture variations, run string courses bands and patterns

---

## Which Tiles To Use

Plain – the Keymer plain tile is suitable in many situations, but the nib must be taken into account (or used to advantage!).

Nibless – this solves any problems you may have with nibs.

Ridges – these are useful as copings.

Other tiles – your ingenuity is the only limitation!

---

## Cutting

How? – disc cutter (neatest and less wasteful), skutch or nibbler.

Avoid! Showing cut edges in face-work. They're ragged and lighter

---

## Mortar

MIX – 1 cement : 1 lime : 1 fine aggregate Or 1 cement : 3 fine aggregate.

DON'T use soft building sand.

JOINT – don't point – nominally recess the joint to keep the edges clean, but don't create ledges – bag or stipple on completion to remove cement laitance and to expose a little aggregate

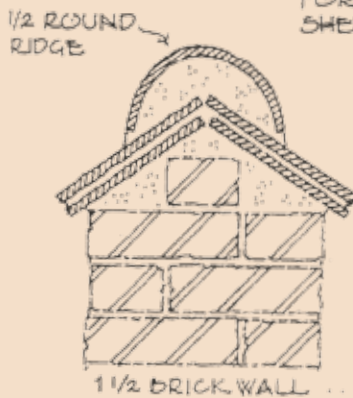
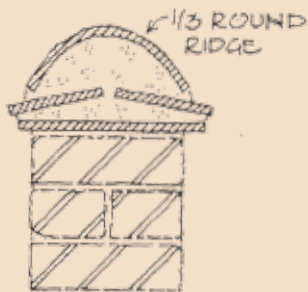
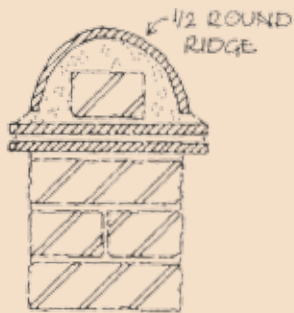
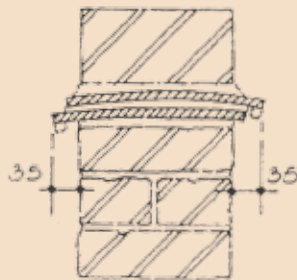
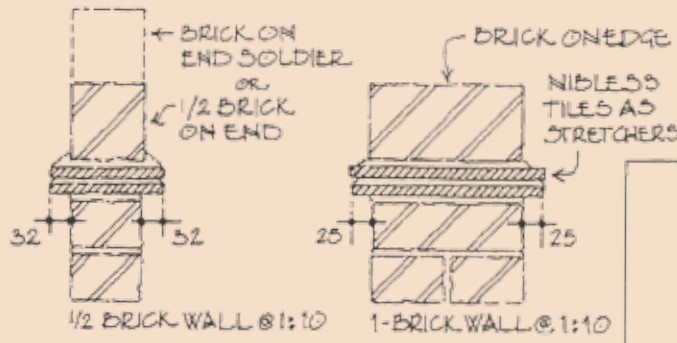
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## Danger! Aesthetic Health Warning

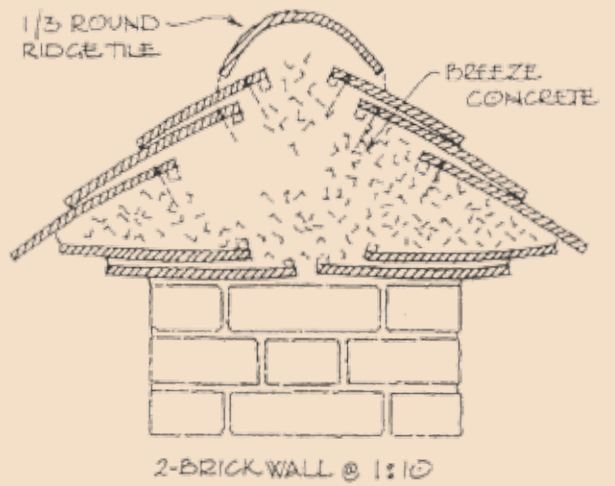
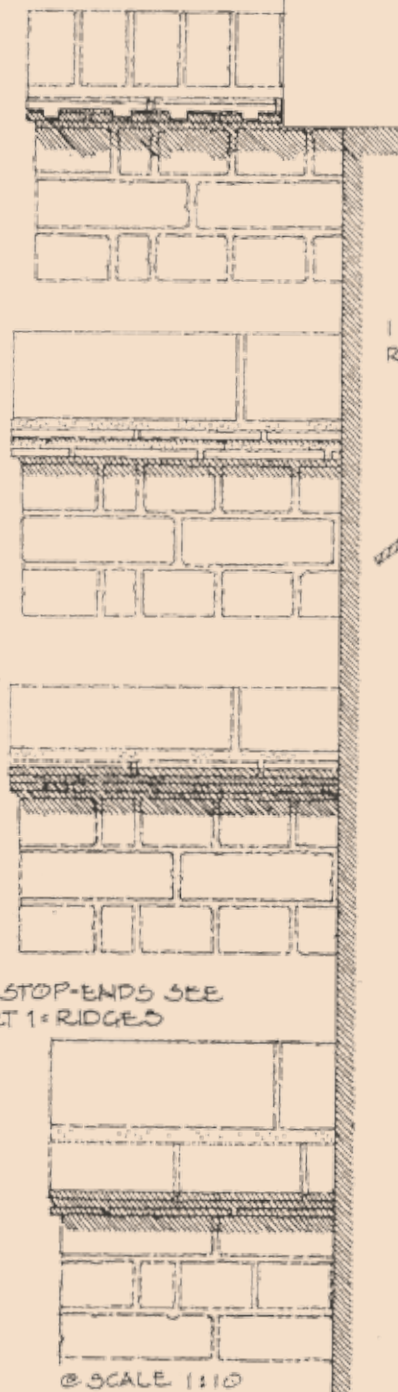
In the words of Nathaniel Lloyd, "the adaptability of the unit frequently produced appalling results." Use tiles in walls sparingly and thoughtfully – and avoid fussiness. Laitance and to expose a little aggregate



