Sandtoft

Roof Solutions

CI/SfB | | (47) | N | |

Sandtoft Product Selector.

Wienerberger

Building Material Solutions

Welcome to Sandtoft

At Sandtoft, we produce the largest and most innovative range of roof tile systems in the UK. Our extensive portfolio contains many unique and groundbreaking products, which means we can provide high performance and reliable roofing solutions that fit any budget or planning requirement.

Established in 1904, Sandtoft has grown to become a leading national player with manufacturing sites and distribution centres across the UK. As part of Wienerberger, Sandtoft now draws on the experience, strength and resources of the world's largest brick maker and the number one clay tile manufacturer in Europe.

Contents

On the cover: **Sandtoft's 20/20 in Natural Red**

Within our latest Product Selector, you will find roofing products made from natural clay, concrete and recycled slate, covering virtually every design style from the world of roof tiles and slates. You will also find a universal building integrated PV system plus a complete range of roofing accessories.

We have modern roof tile systems that reduce costs, installation time, and weight, plus traditional designs that respect different local and regional architecture. For more historic roof tile needs, our Heritage Service creates bespoke, handmade clay tiles for restoration and conservation projects.

Working with Sandtoft gives you industry leading products backed by over one hundred years of roofing expertise, delivered by people with a passion for roofing. This unique package enables us to provide the best possible solution to your roofing needs.

What follows is a guide to our products and services, for more detailed information visit our website – **www.sandtoft.com**.

For more on Wienerberger's range of bricks, blocks and pavers go to **www.wienerberger.co.uk**.

Wienerberger

Leading By Design

As a leading industry innovator, Sandtoft has pioneered many of the advances in roof tile design in recent years. Our forward thinking approach has been to create outstanding products that offer the highest possible aesthetics and performance at an affordable price.

Affordable natural roofing solutions

A key area of innovation for Sandtoft has been to develop more affordable planning friendly alternatives to traditional roof coverings. Through an innovative use of natural materials, such as clay and recycled slate, we have developed high performance lightweight tiles that offer our clients valuable cost savings but also satisfy the aesthetic requirements of planners.

Beautifully Designed Solar

Our PV48 has been designed using a century of roofing experience and comes with a unique set of benefits. In response to the escalation of roof failures in the solar market, one of the key design principles behind this system was to develop a system that could easily be installed by a competent roofing contractor using established and familiar techniques. This practical approach to design combined with rigorous wind tunnel testing, puts the PV48 in a class of its own when it comes to performance and weather protection. The integrated solar system can also be installed with any tile or slate available and has been designed to perform in both the new build and retrofit markets.

Doing more with less

We have also sought to reduce our environmental impact by designing products made from recycled materials that are manufactured using green energy. Our BritLock slate is made from 80% recycled natural slate, recycled from UK slate quarries. The product is manufactured in a carbon neutral facility, with all the electrical energy, used in the manufacturing process, supplied from wind farms and hydro-electric plants.

Technical Services

Our Technical Services team is available to provide professional advice to help you design, specify and install a roof using Sandtoft tiles or slates in accordance with the latest legislation and Building Standards. We offer a vast library of standard data for you to draw upon; alternatively we can provide bespoke information, calculations and details to meet your needs.

Access Sandtoft's century of experience in roofing through any of the following services:

Roof SPEC®
Roof SPEC offers not only a complete roof specification but also our guarantee that the specification fully complies with all relevant Standards and regulations.

In addition, we guarantee that the roof will remain weathertight for a period not less than 15 years provided it has been designed and constructed in compliance with the specification issued by Sandtoft.

To apply for our Roof SPEC guarantee simply complete our Roof SPEC questionnaire – available on our web site or from our Technical Services team.

We will then write a comprehensive specification based on the information supplied. This includes a wind loading calculation to ensure the most appropriate level of roof tile fixings.

A signed guarantee certificate is then issued with the full specification together with the details of the client and the project and will include a project reference number. Simply click on Roof SPEC on the homepage at www.sandtoft.com

Fixing SPEC

Use Sandtoft's fixing specification service to ensure your roof is designed in accordance with British Standards and to significantly reduce the long term risk of wind damage.

Zonal fixing specifications are available on our website or from our Technical Services Dept for all our products. Full instruction on how to use these is included with every table.

Alternatively, you can complete your details online by clicking on Fixing SPEC on our homepage at www.sandtoft.com. This is quick and easy to do and our postcode based system provides quick and accurate results tailored to your particular project.

CAD library

To complement our extensive range, Sandtoft has developed a library of CAD details for all our products that will save you time.

- A full range of CAD details are available on line
- All drawings in DWG, DXF and JPEG formats
- Bespoke details can be designed upon request
- Includes specialist and more unusual details such as changes of pitch and cottage eaves details

Visit our CAD Library at www.sandtoft.com

Quantity SPEC

Sandtoft offers this practical service to help ensure the complete roof system has been correctly quantified.

- Detailed roofing material schedules ensure that vital components are not missed, thereby avoiding potential delays on site
- Comprehensive estimating advice and training available

Send your drawings to Technical Services to obtain a comprehensive quantity estimate by email to technical@sandtoft.co.uk or by post to:

Technical Services, Sandtoft Roof Tiles, Belton Road, Sandtoft, Doncaster DN8 5SY.

Call 0844 9395 999 for technical advice or visit www.sandtoft.com

NBS Plus roofspec®

Roof tile selector

Natural Clay range

pages 28-85

Goxhill Handmade Plain Tile p48

Handmade

Min. roof pitch	40°
Covering capacity	60/m²
Weight as laid	72.0 kg/m²

Alban Handcrafted Plain Tile p53

Min. roof pitch	35°
Covering capacity	60.0/m²
Weight as laid	60.0 kg/m²

Barrow Handcrafted Plain Tile p52

Min. roof pitch	35°
Covering capacity	60.0/m²
Weight as laid	60.0 kg/m²

Village Plain Tile p56

Min. roof pitch	35°
Covering capacity	60/m²
Weight as laid	60.0 kg/m²

Humber Plain Tile p58

Min. roof pitch	35°
Covering capacity	60/m²
Weight as laid	60.0 kg/m²

311 Handcrafted Plain Tile p75

Min. roof pitch	35°
Covering capacity	61/m²
Weight as laid	79.3 kg/m²

303 Sanded Plain Tile p74

Min. roof pitch	35°
Covering capacity	57.4/m²
Weight as laid	63.2 kg/m²

301 Smooth Plain Tile p73

Min. roof pitch	35°
Covering capacity	57.4/m²
Weight as laid	63.5 kg/m²

Greenwood p44

Handmade

Min. roof pitch	30°
Covering capacity	17/m²
Weight as laid	44.2 kg/m²

Old English p46

Min. roof pitch	30°
Covering capacity	17.6/m²
Weight as laid	42.2 kg/m²

Neo Pantile p31

Min. roof pitch	22.5°
Covering capacity	14.7/m²
Weight as laid	35.3 kg/m²

Flemish 401 p79

Min. roof pitch	22°
Covering capacity	16.6/m²
Weight as laid	49.8 kg/m²

Tempest Tile 44 p80

Min. roof pitch	22°
Covering capacity	21.0/m²
Weight as laid	42.0 kg/m²

Arcadia p45

Min. roof pitch	30°
Covering capacity	17.6/m²
Weight as laid	42.2 kg/m²

County p47

Min. roof pitch	22.5°
Covering capacity	14.9/m²
Weight as laid	40.2 kg/m²

Old Hollow 451 p78

Min. roof pitch	25°
Covering capacity	19.1/m²
Weight as laid	51.6 kg/m²

Gaelic p63

Min. roof pitch	30°
Covering capacity	17.0/m²
Weight as laid	42.5 kg/m²

Bridgwater p62

Min. roof pitch	30°
Covering capacity	9.5/m²
Weight as laid	33.3 kg/m²

New Generation

20/20* p40

Min. roof pitch	15°
Covering capacity	20.5/m²
Weight as laid	46.6 kg/m²

Cassius p36

Min. roof pitch	22.5°
Covering capacity	10.5/m²
Weight as laid	41.0 kg/m²

Olympus p32

Min. roof pitch	22.5°
Covering capacity	10.2/m²
Weight as laid	34.7 kg/m²

Modula* p72

Min. roof pitch	17.5°
Covering capacity	9.0/m²
Weight as laid	37.8 kg/m²

Actua* p81

Min. roof pitch	22.5°
Covering capacity	10.5/m²
Weight as laid	46.2 kg/m²

Concrete range

pages 12-27

Double Pantile* p18

Min. roof pitch	15°
Covering capacity	9.7/m²
Weight as laid	45.6 kg/m²

Double Roman* p15

Min. roof pitch	17.5°
Covering capacity	9.7/m²
Weight as laid	39.8 kg/m²

Calderdale Slate* p16

Min. roof pitch	17.5°
Covering capacity	9.9/m²
Weight as laid	51.5 kg/m²

Lindum Tile* p20

Min. roof pitch	22.5°
Covering capacity	9.7/m²
Weight as laid	44.6 kg/m²

Standard Pattern* p21

Min. roof pitch	17.5°
Covering capacity	16.4/m²
Weight as laid	49.2 kg/m²

Dual Calderdale Slate* p16

Min. roof pitch	17.5°
Covering capacity	9.9/m²
Weight as laid	51.5 kg/m²

Plain Tile p23

Min. roof pitch	35°
Covering capacity	60/m²
Weight as laid	78.0 kg/m²

Shire Pantile* p22

Min. roof pitch	22.5°
Covering capacity	16.4/m²
Weight as laid	45.9 kg/m²

Slate range

pages 86-103

BritLock* p96

Min. roof pitch	17.5°
Covering capacity	11.7/m²
Weight as laid	16.4 kg/m²

BritSlate Countess* p100

Min. roof pitch	22.5°

BritSlate Duchess* p100

Min. roof pitch	20°

New Generation

Cassius p94

Min. roof pitch	22.5°
Covering capacity	10.5/m²
Weight as laid	41.0 kg/m²

Rivius p90

Min. roof pitch	22.5°
Covering capacity	10.5/m²
Weight as laid	41.0 kg/m²

Balmoral p89

Min. roof pitch	22.5°
Covering capacity	20.5/m²
Weight as laid	46.6 kg/m²

Notes:
* Refer to product page for full technical details.
Unless otherwise stated, data is based on tiles laid at minimum headlap.

Roof Tile Index

Product	Page No.	Description	Material	Min. roof pitch	Size of tile (mm)	Headlap (minimum) (mm)
Natural Clay Range						
Goxhill Handmade	48	Traditional Plain Tile – Sanded	Clay	40°	265 x 165	65
Barrow Handcrafted	52	Traditional Plain Tile – Sanded	Clay	35°	265 x 165	65
Alban Handcrafted	53	Traditional Plain Tile – Sanded	Clay	35°	265 x 165	65
Village	56	Traditional Plain Tile – Weathered	Clay	35°	265 x 165	65
Humber	58	Traditional Plain Tile – Smooth	Clay	35°	265 x 165	65
311	75	Traditional Plain Tile – Handcrafted	Clay	35°	270 x 160	65
303	74	Traditional Plain Tile – Sanded	Clay	35°	270 x 170	65
301	73	Traditional Plain Tile – Smooth	Clay	35°	270 x 170	65
Greenwood	44	Traditional Pantile – Handmade	Clay	30°	342 x 248	75
Arcadia	45	Traditional Pantile – Weathered	Clay	30°	342 x 252	72
Old English	46	Traditional Pantile	Clay	30°	342 x 252	72
County	47	Interlocking Pantile	Clay	22.5°	384 x 267	64 ave. gauge
Neo Pantile	31	Interlocking Pantile	Clay	22.5°	384 x 287	75
Old Hollow 451[1]	78	Traditional Pantile	Clay	25°	355 x 246	75
Flemish 401[1]	79	Interlocking Pantile	Clay	22°	368 x 248	68
Gaelic	63	Traditional Single Roman	Clay	30°	342 x 255	75
Tempest Tile 44	80	Traditional Single Roman	Clay	22°	302 x 221	54
Bridgwater	62	Traditional Double Roman	Clay	30°	420 x 340	75
New Generation						
20/20	40	Interlocking Plain Tile	Clay	15° (100mm headlap) 22.5° (75mm headlap)	330 x 226	75
Cassius	36	Interlocking Thin Leading Edge Slate	Clay	22.5°	405 x 323	75
Olympus	32	Interlocking Double Pantile	Clay	22.5°	408 x 327	75
Modula	72	Interlocking Double Roman	Clay	17.5° (100mm headlap) 22.5° (75mm headlap)	445 x 330	75
Actua	81	Interlocking Flat Tile	Clay	22.5° (102mm headlap)	472 x 303	102
Concrete Range						
Plain Tile	23	Traditional Plain Tile	Concrete	35°	265 x 165	65
Shire Pantile[3]	22	Interlocking Pantile	Concrete	22.5° (Smoothfaced)	380 x 230	75
Double Pantile[3]	18	Interlocking Double Pantile	Concrete	15° (100mm headlap) 22.5° (75mm headlap)	420 x 334	75
Double Roman[3]	15	Interlocking Double Roman	Concrete	17.5° (100mm headlap) 22.5° (75mm headlap)	420 x 334	75
Calderdale Slate	16	Interlocking Slate	Concrete	17.5° (100mm headlap) 22.5° (75mm headlap)	420 x 334	75
Dual Calderdale Slate	16	Interlocking Scored Slate	Concrete	17.5° (100mm headlap) 22.5° (75mm headlap)	420 x 334	75
Lindum[3]	20	Interlocking Low Profile Tile	Concrete	22.5° (Smoothfaced)	420 x 334	75
Standard Pattern[3]	21	Interlocking Renovation Tile	Concrete	17.5° (100mm headlap) 22.5° (75mm headlap)	380 x 230	75
Slate Range						
Cassius	94	Interlocking Thin Leading Edge Slate	Clay	22.5°	405 x 323	75
Rivius	90	Interlocking Thin Leading Edge Riven Slate	Clay	22.5°	405 x 323	75
Balmoral	89	Interlocking Riven Slate	Clay	22.5°	330 x 226	75
BritLock	96	Interlocking Recycled Slate	80% Recycled Slate	17.5° (120mm headlap) 22.5° (75mm headlap)	360 x 340	75
BritSlate Countess	100	Traditional Recycled Slate	80% Recycled Slate	22.5°	510 x 255	←
BritSlate Duchess	100	Traditional Recycled Slate	80% Recycled Slate	20°	610 x 305	←

Notes:

Unless otherwise stated, data is based on tiles laid at minimum headlap.

1 Data based on non-glazed colours only.

2 Refer to product pages.

3 Smoothfaced colours only – for sandfaced colours minimum pitch is 30°, refer to product page.

Headlap (maximum) (mm)	Batten spacing (max. gauge) (mm)	Batten spacing (min. gauge) (mm)	Covering capacity per m²	Cover width (mm)	Weight as laid per m² (kg)	Weight per 1000 (tonnes)	Weight per pallet (tonnes)	Quantity per pallet
–	100	–	60.0	165	72.0	1.2	0.7	530
–	100	–	60.0	165	60.0	1.0	0.5	500
–	100	–	60.0	165	60.0	1.0	0.5	500
–	100	–	60.0	165	60.0	1.0	0.6	520
–	100	–	60.0	165	60.0	1.0	0.6	520
–	102.5	–	61.0	160	79.3	1.3	1.2	900
–	102.5	–	57.4	170	63.2	1.1	0.9	832
–	102.5	–	57.4	170	63.5	1.1	0.9	832
–	267	–	17.0	220	44.2	2.6	0.6	216
–	270	–	17.6	210	42.2	2.4	1.3	504
–	270	–	17.6	210	42.2	2.4	1.3	504
–	320 ave. gauge	–	14.9	210	40.2	2.7	1.3	456
120	309	264	14.7	220	35.3	2.4	1.1	432
–	281 fixed gauge	–	19.1	187	51.6	2.7	1.1	384[2]
–	300 fixed gauge	–	16.6	201	49.8	3.0	1.4	480
–	267	–	17.0	220	42.5	2.5	0.7	260
–	246 fixed gauge	–	21.0	195	42.0	2.0	1.4	660
–	345	–	9.5	305	33.3	3.5	0.7	186
120	255	210	22.7 (100mm) 20.5 (75mm)	191	47.6 (100mm) 43.1 (75mm)	2.1	1.0	480
120	330	285	10.5	288	41.0	3.9	1.0	240
120	333	288	10.2	295	34.7	3.4	0.8	210
120	370	325	9.7 (100mm) 9.0 (75mm)	300	40.7 (100mm) 37.8 (75mm)	4.2	1.0	240
162	370	310	10.5 (102mm)	261	46.2 (102mm)	4.4	1.1	240
–	100	–	60.0	165	78.0	1.3	1.0	768
120	305	260	16.4	200	45.9	2.8	1.1	360
120	345	300	10.4 (100mm) 9.7 (75mm)	300	48.9 (100mm) 45.6 (75mm)	4.7	1.0	210
120	345	300	10.4 (100mm) 9.7 (75mm)	300	42.6 (100mm) 39.8 (75mm)	4.1	1.0	228
120	345	300	10.6 (100mm) 9.9 (75mm)	294	55.1 (100mm) 51.5 (75mm)	5.2	1.1	204
120	345	300	10.6 (100mm) 9.9 (75mm)	294	55.1 (100mm) 51.5 (75mm)	5.2	1.1	204
120	345	300	9.7	300	44.6	4.6	1.0	216
120	305	260	17.9 (100mm) 16.4 (75mm).	200	53.7 (100mm) 49.2 (75mm)	3.0	1.1	360
120	330	285	10.5	288	41.0	3.9	1.0	240
120	330	285	10.5	288	41.0	3.9	0.9	210
120	255	210	20.5	191	43.1	2.1	1.0	480
120	285	240	13.9 (120mm) 11.7 (75mm)	300	19.5 (120mm) 16.4 (75mm)	1.4	0.7	500
	See product page			255	*See product page*	1.4	1.5	1000
	See product page			305	*See product page*	2.0	1.6	750

Concrete range

Double Pantile Terracotta Red
with half round Profile Ridge and Roll Hip systems

Sandtoft's concrete roof tiles are manufactured to consistently high quality and environmental standards that are out of the ordinary. And, every tile is through-coloured and finished with a high quality polymer coating for superior, longer lasting colours.

The range includes seven interlocking profiles and one double cambered plain tile. There are 12 colours to choose from, with smoothfaced and sandfaced finishes. All tile ranges form part of a complete roof system; with quick and easy to install dry fix systems for verge, hip, ridge and abutments, as well as an extensive range of decorative ridges and finials.

Quality and Standards

All products in this range comply with the requirements of BS EN 1304 and are manufactured under quality management systems BS EN ISO 9001.

All products meet the performance requirements of BS 5534.

Environmental Qualities

All our concrete tiles are manufactured to environmental standard ISO 14001 using 100% green electricity and have recycled content of approximately 20%.

Contents

See also page 110 for roofing systems.

Concrete colour range

Sandfaced colours

02 Antique No. 2
DP/DR/L/FN/SP/PT

03 Mottled Red
DP/DR/L/FN/SP/PT

Key

CS	Calderdale Slate	FN	Standard Pattern
DCS	Dual Calderdale Slate	L	Lindum
DP	Double Pantile	SP	Shire Pantile
DR	Double Roman	PT	Plain Tile

05 Cornish Grey
DR/FN/PT

06 Brindle
PT

07 Sandown
PT

Smoothfaced colours

09 Light Grey
CS/DCS/L

14 Dark Grey
DP/DR/CS/DCS/L/FN/SP/PT

10 Brown
DP/DR/CS/DCS/L/FN/SP/PT

11 Terracotta Red
DP/DR/CS/DCS/L/FN/SP/PT

12 Rustic
DP/DR/CS/DCS/L/FN/SP/PT

15 Dark Heather
DP/DR/PT

18 Charcoal
SP

Not all colours are available from stock. Always check with Customer Support on 0844 9395 950 before ordering.

Slight colour variations may occur as a consequence of the production process. It is therefore advisable not to mix tiles from different batches on the roof. To achieve the best effect, tiles should be taken from several pallets and mixed at random on the roof.

Double Roman

Double Roman Terracotta Red

Fittings and accessories

Tile fittings:	- Cloaked verge tiles (LH & RH)* - Half tiles*
Ridges:	- Half round - Segmental
Mono ridges:	- Half round
Hips:	- Half round - Segmental
Valleys:	- Lead, Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 24-27.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent† - Gas terminals

See pages 110-127.

* Smoothfaced colours only

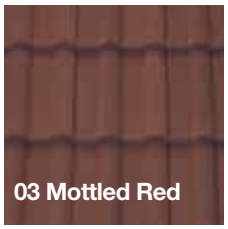
† Concealed tile vent min. pitch 22.5°

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A long established Roman design popular in most regions, ideal for both new build and refurbishment.

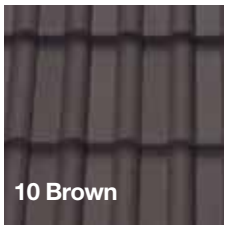
Colours – Sandfaced


02 Antique No. 2


03 Mottled Red


05 Cornish Grey

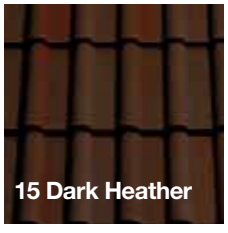
Colours – Smoothfaced


10 Brown


11 Terracotta Red


12 Rustic


14 Dark Grey


15 Dark Heather

Technical data

Minimum roof pitch*	17.5° Smoothfaced at 100 mm headlap 22.5° Smoothfaced at 75 mm headlap 30° Sandfaced at 75 mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	345 mm
Batten spacing at min. gauge	300 mm
Size of tile	420 x 334 mm
Covering capacity at max. gauge	10.4 tiles per m^2 (at 100 mm headlap) 9.7 tiles per m^2 (at 75 mm headlap)
Cover width	300 mm
Profile depth	50 mm
Hanging length	398 mm
Weight as laid	42.6 kg per m^2 (at 100 mm headlap) 39.8 kg per m^2 (at 75 mm headlap)
Weight per 1000	4.1 tonnes
Weight per tile	4.1 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	228
Battens per m^2	3.1 m (at 100 mm headlap) 2.9 m (at 75 mm headlap)
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	65 x 3.75 mm aluminium ring shank clout head
Nail size/type for tile clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

* Rafter length restrictions apply at minimum roof pitch.

Calderdale and Dual Calderdale

Calderdale Light Grey

Fittings and accessories

Slate fittings:	- LH verge slate - Half tiles (LH & RH verge)
Ridges:	- Angle - Legged angle
Mono ridges:	- Legged angle
Hips:	- Angle - Legged angle
Valleys:	- Lead - Fibreglass
Clips:	- Slate, Eaves, Verge

See pages 24-27.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Slate vent* - Gas terminals

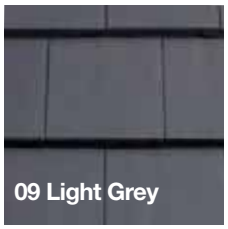
See pages 110-127.

* Concealed slate vent minimum pitch 22.5º

Slate fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

Calderdale gives a slate-like appearance and offers all the benefits of modern interlocking design.

Calderdale colours – Smoothfaced



09 Light Grey

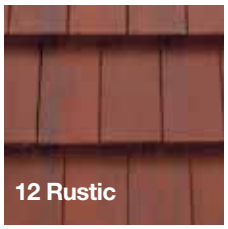
10 Brown

11 Terracotta Red

12 Rustic

14 Dark Grey

Dual Calderdale colours – Smoothfaced



12 Rustic

14 Dark Grey

Dual Calderdale is also made to order in Brown and Terracotta Red (minimum quantity applies).

Technical data – Calderdale and Dual Calderdale

Minimum roof pitch*	17.5° at 100 mm headlap 22.5° at 75 mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	345 mm
Batten spacing at min. gauge	300 mm
Size of slate	420 x 334 mm
Covering capacity at max. gauge	10.6 slates per m^2 (at 100 mm headlap) 9.9 slates per m^2 (at 75 mm headlap)
Cover width	294 mm
Profile depth	32 mm
Hanging length	399 mm
Weight as laid	55.1 kg per m^2 (at 100 mm headlap) 51.5 kg per m^2 (at 75 mm headlap)
Weight per 1000	5.2 tonnes
Weight per slate	5.2 kg
Weight per pallet (inc. pallet)	1.1 tonnes
Quantity per pallet	204
Battens per m^2	3.1 m (at 100 mm headlap) 2.9 m (at 75 mm headlap)
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for slates	50 x 3.35 mm aluminium ring shank clout head
Nail size/type for slate clips	50 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on slates laid at minimum headlap.

* Rafter length restrictions apply at minimum roof pitch.

Dual Calderdale Dark Grey

Dual Calderdale should be laid quarter bond. The correct pattern is obtained by starting/finishing at verges using half and three-quarter width slates, cut on-site.

See installation guide for further information at www.sandtoft.com or call Customer Support on 0844 9395 900.

Dual Calderdale is an interlocking slate with an engineered central groove designed to give the appearance of smaller format slates.

Calderdale Dark Grey with Sandtoft's PV48 roof integrated solar system

Double Pantile


Double Pantile Rustic

Fittings and accessories

Tile fittings:	- Cloaked verge tiles (LH & RH)* - Half tiles* - Dentil slips
Ridges:	- Half round - Segmental
Mono ridges:	- Half round
Hips:	- Half round - Segmental
Eaves:	- Bird comb filler
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 24-27.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent† - Gas terminals

See pages 110-127.

* Smoothfaced colours only

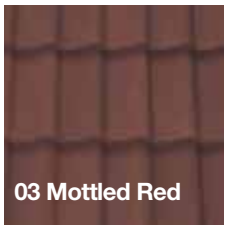
† Concealed tile vent min. pitch 22.5°

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A high quality concrete tile that re-creates the flowing lines of a traditional pantile with an inherent strength in its curved design.

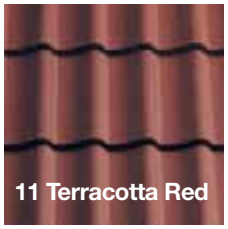
Colours – Sandfaced

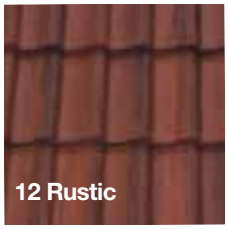

02 Antique No. 2


03 Mottled Red

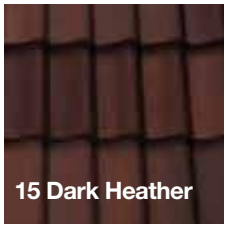
Colours – Smoothfaced


10 Brown


11 Terracotta Red


12 Rustic


14 Dark Grey


15 Dark Heather

Technical data

Minimum roof pitch*	15° smoothfaced at 100 mm headlap 22.5° smoothfaced at 75 mm headlap 30° sandfaced at 75 mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	345 mm
Batten spacing at min. gauge	300 mm
Size of tile	420 x 334 mm
Covering capacity at max. gauge	10.4 tiles per m^2 (at 100 mm headlap) 9.7 tiles per m^2 (at 75 mm headlap)
Cover width	300 mm
Profile depth	55 mm
Hanging length	402 mm
Weight as laid	48.9 kg per m^2 (at 100 mm headlap) 45.6 kg per m^2 (at 75 mm headlap)
Weight per 1000	4.7 tonnes
Weight per tile	4.7 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	210
Battens per m^2	3.1 m (at 100 mm headlap) 2.9 m (at 75 mm headlap)
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	65 x 3.75 mm aluminium ring shank clout head
Nail size/type for tile clips	50 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

* Rafter length restrictions apply at minimum roof pitch.

Double Pantile in Terracotta Red with Profile Ridge and RollHip dry fix system

Lindum

Lindum Rustic

Fittings and accessories

Ridges:	- Half round - Segmental
Mono ridges:	- Half round
Hips:	- Half round - Segmental
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 24-27.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

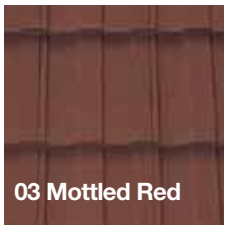
See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

An interlocking concrete tile which provides a classic low profile roof.

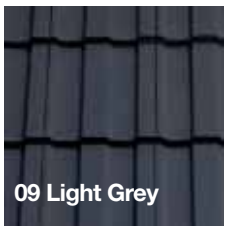
Colours – Sandfaced

02 Antique No. 2

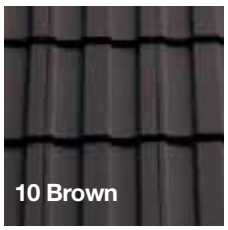


03 Mottled Red

Colours – Smoothfaced



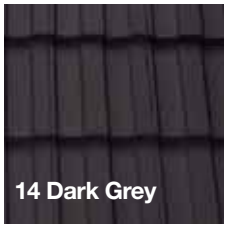
09 Light Grey



10 Brown

11 Terracotta Red

12 Rustic



14 Dark Grey

Technical data

Minimum roof pitch	22.5° Smoothfaced 30° Sandfaced
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	345 mm
Batten spacing at min. gauge	300 mm
Size of tile	420 x 334 mm
Covering capacity at max. gauge	9.7 tiles per m^2
Cover width	300 mm
Profile depth	42 mm
Hanging length	401 mm
Weight as laid	44.6 kg per m^2
Weight per 1000	4.6 tonnes
Weight per tile	4.6 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	216
Battens per m^2	2.9 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	50 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	50 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Standard Pattern

Standard Pattern Dark Grey

Fittings and accessories

Ridges:	- Half round - Segmental
Mono ridges:	- Half round
Hips:	- Half round - Segmental
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 24-27.

Roofing systems

Dry roof systems:	- Ridge, Hip
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent* - Gas terminals

See pages 110-127.

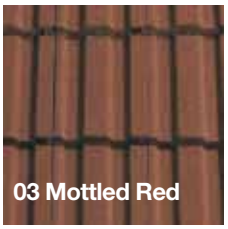
*Concealed tile vent minimum pitch 22.5º

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

Easy to install and highly durable, this tile is ideal for re-roofing and comes in convenient banded packs of eight.

Colours – Sandfaced


02 Antique No. 2


03 Mottled Red


05 Cornish Grey

Colours – Smoothfaced


10 Brown


11 Terracotta Red


12 Rustic


14 Dark Grey

Technical data

Minimum roof pitch*	17.5° Smoothfaced at 100 mm headlap 22.5º Smoothfaced at 75 mm headlap 30° Sandfaced at 75 mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	305 mm
Batten spacing at min. gauge	260 mm
Size of tile	380 x 230 mm
Covering capacity at max. gauge	17.9 tiles per m^2 (at 100 mm headlap) 16.4 tiles per m^2 (at 75 mm headlap)
Cover width	200 mm
Profile depth	40 mm
Hanging length	355 mm
Weight as laid	53.7 kg per m^2 (at 100 mm headlap) 49.2 kg per m^2 (at 75 mm headlap)
Weight per 1000	3.0 tonnes
Weight per tile	3.0 kg
Weight per pallet (inc. pallet)	1.1 tonnes
Quantity per pallet	360
Battens per m^2	3.6 m (at 100 mm headlap) 3.3 m (at 75 mm headlap)
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	50 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

* Rafter length restrictions apply at minimum roof pitch.

Shire Pantile

Fittings and accessories

Tile fittings:	- Dentil slips
Ridges:	- Half round - Segmental
Mono ridges:	- Half round
Hips:	- Half round - Segmental
Eaves:	- Bird comb filler
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 24-27.

Roofing systems

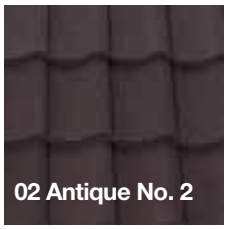
Dry roof systems:	- Ridge, Hip
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

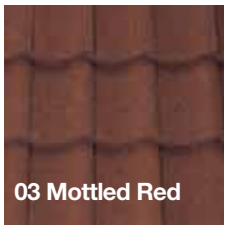
See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

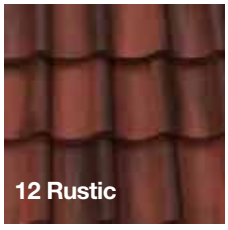
All the proportions of a classic pantile profile available in seven distinctive colours.