KEY



FOR STOP-ENDS SEE  
SHEET 1: RIDGES



# TILES IN WALLS. COPINGS

½ round ridge tile with tile slip filling

---

Top tile (see sheet 1 for further guidance)

---

Eaves tile (see sheets 6A, B + C for guidance)

---

Special tile cut on site from tile-and-a-half tile, and fixed with mortar, lead clips and/or nailed through site-drilled nail holes

---

Special tile cut on site from standard plain tile = fixed as noted in 4 above

---

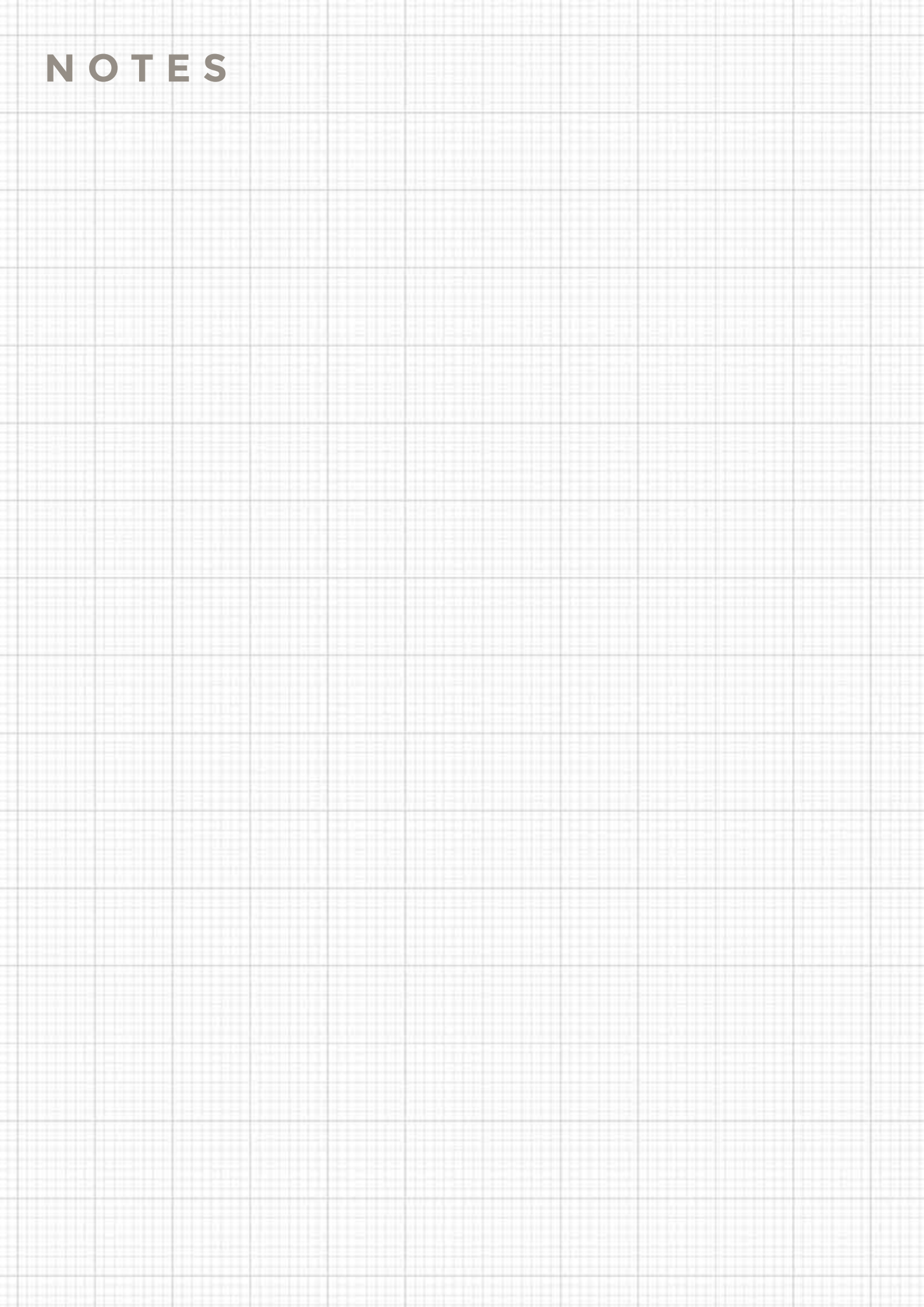
Nibless or standard plain tiles with short side showing as undercloak

---

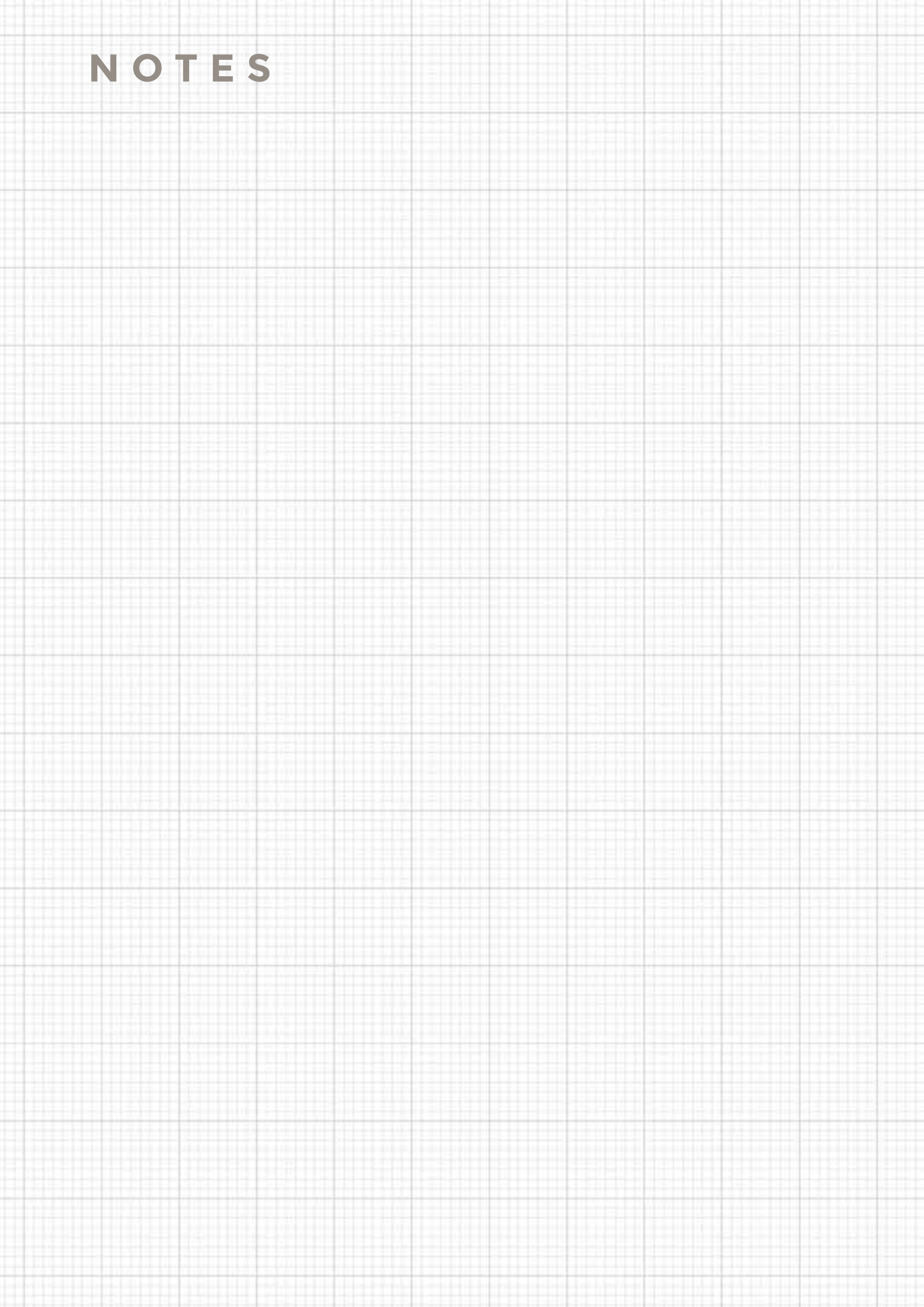
With all roof pitches when Winchester cutting, it will be necessary to fix an additional tiling batten running parallel to the line of the roof pitch, in order to secure the last tile



# NOTES



# NOTES





 **Porotherm**

Wall Solutions

 **Terca**

Wall Solutions

 **Sandtoft**

Roof Solutions

 **Penter**

Landscaping Solutions

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