Colours – Sandfaced





Colours – Smoothfaced



Technical data

Minimum roof pitch	22.5° Smoothfaced 30° Sandfaced
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	305 mm
Batten spacing at min. gauge	260 mm
Size of tile	380 x 230 mm
Covering capacity at max. gauge	16.4 tiles per m^2
Cover width	200 mm
Profile depth	70 mm
Hanging length	360 mm
Weight as laid	45.9 kg per m^2
Weight per 1000	2.8 tonnes
Weight per tile	2.8 kg
Weight per pallet (inc. pallet)	1.1 tonnes
Quantity per pallet	360
Battens per m^2	3.30 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	50 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Plain Tile


Plain Tile Rustic

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - Cloaked verge tiles (LH & RH) - External & internal angles (LH & RH)
Feature tiles	- Club
Ridges:	- Half round - Segmental
Mono ridges:	- Half round
Hips:	- Bonnet - Arris - Half round - Segmental
Valleys:	- Valley tiles - Lead - Fibreglass

See pages 24-27.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

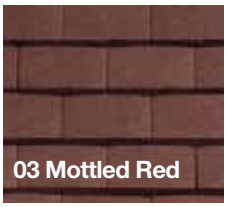
See pages 110-127.

Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

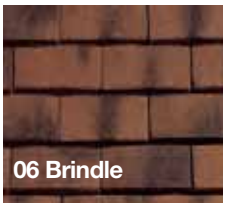
This versatile cross-cambered concrete tile is perfect for complex detailing and curved roof applications.

Colours – Sandfaced


02 Antique No. 2


03 Mottled Red


05 Cornish Grey

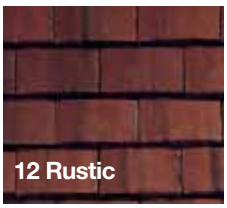

06 Brindle


07 Sandown

Colours – Smoothfaced


10 Brown


11 Terracotta Red


12 Rustic

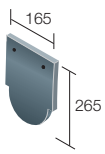

14 Dark Grey


15 Dark Heather

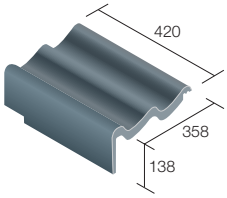
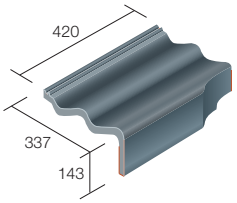
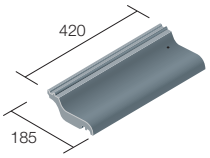
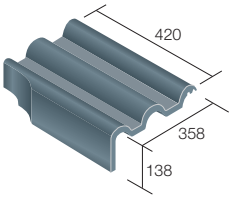
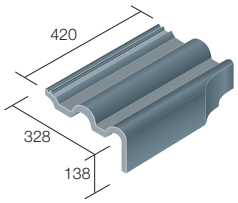
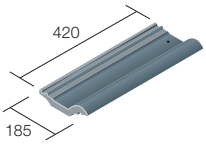
Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	100 mm	114 mm
Size of tile	265 x 165 mm	265 x 165 mm
Covering capacity at max. gauge	60.0 tiles per m^2	53.0 tiles per m^2
Cover width	165 mm	165 mm
Profile depth	13 mm	13 mm
Hanging length	245 mm	245 mm
Weight as laid	78.0 kg per m^2	68.9 kg per m^2
Weight per 1000	1.3 tonnes	1.3 tonnes
Weight per tile	1.3 kg	1.3 kg
Weight per pallet (inc. pallet)	1.0 tonnes	1.0 tonnes
Quantity per pallet	768	768
Battens per m^2	10 m	8.8 m
Batten size		
Up to 450 mm rafter centres	38 x 25 mm	38 x 25 mm
Up to 600 mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	
Nail size/type for tile clips	N/A	N/A

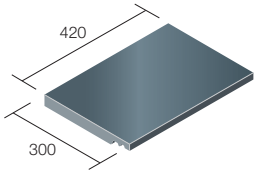
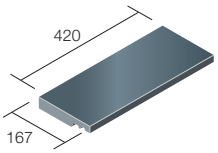
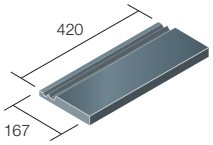
Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Feature Tile
Club pattern available.

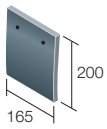


Concrete fittings

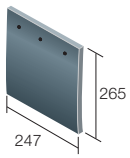
Tile	LH cloaked verge	RH cloaked verge	Half tile
Double Pantile			
Double Roman			

Slate	LH verge slate	LH half slate	RH half slate
Calderdale Slate		 Sold as a pair (LH and RH)	 Sold as a pair (LH and RH)

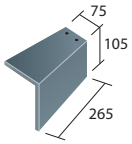
Plain Tile



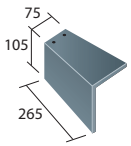
Eaves/tops tile



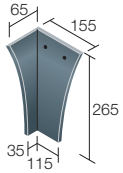
Tile and a half



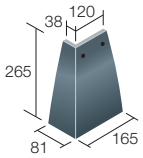
RH cloaked verge



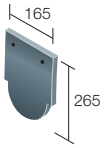
LH cloaked verge



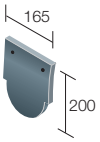
LH and RH internal angles
(RH option shown)



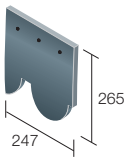
LH and RH external angles
(RH option shown)



Feature tile



Feature tops tile

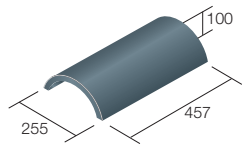
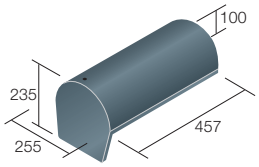
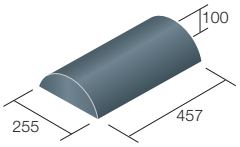
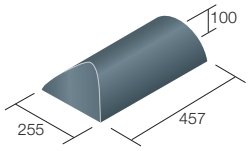
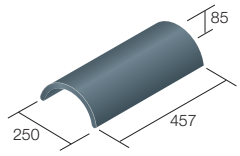
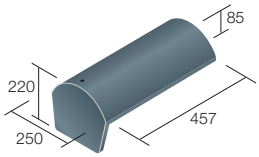
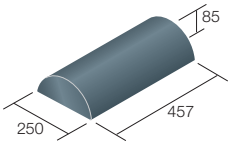
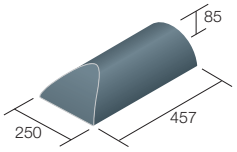
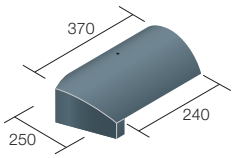
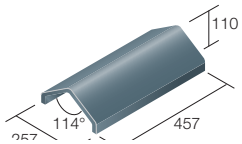
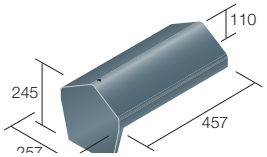
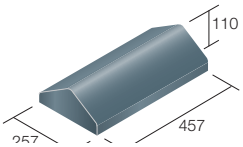
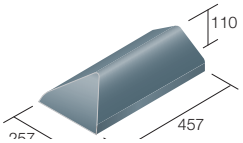
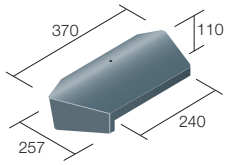
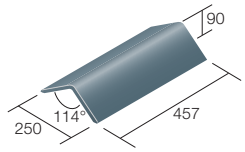
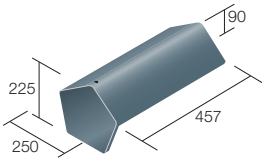
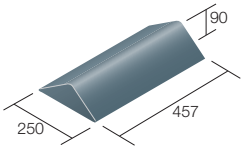
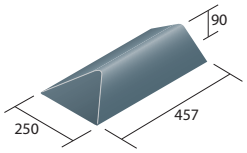


LH and RH feature tile and a half
(LH option shown)

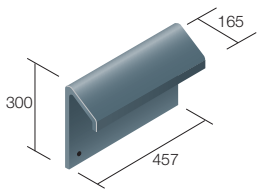
For Bonnet hip, Arris hip and
Valley tile, see page opposite.

Please note not all fittings, in all colours are available from stock. Please contact Customer Support for further information.

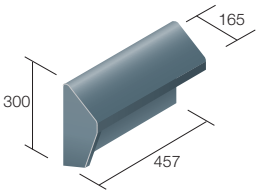
Concrete ridges and hips

Ridge	Block end	Gable stop end	Hip end	Hip starter
Half Round  (security ridge also available)				
Segmental  (security ridge also available)				
Legged Angle  (security ridge also available)				
Angle  (security ridge also available)				

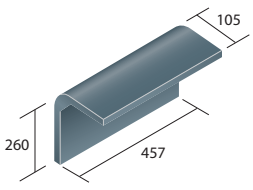
Mono Ridges – Legged Angle, Angle and Half Round



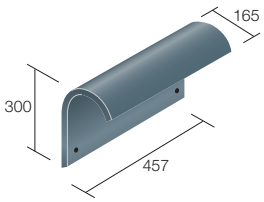
Legged angle mono ridge



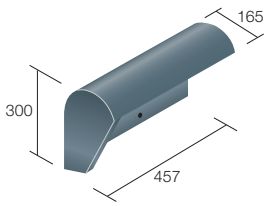
LH and RH legged angle mono ridge with block end (LH pictured)



Angle mono ridge

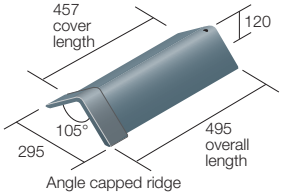


Half round mono ridge

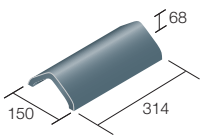


LH and RH half round mono ridge with block end (LH pictured)

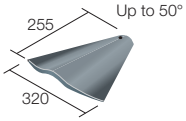
Specialist Fittings



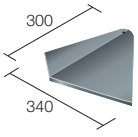
Angle capped ridge



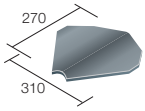
Baby ridge



Bonnet hip



Arris hip
35°/40°



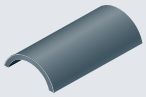
Valley tile

For ridge ventilators see page 123.

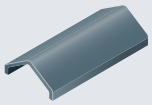
Concrete decorative ridges

A variety of ridge profiles is available with different end pieces and decorative crests and/or finials. The ridges are named by their elements in the order set out below.

Step 1 Profiles

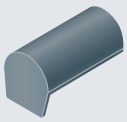


Half Round

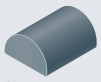


Legged Angle

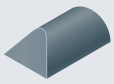
Step 2 Ends



Block end



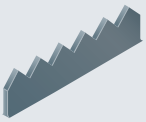
Gable stop end



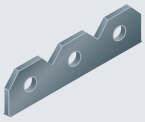
Hip end

Step 3 Crests

Club



Cockscomb



Three hole

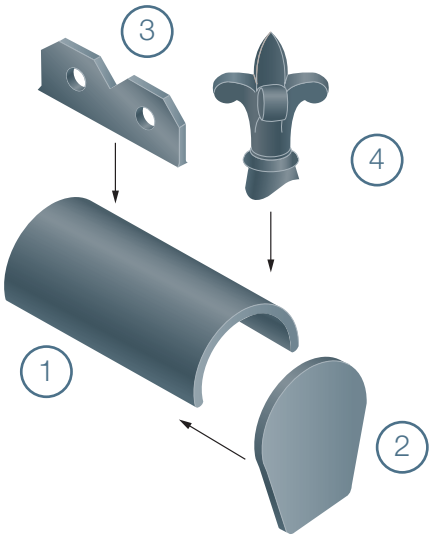
Fleur-de-lys

Step 4 Finials

Scroll finial (height 140 mm)

Short fleur-de-lys finial (height 270 mm)
Tall fleur-de-lys finial (height 370 mm)

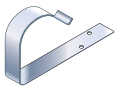
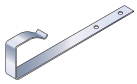
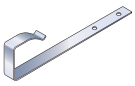
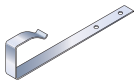
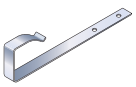
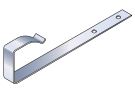
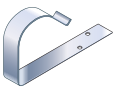
Short ball finial (height 240 mm)
Tall ball finial (height 340 mm)



Please note that when combining a finial with a crest on a decorative ridge, the crest design is adjusted to accommodate the finial.

For example, a three hole crest will become a two hole crest as illustrated.

Concrete tile clips and other accessories

Tile	Eaves filler	Dentil slips	Tile clip	Verge clip	Eaves clip
Double Pantile	 Bird comb filler	 265 x 80 mm	 Nail size 50 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
Calderdale slate	Not required	Not required	 Nail size 50 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
Dual Calderdale slate	Not required	Not required	 Nail size 50 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
Double Roman	Not required	Not required	 Nail size 50 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
Lindum	Not required	Not required	 Nail size 50 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
Standard Pattern	Not required	Not required	 Nail size 50 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
Shire	 Bird comb filler	 265 x 80 mm	 Nail size 50 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
Plain Tile	Not required	Not required	Not required	Not required	Not required

See also Roofing Systems section page 110.

Notes

1 When used in conjunction with Over Fascia Ventilator Strip, nail length should be increased to 40 mm for 10 mm Over Fascia Ventilator Strip, or 50 mm for 25 mm Over Fascia Ventilator Strip.

Nail type: aluminium ring shank clout head

Tile fixing specification: Zonal fixing tables can be downloaded from www.sandtoft.com. Full instructions on use is included with every table. Alternatively, use our Fixing SPEC service by completing your details online or by contacting Sandtoft Technical Services on 0844 9395 999.

Natural clay range

Humber Natural Red
with half round Profile Ridge system

Sandtoft is the UK market leader in clay tiles, with a long history of innovation, investment and craftsmanship.

Our unrivalled range includes handmade, handcrafted and machine made plain tiles, a market leading range of pantiles and roman tiles, plus our groundbreaking New Generation clay tile range.

Designed to make the beauty of natural materials more affordable, the New Generation range significantly reduces installation time, weight and material, when compared to traditional double lap tiles and slates. The real beauty of these clay tiles lies in the fact that their economic benefits are achieved without compromising long-term aesthetics. Like all natural products, New Generation clay tiles are colour permanent, and will not lose their looks over time.

See also page 70 for the Koramic range of clay roof tiles.

Quality and Standards

All products in this range comply with the requirements of BS EN 1304 and are manufactured under quality management systems BS EN ISO 9001.

All products meet the performance requirements of BS 5534.

Drawing on more than a century of experience, Sandtoft clay tiles are designed to be resistant to the frequent cycles of soaking, freezing and thawing that are unique to the climate of the UK.

All our clay tiles are tested to BS EN 539-2: 2006 and far exceed the number of cycles required in both the current UK frost test Method D and in the new single European frost test method E.

Environmental Qualities

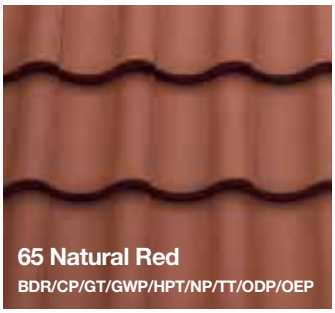
All clay tiles in this range are produced to environmental standard ISO 14001 using 100% green electricity.

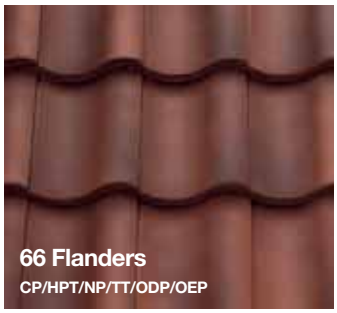
Our abundant clay reserves are located alongside the production process and are periodically restored as wetland habitats.

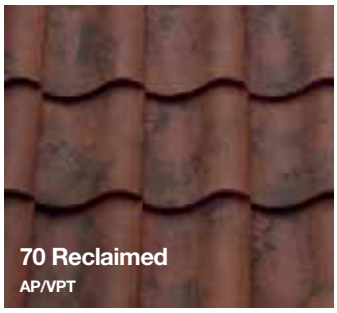
Contents

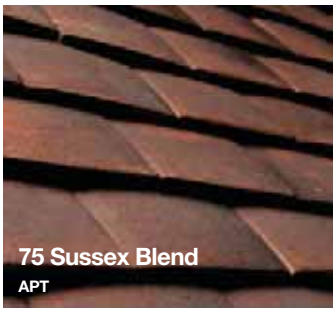
See also page 110 for roofing systems.

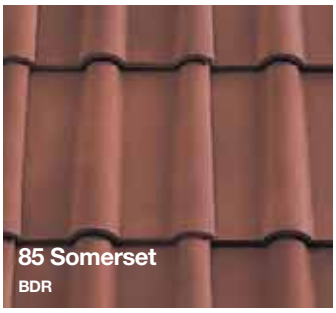
Natural clay colour range

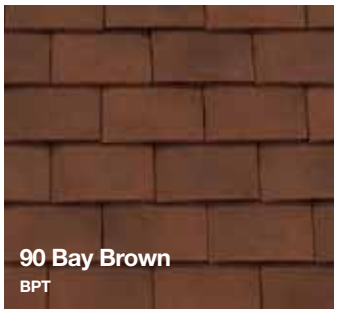


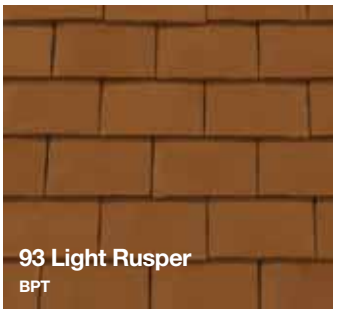


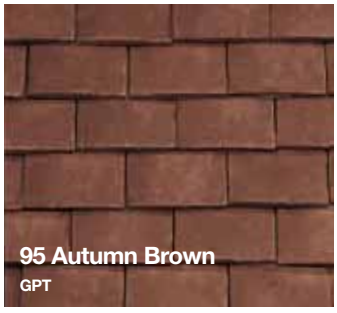


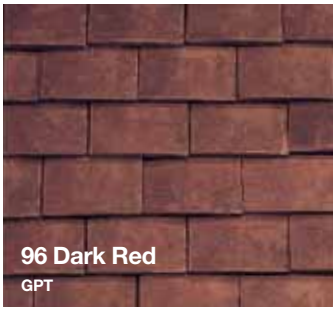


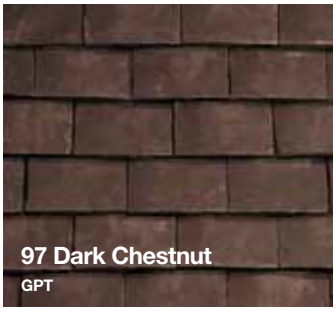












Not all colours are available from stock. Always check with Customer Support on 0844 9395 950 before ordering.

Clay is a natural and sustainable roofing material which is inherently strong and provides richness in colour which will not fade. The rich colouring of natural clay provides roofs with great beauty and character which becomes more attractive with age.

Clay tiles are manufactured to give a harmonious appearance to the finished roof. However, slight colour variations may occur as a consequence of the production process. It is therefore advisable not to mix tiles from different batches or of different colours on the roof. To achieve the best effect, tiles should be taken from several pallets and mixed at random on the roof.

Key

AP	Arcadia Pantile
BDR	Bridgwater Double Roman
CCS	Cassius
CP	County Pantile
GPT	Goxhill Plain Tile
GT	Gaelic Tile
GWP	Greenwood Pantile
HPT	Humber Plain Tile
NP	Neo Pantile
TT	20/20
ODP	Olympus
OEP	Old English Pantile
VPT	Village Plain Tile
APT	Alban Plain Tile
BPT	Barrow Plain Tile

Neo Pantile®


Neo Pantile Natural Red

Fittings and accessories

Tile fittings:	- LH verge tile - Double dentil slips
Ridges:	- Duracoat half round - Clay half round
Mono ridges:	- Duracoat half round - Clay half round
Hips:	- Duracoat segmental - Clay third round
Eaves:	- Bird comb filler
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 64-69.

Roofing systems

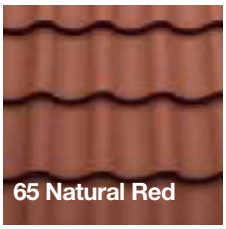
Dry roof systems:	- Ridge, Hip
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

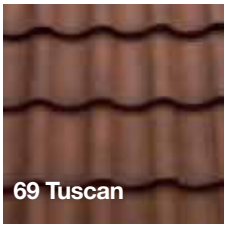
The Neo Pantile is an open gauge interlocking pantile that has been designed by Sandtoft to make a clay pantile roof easier and quicker to install.

Colours


65 Natural Red


66 Flanders


68 Antique Slate


69 Tuscan

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22.5°
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	309 mm
Batten spacing at min. gauge	264 mm
Size of tile	384 x 287 mm
Covering capacity at max. gauge	14.7 tiles per m^2
Cover width	220 mm
Profile depth	69 mm
Hanging length	350 mm
Weight as laid	35.3 kg per m^2
Weight per 1000	2.4 tonnes
Weight per tile	2.4 kg
Weight per pallet (inc. pallet)	1.1 tonnes
Quantity per pallet	432
Battens per m^2	3.2 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for metal tile clips	55 x 3.35 mm aluminium ring shank clout head
Nail size/type for plastic tile clips	25 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Olympus®

Olympus Flanders

- New Generation interlocking clay tile with easy to lay open gauge
- Large format design offers material and labour savings
- 30% reduction in roof loading over large format concrete tiles
- Clean lines and well defined leading edge enhances aesthetics
- Pressed from natural alluvial Humber clay and available in three permanent colours
- High performance weatherproof design developed through intensive wind tunnel testing
- Manufactured to Environmental Management Standard ISO 14001

Olympus Natural Red

Fittings and accessories

Tile fittings:	- LH verge tile
Ridges:	- Duracoat half round - Clay half round
Mono ridges:	- Duracoat half round - Clay half round
Hips:	- Duracoat segmental - Clay third round
Eaves:	- Bird comb filler
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 64-69.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

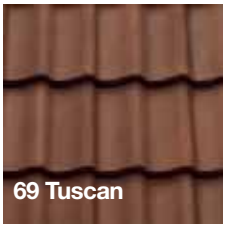
Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A New Generation clay tile designed to provide all the benefits of a natural clay roof at an affordable price thanks to its innovative design and large format size.

Colours

65 Natural Red

66 Flanders



69 Tuscan

See also Modula Double Roman Tile on page 72.

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22.5°
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	333 mm
Batten spacing at min. gauge	288 mm
Size of tile	408 x 327 mm
Covering capacity at max. gauge	10.2 tiles per m^2
Cover width	295 mm
Profile depth	57 mm
Hanging length	382 mm
Weight as laid	34.7 kg per m^2
Weight per 1000	3.4 tonnes
Weight per tile	3.4 kg
Weight per pallet (inc. pallet)	0.8 tonnes
Quantity per pallet	210
Battens per m^2	3.0 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	65 x 3.75 mm aluminium ring shank clout head
Nail size/type for metal tile clips	55 x 3.35 aluminium ring shank clout head
Nail size/type for plastic tile clips	25 x 3.35 aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

continued

Olympus Flanders

Cassius®

- New Generation interlocking clay slate with easy to lay open gauge
- Over 50% more cost effective than traditional natural slate
- Large format design means competitive with concrete thin leading edge products
- Clean lines and well defined thin leading edge enhances aesthetics
- Clay verge system available
- Pressed from natural alluvial Humber clay and available in two permanent colours
- No tops or eaves slates required
- High performance weatherproof design developed through intensive wind tunnel testing
- Manufactured to Environmental Management Standard ISO 14001

Cassius Antique Slate

Fittings and accessories

Slate fittings:	- LH verge slate - Half tiles (LH & RH verge)
Ridges:	- Duracoat legged angle - Duracoat half round - Clay half round
Mono ridges:	- Duracoat legged angle - Duracoat half round - Clay half round
Hips:	- Duracoat legged angle - Duracoat segmental - Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Slate, Eaves, Verge

See pages 64-69.

Roofing systems

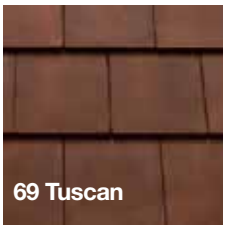
Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Slate vent - Gas terminals

See pages 110-127.

Slate fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

Cassius is a thin leading edge slate that creates an attractive natural clay roof, while the large format size and interlocking design reduce material and installation costs.

Colours



69 Tuscan

68 Antique Slate

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22.5°
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	330 mm
Batten spacing at min. gauge	285 mm
Size of slate	405 x 323 mm
Covering capacity at max. gauge	10.5 slates per m^2
Cover width	288 mm
Profile depth	16 mm
Hanging length	365 mm
Weight as laid	41.0 kg per m^2
Weight per 1000	3.9 tonnes
Weight per slate	3.9 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	240
Battens per m^2	3.3 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for slates	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for metal slate clips	55 x 3.35 mm aluminium ring shank clout head
Nail size/type for plastic slate clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on slates laid at minimum headlap.

continued

Cassius Antique Slate

20/20

- New Generation interlocking clay tile with easy to lay open gauge
- Over 30% more cost effective than traditional plain tiles
- Reduces completion times by up to 30%
- Requires approx. 60% fewer battens
- Performs at pitches down to 15°
- Half the weight of concrete plain tiles and over 40% lighter than clay plain tiles
- Pressed from natural alluvial Humber clay and available in four permanent colours
- High performance weatherproof design developed through intensive wind tunnel testing
- Manufactured to Environmental Management Standard ISO 14001

The 20/20 has been designed to emulate traditional plain tiles, particularly when the roof is viewed from ground level.


20/20 Tuscan

Fittings and accessories

Tile fittings:	- LH verge tile - Tile-and-a-half tiles (LH & RH verge)
Ridges:	- Duracoat half round - Clay half round
Mono ridges:	- Duracoat half round - Clay half round
Hips:	- Duracoat segmental - Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 64-69.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent* - Gas terminals

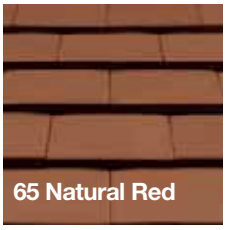
See pages 110-127.

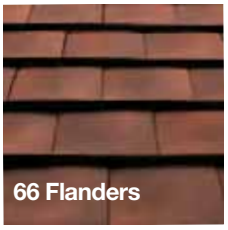
*Concealed tile vent minimum pitch 22.5º

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

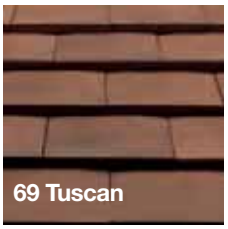
A New Generation interlocking clay plain tile that makes a plain tile roof more affordable through an innovative design that reduces labour and material costs, and cuts completion times.

Colours


65 Natural Red


66 Flanders


68 Antique Slate


69 Tuscan

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch*	15° at 100 mm headlap 22.5° at 75 mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	255 mm
Batten spacing at min. gauge	210 mm
Size of tile	330 x 226 mm
Covering capacity at max. gauge	22.7 tiles per m^2 at 100 mm headlap 20.5 tiles per m^2 at 75 mm headlap
Cover width	191 mm
Profile depth	16 mm
Hanging length	300 mm
Weight as laid	47.6 kg per m^2 at 100 mm headlap 43.1 kg per m^2 at 75 mm headlap
Weight per 1000	2.1 tonnes
Weight per tile	2.1 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	480
Battens per m^2	4.3 m at 100 mm headlap 3.9 m at 75 mm headlap
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for metal tile clips	55 x 3.35 mm aluminium ring shank clout head
Nail size/type for plastic tile clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

*Rafter length restrictions apply at minimum roof pitch. Concealed 20/20 ventilators must not be used on roof pitches below 22.5º. A low pitch version is available. Please contact Technical Services for further information.

continued

20/20 Flanders

Greenwood

handmade

Greenwood Natural Red

Fittings and accessories

Tile fittings:	- LH verge tile - Double dentil slips
Ridges:	- Clay half round
Mono ridges:	- Clay half round
Hips:	- Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Tile - Verge

See pages 64-69.

Roofing systems

Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A traditional handmade clay pantile made using long established techniques.
The Greenwood will weather to a mature appearance and is perfect for conservation projects.

Colour

65 Natural Red

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	30°
Headlap (minimum)	75 mm
Batten spacing at max. gauge	267 mm
Size of tile	342 x 248 mm
Covering capacity at max. gauge	17.0 tiles per m^2
Cover width	220 mm
Profile depth	69 mm
Hanging length	308 mm
Weight as laid	44.2 kg per m^2
Weight per 1000	2.6 tonnes
Weight per tile	2.6 kg
Weight per pallet (inc. pallet)	0.6 tonnes
Quantity per pallet	216
Battens per m^2	3.7 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	50 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Arcadia®

Arcadia Reclaimed

Fittings and accessories

Tile fittings:	- Double dentil slips
Ridges:	- Clay half round
Mono ridges:	- Clay half round
Hips:	- Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Verge

See pages 64-69.

Roofing systems

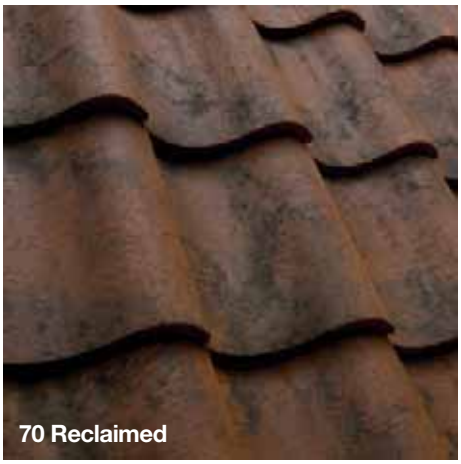
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

The Arcadia Pantile provides the look of an aged pantile from the day it is installed on the roof. It replicates the charm and character of reclaimed pantiles from new.

Colour



70 Reclaimed

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	30°
Headlap (minimum)	72 mm
Batten spacing at max. gauge	270 mm
Size of tile	342 x 252 mm
Covering capacity at max. gauge	17.6 tiles per m^2
Cover width	210 mm
Profile depth	69 mm
Hanging length	308 mm
Weight as laid	42.2 kg per m^2
Weight per 1000	2.4 tonnes
Weight per tile	2.4 kg
Weight per pallet (inc. pallet)	1.3 tonnes
Quantity per pallet	504
Battens per m^2	3.7 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	50 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Award Winner

Old English®

Old English Pantile Natural Red

Fittings and accessories

Tile fittings:	- LH verge tile - Double dentil slips
Ridges:	- Clay half round
Mono ridges:	- Clay half round
Hips:	- Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Verge

See pages 64-69.

Roofing systems

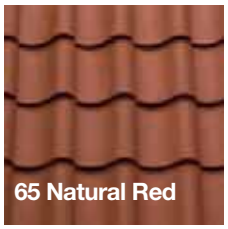
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A traditional clay pantile offering beauty by design. This classic shape with its carefully proportioned profile creates a long lasting, beautiful roof.

Colours



65 Natural Red

66 Flanders

68 Antique Slate

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	30°
Headlap (minimum)	72 mm
Batten spacing at max. gauge	270 mm
Size of tile	342 x 252 mm
Covering capacity at max. gauge	17.6 tiles per m^2
Cover width	210 mm
Profile depth	69 mm
Hanging length	308 mm
Weight as laid	42.2 kg per m^2
Weight per 1000	2.4 tonnes
Weight per tile	2.4 kg
Weight per pallet (inc. pallet)	1.3 tonnes
Quantity per pallet	504
Battens per m^2	3.7 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	50 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Award Winner

County


County Pantile Natural Red

Fittings and accessories

Tile fittings:	- LH verge tile - Cloaked verge tiles (LH & RH) - Double dentil slips
Ridges:	- Clay half round
Mono ridges:	- Clay half round
Hips:	- Clay third round
Valleys:	- Lead - Fibreglass
Eaves:	- Bird comb filler
Clips:	- Tile, Eaves, Verge

See pages 64-69.

Roofing systems

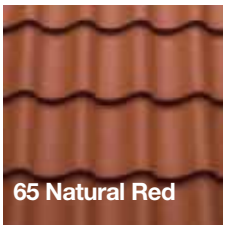
Dry roof systems:	- Ridge - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

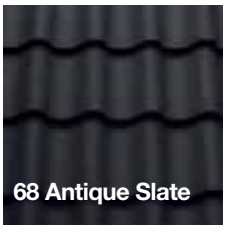
Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

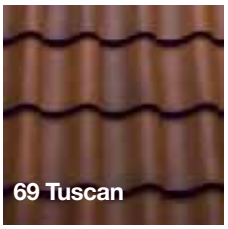
Combines the visual qualities of a traditional clay pantile, with the enhanced performance of a double interlocking design.

Colours


65 Natural Red


66 Flanders


68 Antique Slate


69 Tuscan

See also Neo Pantile, page 31.

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22.5°
Headlap (average)	64 mm
Batten spacing at ave. gauge	320 mm
Size of tile	384 x 267 mm
Covering capacity at max. gauge	14.9 tiles per m^2
Cover width	210 mm
Profile depth	67 mm
Hanging length	352 mm
Weight as laid	40.2 kg per m^2
Weight per 1000	2.7 tonnes
Weight per tile	2.7 kg
Weight per pallet (inc. pallet)	1.3 tonnes
Quantity per pallet	456
Battens per m^2	3.1 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Goxhill Plain Tile

Goxhill Brindle Mix

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - External & internal angles (LH & RH)
Feature tiles:	- Arrow head - Bullnose - Club - Fishtail
Ridges:	- Hogsback - Handmade half round
Mono ridges:	- Handmade half round
Hips:	- Bonnet - Arris - Hogsback - Handmade third round
Valleys:	- Valley tiles - Lead - Fibreglass

See pages 64-69.

Roofing systems

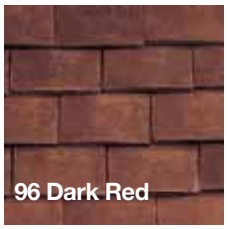
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

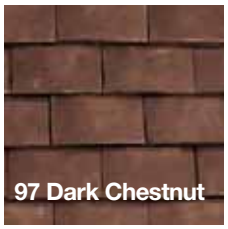
Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

One of the finest and most distinctive roof coverings available, this handmade plain tile gives a rich textured roofscape that will become more attractive with age.

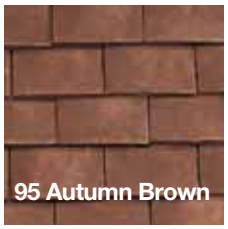
Colours



96 Dark Red



97 Dark Chestnut



95 Autumn Brown

Brindle Mix is achieved by mixing Autumn Brown (50%), Dark Chestnut (30%) and Dark Red (20%).

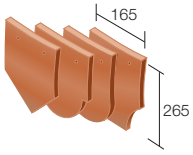
Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data	Roof	Vertical
Minimum roof pitch	40°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	100 mm	114 mm
Size of tile	265 x 165 mm	265 x 165 mm
Covering capacity at max. gauge	60.0 tiles per m^2	53.0 tiles per m^2
Cover width	165 mm	165 mm
Profile depth	13 mm	13 mm
Hanging length	245 mm	245 mm
Weight as laid	72 kg per m^2	63.6 kg per m^2
Weight per 1000	1.2 tonnes	1.2 tonnes
Weight per tile	1.2 kg	1.2 kg
Weight per pallet (inc. pallet)	0.7 tonnes	0.7 tonnes
Quantity per pallet	530	530
Battens per m^2	10 m	8.8 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 38 x 25 mm	 38 x 25 mm 38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Feature Tiles
Arrow head*, Club, Bullnose* & Fishtail* available

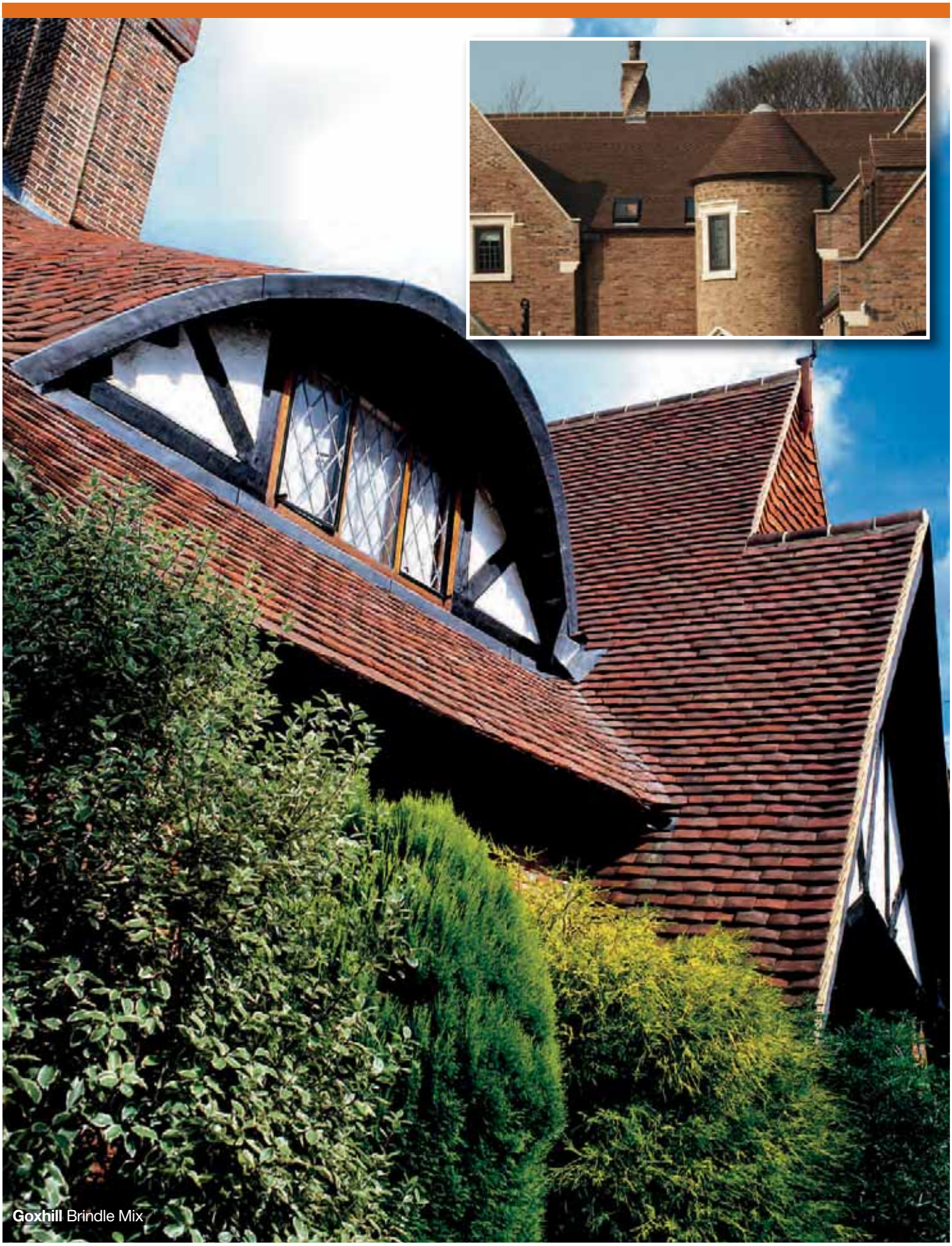
* Lead times may apply



For a copy of A Guide to Plain Tiling – Including Vertical Tiling, by the Clay Roof Tile Council, please contact Customer Support on 0844 9395 900.

Award Winner

handmade



Goxhill Brindle Mix

continued

Goxhill Plain Tile

Goxhill Dark Chestnut with Dark Red vertical tiling

handmade

Barrow Plain Tile

NEW

Barrow Burnt Oak

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - External & internal angles (LH & RH)
Feature tiles:	- Club - Fishtail
Ridges:	- Clay half round - Handcrafted ridge - Baby ridge
Mono ridges:	- Clay half round
Hips:	- Bonnet - Arris - Clay third round - Handcrafted ridge - Baby ridge
Valleys:	- Valley tiles - Lead - Fibreglass

See pages 64-69.

Roofing systems

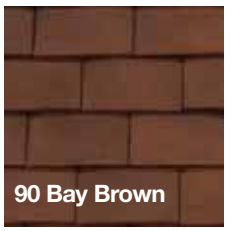
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

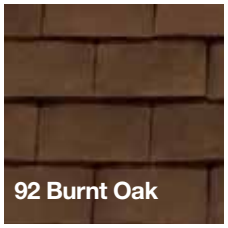
A handcrafted clay plain tile with a lightly sanded finish. Each tile has a subtle irregular form which creates the appearance of a traditional, aged roof with character.

Colours

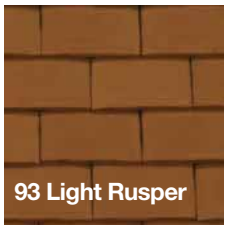


90 Bay Brown

91 Dark Rusper



92 Burnt Oak



93 Light Rusper

Barrow Brindle Mix is achieved by mixing Bay Brown (50%), Burnt Oak (30%) and Dark Rusper (20%).

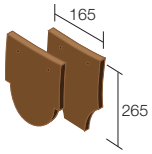
Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

For a copy of A Guide to Plain Tiling – Including Vertical Tiling, by the Clay Roof Tile Council, please contact Customer Support on 0844 9395 900.

Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	100 mm	114 mm
Size of tile	265 x 165 mm	265 x 165 mm
Covering capacity at max. gauge	60.0 tiles per m^2	53.0 tiles per m^2
Cover width	165 mm	165 mm
Profile depth	13 mm	13 mm
Hanging length	245 mm	245 mm
Weight as laid	60.0 kg per m^2	53.0 kg per m^2
Weight per 1000	1.0 tonnes	1.0 tonnes
Weight per tile	1.0 kg	1.0 kg
Weight per pallet (inc. pallet)	0.5 tonnes	0.5 tonnes
Quantity per pallet	500	500
Battens per m^2	10 m	8.8 m
Batten size		
Up to 450 mm rafter centres	38 x 25 mm	38 x 25 mm
Up to 600 mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Feature Tiles
Club & Fishtail available.



Alban Plain Tile

NEW

Alban Sussex Blend with
Barrow Feature Tiles in Light Rusper

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - External & internal angles (LH & RH)
Feature tile:	- Club
Ridges:	- Clay half round - Handcrafted ridge - Baby ridge
Mono ridges:	- Clay half round
Hips:	- Bonnet - Arris - Clay third round - Handcrafted ridge - Baby ridge
Valleys:	- Valley tiles - Lead - Fibreglass

See pages 64-69.

Roofing systems

Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

With its lightly sanded texture, irregular form and rustic tones, the Alban plain tile adds charm and character to any roof.

Colour

75 Sussex Blend

Coming soon: Vintage Blend

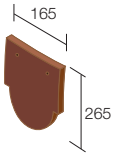
Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

For a copy of A Guide to Plain Tiling – Including Vertical Tiling, by the Clay Roof Tile Council, please contact Customer Support on 0844 9395 900.

Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	100 mm	114 mm
Size of tile	265 x 165 mm	265 x 165 mm
Covering capacity at max. gauge	60.0 tiles per m^2	53.0 tiles per m^2
Cover width	165 mm	165 mm
Profile depth	13 mm	13 mm
Hanging length	245 mm	245 mm
Weight as laid	60 kg per m^2	53 kg per m^2
Weight per 1000	1.0 tonnes	1.0 tonnes
Weight per tile	1.0 kg	1.0 kg
Weight per pallet (inc. pallet)	0.5 tonnes	0.5 tonnes
Quantity per pallet	500	500
Battens per m^2	10 m	8.8 m
Batten size		
Up to 450 mm rafter centres	38 x 25 mm	38 x 25 mm
Up to 600 mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Feature Tile
Club available.



Alban Sussex Blend

Village® Plain Tile

Village Reclaimed

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - Cloaked verge tiles (LH & RH) - Half tile cloaked verge tiles (LH & RH) - External & internal angles (LH & RH)
Feature tiles:	- Club
Ridges:	- Clay half round
Mono ridges:	- Clay half round
Hips:	- Bonnet - Arris - Clay third round
Valleys:	- Valley tiles - Lead - Fibreglass

See pages 64-69.

Roofing systems

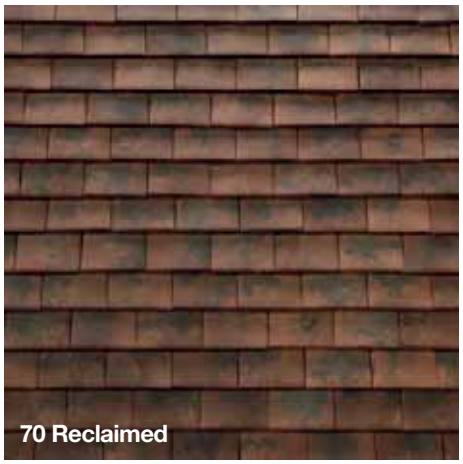
Dry roof system:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A natural clay plain tile with varied colour and texture that creates the appearance of an aged roof from new. Its double cambered design adds further character, providing a rustic look that will blend into its surroundings.

Colour



70 Reclaimed

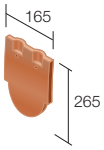
Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

For a copy of A Guide to Plain Tiling – Including Vertical Tiling, by the Clay Roof Tile Council, please contact Customer Support on 0844 9395 900.

Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	100 mm	114 mm
Size of tile	265 x 165 mm	265 x 165 mm
Covering capacity at max. gauge	60.0 tiles per m^2	53.0 tiles per m^2
Cover width	165 mm	165 mm
Profile depth	13 mm	13 mm
Hanging length	245 mm	245 mm
Weight as laid	60.0 kg per m^2	53.0 kg per m^2
Weight per 1000	1.0 tonnes	1.0 tonnes
Weight per tile	1.0 kg	1.0 kg
Weight per pallet (inc. pallet)	0.6 tonnes	0.6 tonnes
Quantity per pallet	520	520
Battens per m^2	10 m	8.8 m
Batten size		
Up to 450 mm rafter centres	38 x 25 mm	38 x 25 mm
Up to 600 mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Feature Tile
Club pattern available.



Village Reclaimed

Humber Plain Tile

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - External & internal angles (LH & RH)
Feature tiles:	- Club
Ridges:	- Clay half round
Mono ridges:	- Clay half round
Hips:	- Bonnet - Arris - Clay third round - Baby ridge
Valleys:	- Valley tiles - Lead - Fibreglass

See pages 64-69.

Roofing systems

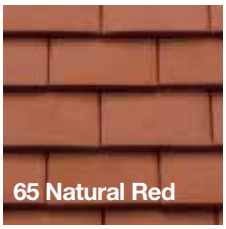
Dry roof system:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

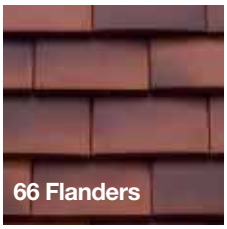
See pages 110-127.

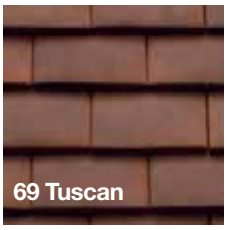
Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A traditional, cross-cambered, machine made clay plain tile. Gives complete design flexibility and is perfect for complex roofs or vertical cladding.

Colours





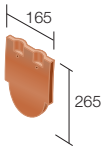


Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

For a copy of A Guide to Plain Tiling – Including Vertical Tiling, by the Clay Roof Tile Council, please contact Customer Support on 0844 9395 900.

Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	100 mm	114 mm
Size of tile	265 x 165 mm	265 x 165 mm
Covering capacity at max. gauge	60.0 tiles per m^2	53.0 tiles per m^2
Cover width	165 mm	165 mm
Profile depth	13 mm	13 mm
Hanging length	245 mm	245 mm
Weight as laid	60.0 kg per m^2	53.0 kg per m^2
Weight per 1000	1.0 tonnes	1.0 tonnes
Weight per tile	1.0 kg	1.0 kg
Weight per pallet (inc. pallet)	0.6 tonnes	0.6 tonnes
Quantity per pallet	520	520
Battens per m^2	10 m	8.8 m
Batten size		
Up to 450 mm rafter centres	38 x 25 mm	38 x 25 mm
Up to 600 mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Feature Tile
Club pattern available.



continued

Humber Natural Red

Bridgwater Double Roman

Bridgwater Somerset

Fittings and accessories

Ridges:	- Clay half round - Hogsback
Mono ridges:	- Clay half round
Hips:	- Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 64-69.

Roofing systems

Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

The Sandtoft Bridgwater has been designed to satisfy the need for a traditional tapered clay double roman tile, found in the South West of England.

Colour

85 Somerset

Bridgwater is also available in Natural Red.

Due to the traditional design of this product and the manufacturing process used, there may be some slight dimensional variations.

See also Modula Double Roman, page 72.

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	30°
Headlap (minimum)	75 mm
Batten spacing at max. gauge	345 mm
Size of tile	420 x 340 mm
Covering capacity at max. gauge	9.5 tiles per m^2
Cover width	305 mm
Profile depth	42 mm
Hanging length	403 mm
Weight as laid	33.3 kg per m^2
Weight per 1000	3.5 tonnes
Weight per tile	3.5 kg
Weight per pallet (inc. pallet)	0.7 tonnes
Quantity per pallet	186
Battens per m^2	2.9 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Gaelic

Gaelic Somerset (made to order)

Fittings and accessories

Ridges:	- Clay half round - Hogsback
Mono ridges:	- Clay half round
Hips:	- Clay third round - Hogsback
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 64-69.

Roofing systems

Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A specialist clay tile with a delicate single roll, Gaelic is ideal for refurbishment or new build work in conservation areas.

Colour

65 Natural Red

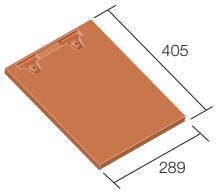
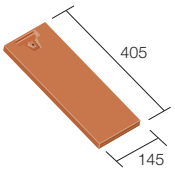
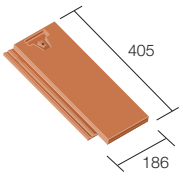
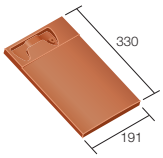
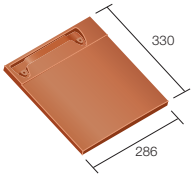
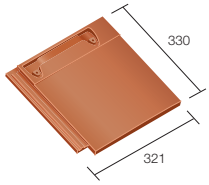
Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

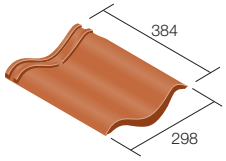
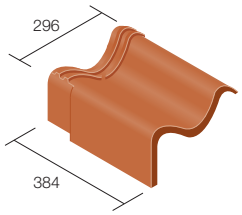
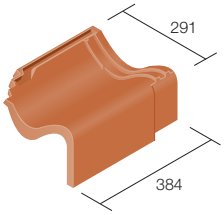
Technical data

Minimum roof pitch	30°
Headlap (minimum)	75 mm
Batten spacing at max. gauge	267 mm
Size of tile	342 x 255 mm
Covering capacity at max. gauge	17.0 tiles per m^2
Cover width	220 mm
Profile depth	43 mm
Hanging length	315 mm
Weight as laid	42.5 kg per m^2
Weight per 1000	2.5 tonnes
Weight per tile	2.5 kg
Weight per pallet (inc. pallet)	0.7 tonnes
Quantity per pallet	260
Battens per m^2	3.7 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	50 x 3.35 mm aluminium ring shank clout head

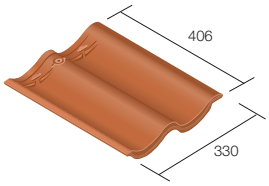
Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Clay fittings

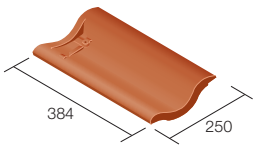
Tile	LH verge tile	LH verge half/tile-and-a-half	RH verge half/tile-and-a-half
Cassius		 Half tile	 Half tile
20/20		 Tile-and-a-half	 Tile-and-a-half

Tile	LH verge tile	LH cloaked verge	RH cloaked verge
County			

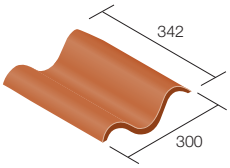
Left hand verges for profiled tiles



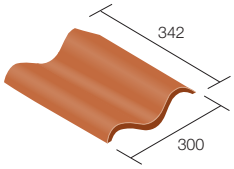
Olympus



Neo Pantile

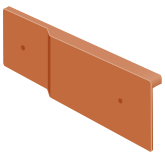


Greenwood

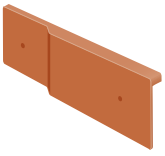


Old English

Verge Cover Systems

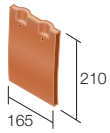

Cassius

LH and RH available
(LH option shown)

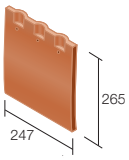

20/20

Please note not all fittings, in all colours are available from stock. Please contact Customer Support for further information on 0844 9395 900.

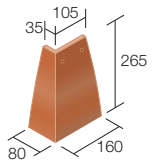
Humber, Village, Barrow and Alban



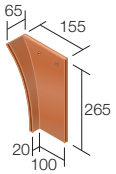
Eaves/top tile



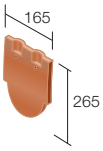
Tile and a half



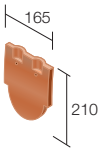
External angles
90°, 135°, LH and RH
(RH option shown)



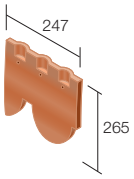
Internal angles
90°, 135°, LH and RH
(RH option shown)



Club pattern feature tile



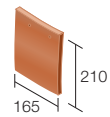
Club pattern feature
tops tile



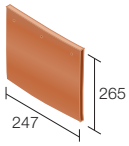
Club pattern feature
tile-and-a-half tile
(LH & RH)

Barrow: Fishtail pattern feature tile also available

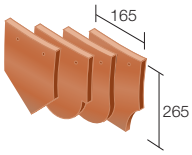
Goxhill



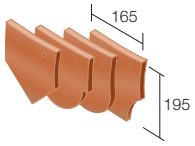
Eaves/top tile



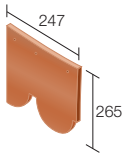
Tile and a half



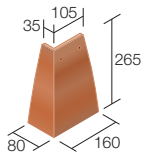
Feature tiles
Arrow head
Club pattern
Bullnose
Fishtail



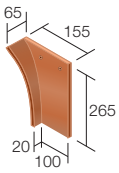
Feature tops tiles
Arrow head
Club pattern
Bullnose
Fishtail



LH and RH feature
tile-and-a-half
Arrow head
Club pattern
Bullnose
Fishtail

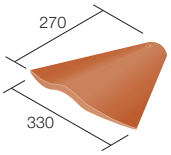


External angles
90°, 135°, LH and RH
(RH option shown)

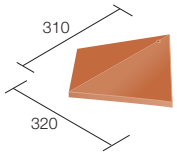


Internal angles
90°, 135°, LH and RH
(RH option shown)

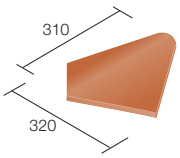
Clay hip and valley tiles



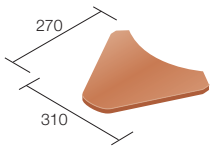
Bonnet hip – Humber, Village,
Goxhill, Barrow and Alban
(large bonnet hip available to order)



Arris hip – Humber, Village, Barrow and Alban
35°/40°/45°/50°

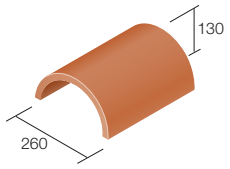
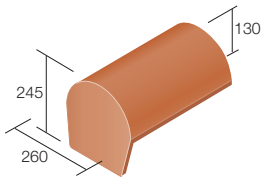
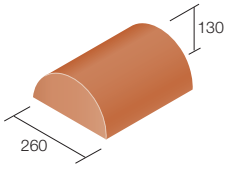
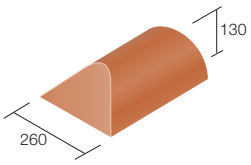
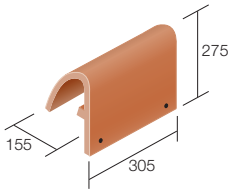
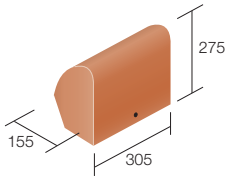
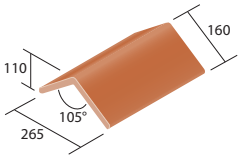
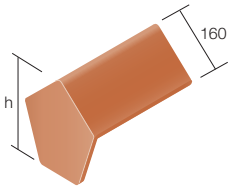
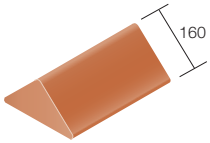
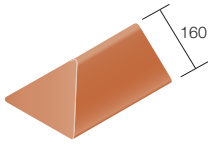
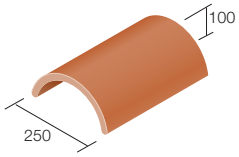
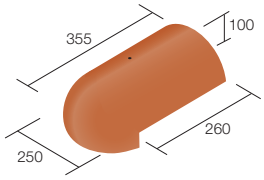


Arris hip – Goxhill
40°/45°/50°

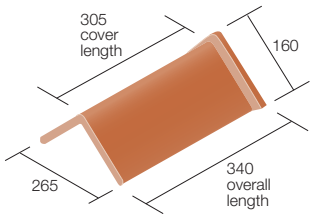


Valley tile Goxhill, Humber,
Village, Barrow and Alban

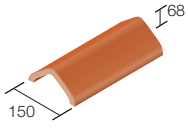
Clay ridges

Ridge	Block end	Gable stop end	Hip end	Hip starter
Half Round  Length 305 and 385mm	 Length 305mm only	 Length 305mm only	 Length 305mm only	
Half Round Mono Ridge  Length 305	 LH and RH available (RH pictured)			
Angle  Length 305mm Width = 265mm	 Length 305mm only Width = 265mm Height = 215mm	 Length 305mm only Width = 265mm	 Length 305mm only Width = 265mm	
Third Round Hip Ridge  Length 305 and 385mm				 Length 355mm

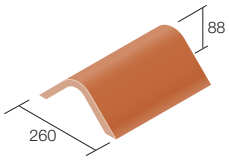
Specialist Clay Ridges



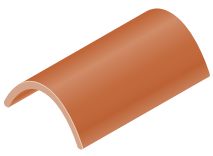
Angle capped 105°



Baby ridge
Length 314mm

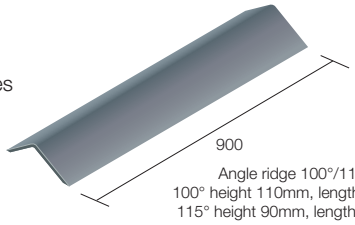


Hogs back
Length 305mm


Handcrafted ridge
Length 385mm

Concrete Ridges

Old Ridge
Stone-effect ridges



Angle ridge 100°/115°
100° height 110mm, length 900mm
115° height 90mm, length 900mm

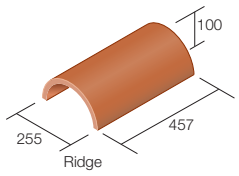
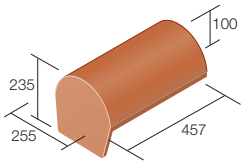
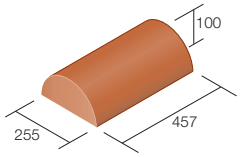
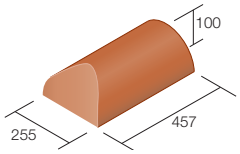
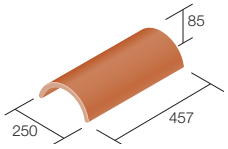
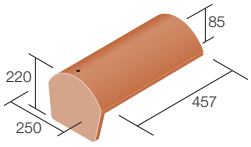
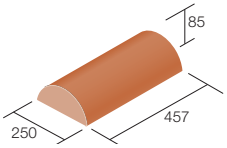
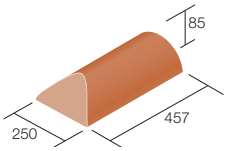
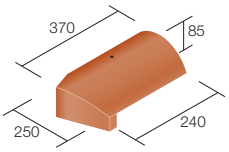
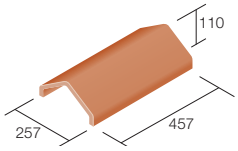
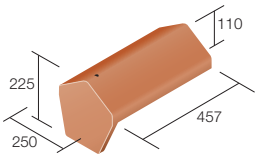
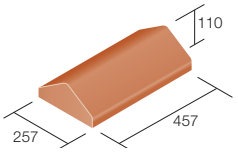
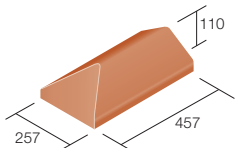
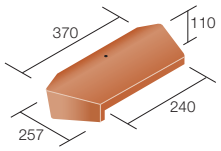
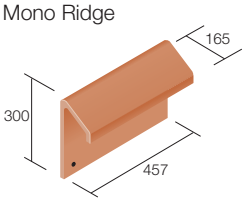
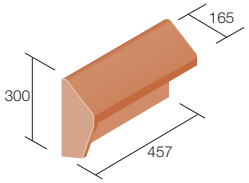
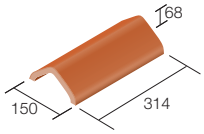
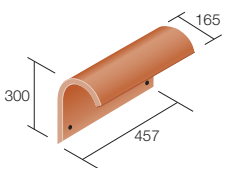
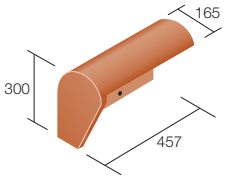
For ridge ventilators see page 123.

Duracoat® ridge range

Sandtoft has developed a finish for concrete ridges, hips and related fittings that matches the texture and colour of our clay range. Duracoat gives the appearance of natural clay and is achieved using a highly durable multi-layered acrylic polymer coating. This range of fittings has prolonged weathering properties and has been designed to complement the New Generation range of clay tiles.

At a small premium over standard concrete ridges, Duracoat ridges further reduce the cost of a clay roof as they are over 60% cheaper than clay ridges per linear metre and can save up to 5% on the total cost of the roof.

Colour availability Natural Red, Antique Slate, Flanders/Tuscan.

Ridge	Block end	Gable stop end	Hip end	Hip starter
Half Round  Security ridge also available				
Segmental  Security ridge also available				
Legged Angle  Security ridge also available				
Legged Angle Mono Ridge 	 LH and RH available (LH pictured)	Baby Ridge  Length 314mm		
Half Round Mono Ridge 	 LH and RH available (LH pictured)			

Duracoat half round ridge in Natural Red

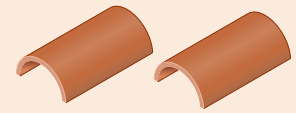
For ridge ventilators see page 123.

Decorative ridges

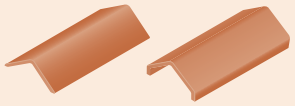
A variety of ridge profiles are available with different end pieces and decorative crests and/or finials in both clay and Duracoat. The ridges are named by their elements in the order set out below.

Step 1 Profiles

Clay Duracoat



Half Round Half Round



Angle (105°) Legged Angle

Step 2 Ends

Clay and Duracoat

Block end

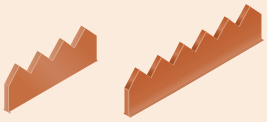
Gable stop end

Hip end

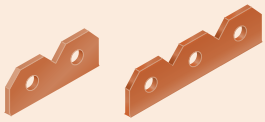
Step 3 Crests

Clay Duracoat

Club Club



Cockscomb Cockscomb



Two hole Three hole

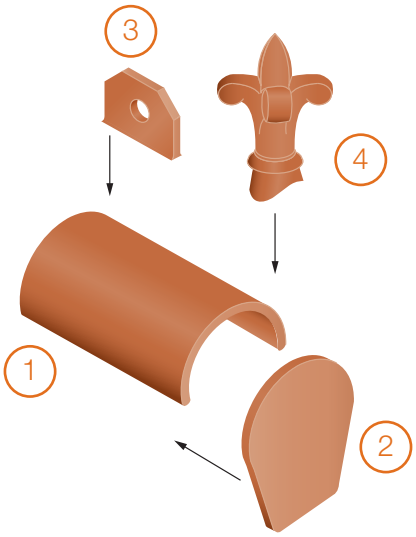
Fleur-de-lys

Step 4 Finials

Scroll finial (height 140 mm)

Short fleur-de-lys finial (height 270 mm)
Tall fleur-de-lys finial (height 370 mm)

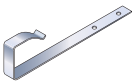
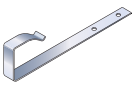
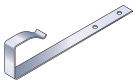
Short ball finial (height 240 mm)
Tall ball finial (height 340 mm)



Please note that when combining a finial with a crest on a decorative ridge, the crest design is adjusted to accommodate the finial. For example, a clay two hole crest will become a single hole crest as illustrated.

Sandtoft also manufactures bespoke decorative ridges. For more information see our Heritage Service on Page 128.

Tile clips and other accessories

Tile	Eaves filler	Dentil slips	Tile clip	Verge clip	Eaves clip
Neo Pantile	 Bird comb filler		 [1] Nail size 65 x 3.35 mm	 Nail size 20 x 3.35 mm	 [2] Nail size 20 x 3.35 mm
Olympus	 Bird comb filler	Not required	 [1] Nail size 65 x 3.35 mm	 Nail size 20 x 3.35 mm	 [2] Nail size 20 x 3.35 mm
Cassius	Not required	Not required	 [1] Nail size 65 x 3.35 mm	 Nail size 20 x 3.35 mm	 [2] Nail size 20 x 3.35 mm
County	 Bird comb filler			 Nail size 20 x 3.35 mm	 [2] Nail size 20 x 3.35 mm
20/20	Not required	Not required	 [1] Nail size 65 x 3.35 mm	 Nail size 20 x 3.35 mm	 [2] Nail size 20 x 3.35 mm
Humber, Village, Barrow, Alban and Goxhill	Not required	Not required	Not required	Not required	Not required
Old English	 [3] Bedded			 Nail size 20 x 3.35 mm	Not required
Gaelic	Not required	Not required		 Nail size 20 x 3.35 mm	 [2] Nail size 20 x 3.35 mm
Greenwood	 [3] Bedded			 Nail size 20 x 3.35 mm	Not required
Arcadia	 [3] Bedded			 Nail size 20 x 3.35 mm	Not required
Bridgwater	Not required	Not required	 Nail size 65 x 3.35 mm	 Nail size 20 x 3.35 mm	 [2] Nail size 20 x 3.35 mm

See also Roofing Systems section page 110.

Notes

1 Plastic clip also available.

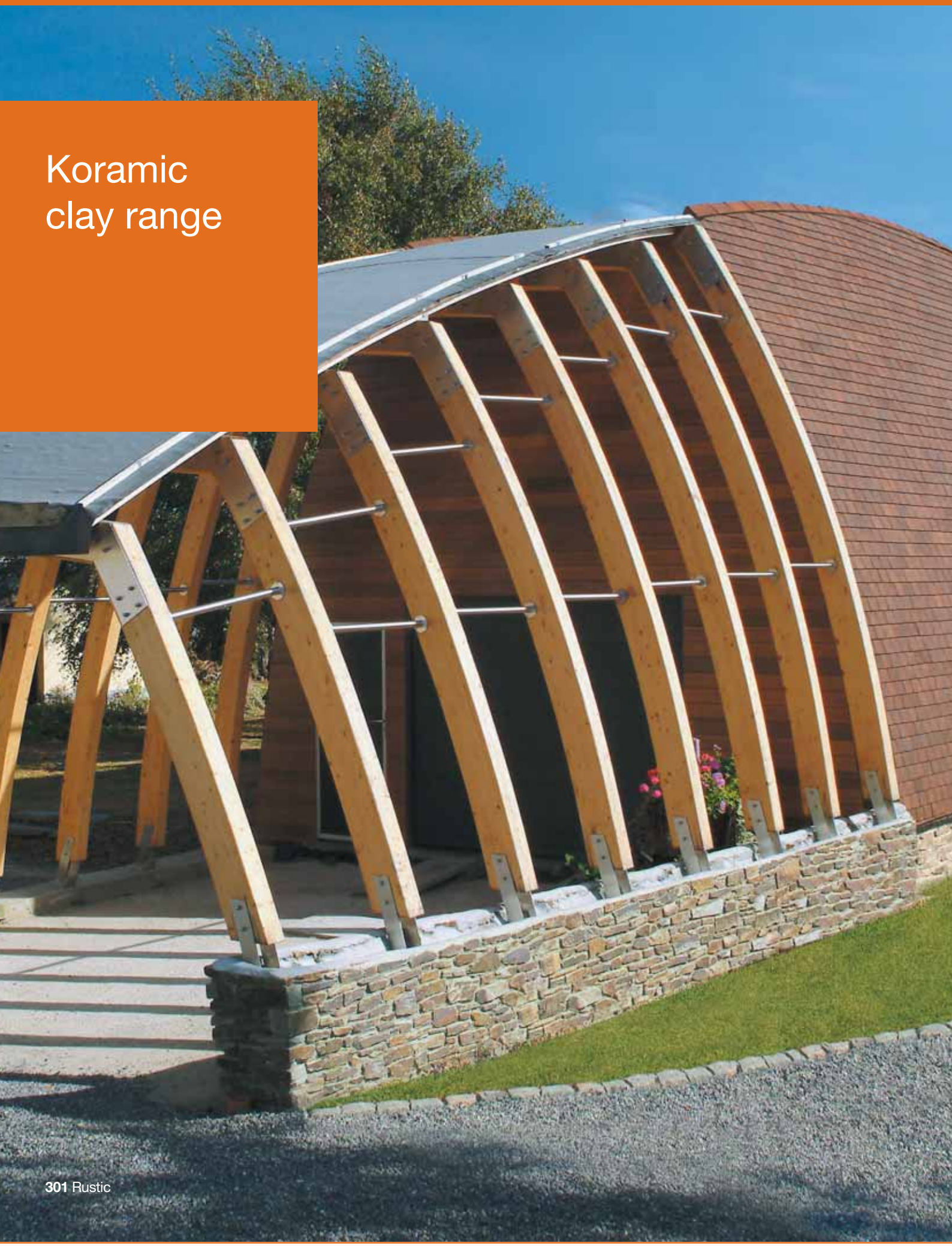
Nail type: aluminium ring shank clout head.

2 When used in conjunction with Over Fascia Ventilator Strip, nail length should be increased to 40 mm for 10 mm Over Fascia Ventilator Strip, or 50 mm for 25 mm Over Fascia Ventilator Strip.

3 Bedded onto an undercloak of plain tiles.

Tile fixing specification: Zonal fixing tables can be downloaded from www.sandtoft.com. Full instructions on use is included with every table. Alternatively, use our Fixing SPEC service by completing your details online or by contacting Sandtoft Technical Services on 0844 9395 999.

Koramic clay range



301 Rustic

KORAMIC

As part of the Wienerberger group we are pleased to be able to offer the extensive Koramic clay tile range.

The Koramic brand has a pedigree that stretches back more than 125 years, with a wealth of experience and knowledge in the art of clay tile making.

The range includes a variety of machine made plain tiles and pantiles plus the Modula, an affordable double roman clay tile.

The Koramic range also includes Actua which demonstrates the versatile nature of clay as a building material, with its ability to perform as a vertical cladding solution.

Quality and Standards

All Koramic products are manufactured in energy efficient kilns to comply with the requirements of BS EN 1304 and meet the performance requirements of BS 5534.

Contents

See also page 110 for roofing systems

Clay is a natural and sustainable roofing material which is inherently strong and provides richness in colour which will not fade. The rich colouring of natural clay provides roofs with great beauty and character which becomes more attractive with age.

Clay tiles are manufactured to give a harmonious appearance to the finished roof. However, slight colour variations may occur as a consequence of the production process. It is therefore advisable not to mix tiles from different batches or of different colours on the roof. To achieve the best effect, tiles should be taken from several pallets and mixed at random on the roof.

Please note, not all colours are available from stock. Always check with Customer Support on 0844 9395 950 before ordering.

Modula®

New Generation

Modula Chilton Red

Fittings and accessories

Tile fittings:	- LH verge tile - Half tile - Cloaked verge tiles (LH & RH)
Ridges:	- Clay half round 305*
Mono ridges:	- Clay half round 305*
Hips:	- Clay third round 305*
Valleys:	- Lead - Fibreglass
Eaves:	- Bird comb filler
Clips:	- Tile, Eaves, Verge, Stormfix

See pages 82-85.

Roofing systems

Dry roof systems:	- Ridge*, Hip* - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent† - Gas terminals

See pages 110-127.

* For use with Sandtoft ridges – see page 64
† Concealed tile vent min. pitch 22.5°

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

The Modula clay double roman is a New Generation clay tile that brings the ease and speed of installation of a concrete tile, while offering the aesthetics that only natural clay can bring.

Colours

Chilton Red

Natural Red

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	17.5° @ 100 mm headlap 22.5° @ 75 mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	370 mm
Batten spacing at min. gauge	325 mm
Size of tile	445 x 330 mm
Covering capacity at max. gauge	9.7 tiles per m² (at 100 mm headlap) 9.0 tiles per m² (at 75 mm headlap)
Cover width	300 mm
Profile depth	54 mm
Hanging length	416 mm
Weight as laid	40.7kg per m² (at 100 mm headlap) 37.8kg per m² (at 75 mm headlap)
Weight per 1000	4.2 tonnes
Weight per tile	4.2 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	240
Battens per m²	2.9 m (at 100 mm headlap) 2.7 m (at 75 mm headlap)
Batten size up to 450mm rafter centres up to 600mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	Integrated with clip

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

301 Smooth Plain Tile

301 Smooth Plain Tile in a Rustic (70%), Toscana (20%) and Amarant (10%) Mix

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - External angles 90° (LH & RH)
Feature tiles:	- Club
Ridges:	- Clay half round 325
Hips:	- Hip tile 45° - Clay half round 325
Valleys:	- Valley tile 45° - Lead - Fibreglass

See pages 82-85.

Roofing systems

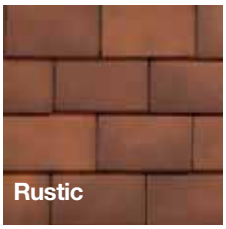
Dry roof system:	- Ridge, Hip
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent

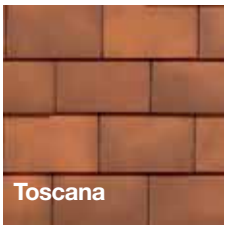
See pages 110-127.

Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A traditional machine-made clay plain tile. Gives complete design flexibility and is perfect for adding character to both roofs and walls.

Colours





Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	102.5 mm	116 mm
Size of tile	270 x170 mm	270 x170 mm
Covering capacity at max. gauge	57.4 tiles per m^2	50.7 tiles per m^2
Cover width	170 mm	170 mm
Profile depth	12 mm	12 mm
Hanging length	254 mm	254 mm
Weight as laid	63.5 kg per m^2	55.8 kg per m^2
Weight per 1000	1.1 tonnes	1.1 tonnes
Weight per tile	1.1 kg	1.1 kg
Weight per pallet (inc. pallet)	0.9 tonnes	0.9 tonnes
Quantity per pallet	832	832
Battens per m^2	9.8 m	8.7 m
Batten size - up to 450mm rafter centres	38 x 25 mm	38 x 25mm
Batten size - up to 600mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

303 Sanded Plain Tile

303 Sanded Plain Tile in an Old Rustic (50%) and Old Heather (50%) Mix

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles - External angles 90° (LH & RH)
Feature tiles:	- Club
Ridges:	- Clay half round 325
Hips:	- Hip tile 45° - Clay half round 325
Valleys:	- Valley tile 45° - Lead - Fibreglass

See pages 82-85.

Roofing systems

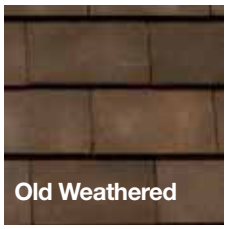
Dry roof system:	- Ridge, Hip
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent

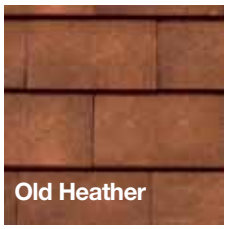
See pages 110-127.

Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A traditional machine-made clay plain tile with a sanded finish, available in a choice of three colours.

Colours





Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	102.5 mm	116 mm
Size of tile	270 x 170 mm	270 x 170 mm
Covering capacity at max. gauge	57.4 tiles per m^2	50.7 tiles per m^2
Cover width	170 mm	170 mm
Profile depth	12 mm	12 mm
Hanging length	254 mm	254 mm
Weight as laid	63.2 kg per m^2	55.8 kg per m^2
Weight per 1000	1.1 tonnes	1.1 tonnes
Weight per tile	1.1 kg	1.1 kg
Weight per pallet (inc. pallet)	0.9 tonnes	0.9 tonnes
Quantity per pallet	832	832
Battens per m^2	9.8 m	8.7 m
Batten size - up to 450mm rafter centres	38 x 25 mm	38 x 25 mm
Batten size - up to 600mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

311 Handcrafted Plain Tile

311 Plain Tile
in a Lichen Green (50%), Kent Red (30%) and Vineyard Black (20%) Mix

Fittings and accessories

Tile fittings:	- Tile-and-a-half tiles - Eaves/tops tiles
Ridges:	- Handcrafted Hogsback
Hips:	- Hip tile 45°
Valleys:	- Valley tile 45° - Lead - Fibreglass

See pages 82-85.

Roofing systems

Ventilation systems:	- Eaves - Top abutment - Tile vent

See pages 110-127.

Tile fixing: Tiles must be securely fixed to resist wind uplift. Use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

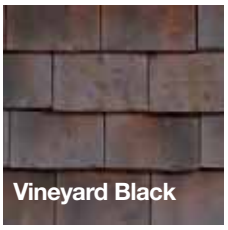
A handcrafted plain tile available in unique weathered colours which give a traditional rustic appearance.

Colours


Kent Red


Ochre Lichen


Lichen Green


Vineyard Black

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data	Roof	Vertical
Minimum roof pitch	35°	75°
Headlap (minimum)	65 mm	38 mm
Batten spacing at max. gauge	102.5 mm	116 mm
Size of tile	270 x160 mm	270 x160 mm
Covering capacity at max. gauge	61 tiles per m^2	53.9 tiles per m^2
Cover width	160 mm	160 mm
Profile depth	13 mm	13 mm
Hanging length	242	242
Weight as laid	79.3 kg per m^2	70.1 kg per m^2
Weight per 1000	1.3 tonnes	1.3 tonnes
Weight per tile	1.3 kg	1.3 kg
Weight per pallet (inc. pallet)	1.2 tonnes	1.2 tonnes
Quantity per pallet	900	900
Battens per m^2	9.8 m	8.7 m
Batten size - up to 450mm rafter centres	38 x 25 mm	38 x 25 mm
Batten size - up to 600mm rafter centres	38 x 25 mm	38 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head	

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

301 Plain Tile in mixed glazed colours (please check for availability and lead times)

Old Hollow 451

Old Hollow 451 Victorian

Fittings and accessories

Tile fittings:	- LH verge tile - Cloaked verge tiles (LH & RH)
Ridges:	- Clay half round 325
Hips:	- Clay half round 325
Valleys:	- Lead - Fibreglass
Eaves:	- Bird comb filler
Clips:	- Tile, Eaves, Verge

See pages 82-85.

Roofing systems

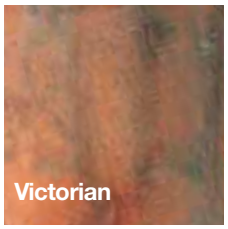
Dry roof systems:	- Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent

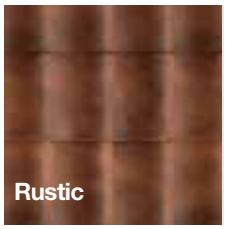
See pages 110-127.

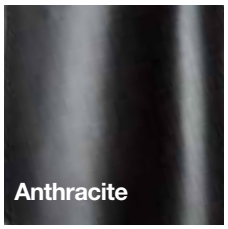
Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

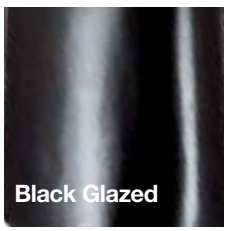
Ideal for barn conversions or to complement reclaimed brick this traditional pantile can provide an authentic weathered appearance.

Colours









Technical data

Minimum roof pitch	25°
Headlap	75 mm
Batten spacing (fixed gauge)	281 mm
Size of tile	355 x 246 mm
Covering capacity	19.1 tiles per m^2
Cover width	187 mm
Profile depth	65 mm
Hanging length	332 mm
Weight as laid	51.6 kg per m^2
Weight per 1000	2.7 tonnes
Weight per tile	2.7 kg
Weight per pallet (inc. pallet)	1.1 tonnes
Quantity per pallet	384*
Battens per m^2	3.57 m
Batten size - up to 450mm rafter centres	38 x 25 mm
Batten size - up to 600mm rafter centres	50 x 25 mm
Nail size/type for tiles	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	Integrated with clip

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

* Pallet quantity for Victorian Braised Blue and Braised Blue is 260.

All data based on non glazed colours. For glazed please refer to Customer Support for pallet quantities and accessories.

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Flemish 401


Flemish 401 Amarant

Fittings and accessories

Tile fittings:	- LH verge tile - Cloaked verge tiles (LH & RH)
Ridges:	- Clay half round 325
Hips:	- Clay half round 325
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves

See pages 82-85.

Roofing systems

Dry roof systems:	- Ridge - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

The Flemish 401 pantile combines the aesthetics of a traditional pantile with modern interlocking tile design. The range includes three glazed colours.

Colours

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22°
Headlap	68 mm
Batten spacing (fixed gauge)	300 mm
Size of tile	368 x 248 mm
Covering capacity	16.6 tiles per m^2
Cover width	201 mm
Profile depth	62 mm
Hanging length	333 mm
Weight as laid	49.8 kg per m^2
Weight per 1000	3.0 tonnes
Weight per tile	3.0 kg
Weight per pallet (inc. pallet)	1.4 tonnes
Quantity per pallet	480
Battens per m^2	3.36 m
Batten size - up to 450mm rafter centres	38 x 25 mm
Batten size - up to 600mm rafter centres	50 x 25 mm
Nail size/type for tiles	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	65 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

All data based on non glazed colours. For glazed please refer to Customer Support for pallet quantities and accessories.

Tempest Tile 44

Tempest Tile 44 Natural Red

Fittings and accessories

Tile fittings:	- LH verge tile - Cloaked verge tiles (LH & RH)
Ridges:	- Clay half round 325
Hips:	- Clay half round 325
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 82-85.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

The Tempest is the original 'Courtrai tile' and has been manufactured since 1906.
This single roman clay tile is ideal for refurbishment or new build projects in conservation areas.

Colours


Natural Red


Amarant


Rustic


Old Copper


Anthracite


Cottage

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22°
Headlap	54 mm
Batten spacing (fixed gauge)	246 mm
Size of tile	302 x 221 mm
Covering capacity	21 tiles per m^2
Cover width	195 mm
Profile depth	38 mm
Hanging length	282 mm
Weight as laid	42 kg per m^2
Weight per 1000	2.0 tonnes
Weight per tile	2.0 kg
Weight per pallet (inc. pallet)	1.4 tonnes
Quantity per pallet	660
Battens per m^2	4.07 m
Batten size - up to 450mm rafter centres	38 x 25 mm
Batten size - up to 600mm rafter centres	50 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	Integrated with clip

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Actua

New Generation

Actua Brown

Fittings and accessories

Tile fittings:	- LH verge tile - Half tile (LH & RH verge) - Cloaked verge tiles (LH & RH) - Half tile cloaked verge tiles (LH & RH) - External angles 90° (LH & RH)
Ridges:	- Clay angle interlocking 330
Hips:	- Clay angle interlocking 330
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 82-85.

Roofing systems

Dry roof system:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent

See pages 110-127.

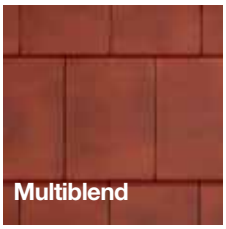
Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

Contemporary, large format, flat interlocking tile which has been designed to perform down to 22.5° and also as a vertical cladding solution.

Colours

Slate Engobe

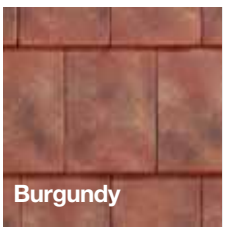
Natural Red



Multiblend

Brown

Grey



Burgundy

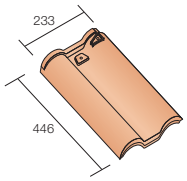
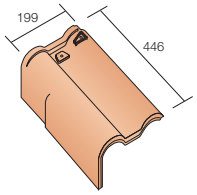
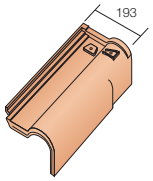
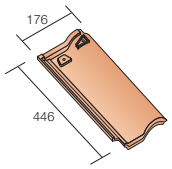
Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

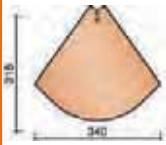
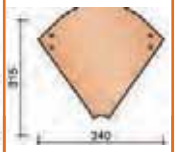
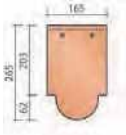
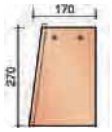
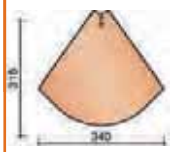
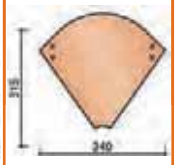
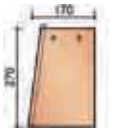
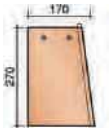
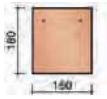
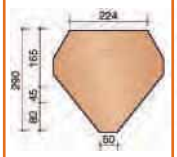
Technical data

Minimum roof pitch	22.5° at 102 mm headlap
Headlap (minimum)	102 mm
Headlap (maximum)	162 mm
Batten spacing at max. gauge	370 mm
Batten spacing at min. gauge	310 mm
Size of tile	472 x 303 mm
Covering capacity at max. gauge	10.5 tiles per m^2 (at 102 mm headlap)
Cover width	261 mm
Profile depth	31 mm
Hanging length	440 mm
Weight as laid	46.2kg per m^2 (at 102 mm headlap)
Weight per 1000	4.4 tonnes
Weight per tile	4.4 kg
Weight per pallet (inc. pallet)	1.1 tonnes
Quantity per pallet	240
Battens per m^2	2.7 m (at 102 mm headlap)
Batten size - up to 450mm rafter centres	38 x 25 mm
Batten size - up to 600mm rafter centres	50 x 25 mm
Nail size/type for tiles	55 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	Integrated with clip

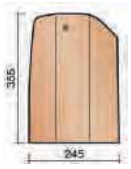
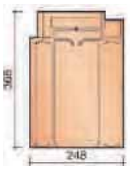
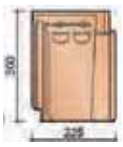
Note: unless otherwise stated, data is based on tiles laid at minimum headlap.
Rafter length restrictions apply at minimum roof pitch.
Please contact Technical Services for further information.

Koramic clay fittings

Tile	LH verge tile	LH cloaked verge	RH cloaked verge	Half tile
Modula				

Tile	Eaves/top tile	Tile-and-a-half	Hip tile	Valley tile	Feature tile	External angles
301 Smooth Plain Tile					 Club	 External angle LH  External angle RH
303 Sanded Plain Tile					 Club	 External angle LH  External angle RH
311 Handcrafted Plain Tile						

Please note not all fittings, in all colours are available from stock. Please contact Customer Support for further information.

Tile	LH verge tile	LH cloaked verge tile	RH cloaked verge tile
Old Hollow 451			
Flemish 401			
Tempest 44			

Actua

LH verge tile

LH verge half tile

RH verge half tile

LH cloaked verge

LH cloaked verge half tile

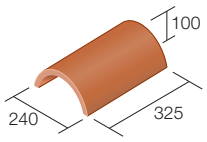
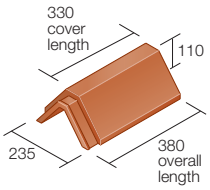
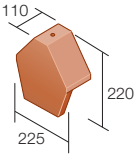
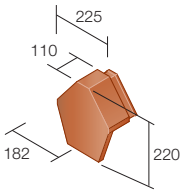
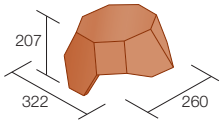
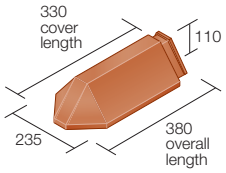
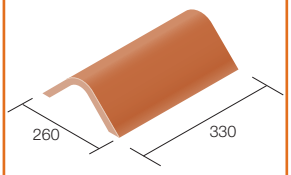
RH cloaked verge

RH cloaked verge half tile

External angle LH

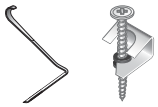
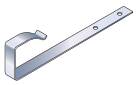
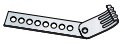
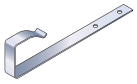
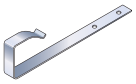
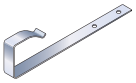
External angle RH

Koramic clay ridges

Ridge	Block end	Gable stop end	Starter ridge	Hip starter
Half Round Ridge 325 				
Angle Interlocking Ridge 330 	Block End Ridge Finisher Piece  Block End Ridge Starter Piece 	Ridge Hip Junction 		
Handcrafted Hogsback Ridge 330 				

For further information on Koramic ridge systems and accessories please contact Customer Support on **0844 9395 900**.

Koramic tile clips and other accessories

Tile	Eaves filler	Double dentil slips	Tile clip	Verge clip	Eaves clip
Modula	 Bird comb filler	Not required	 Stormfix	 Nail size 20 x 3.35 mm	 [1]Nail size 20 x 3.35 mm
Plain Tile 301 Plain Tile 303 Plain Tile 311	Not required	Not required	Not required	Not required	Not required
Old Hollow 451	 Bird comb filler		 Nail integrated with clip	 Nail size 20 x 3.35 mm RH only - LH see note 2	 [1]Nail size 20 x 3.35 mm
Flemish 401	 Bird comb filler		 Nail size 65 x 3.35 mm	See note 2	 [1]Nail size 20 x 3.35 mm
Tempest 44	Not required	Not required	 Nail integrated with clip	 Nail size 20 x 3.35 mm	 [1]Nail size 20 x 3.35 mm
Actua	Not required	Not required		 Nail size 20 x 3.35 mm	 [1]Nail size 20 x 3.35 mm

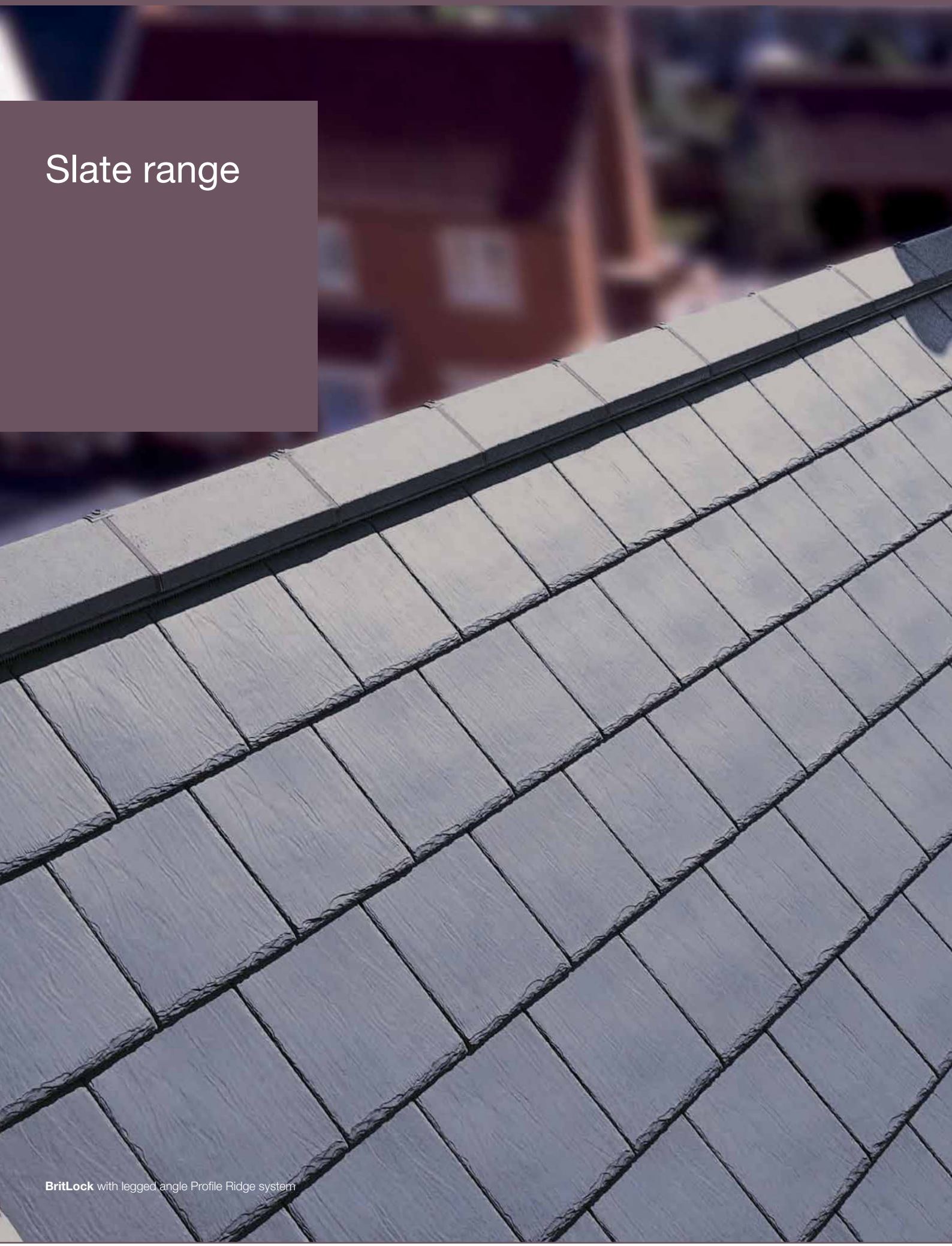
See also Roofing Systems section page 110.

Notes

1 When used in conjunction with Over Fascia Ventilator Strip, nail length should be increased to 40 mm for 10 mm Over Fascia Ventilator Strip, or 50 mm for 25 mm Over Fascia Ventilator Strip.
2 Contact Technical Services.

Tile fixing specification: Zonal fixing tables can be downloaded from www.sandtoft.com. Full instructions on use is included with every table. Alternatively, use our Fixing SPEC service by completing your details online or by contacting Sandtoft Technical Services on 0844 9395 999.

Slate range



BritLock with legged angle Profile Ridge system

What makes Sandtoft's slate range unique is the innovative use of natural materials to maximise performance and aesthetics, whilst also reducing installation costs. Manufactured using recycled quarried slate and natural clay, our slate range puts a whole new perspective on using natural materials.

Interlocking slates

Combines the good looks of a natural product with the practicality and economics of interlocking tile design. The range is designed to give installation benefits over traditional quarried slate and aesthetic advantages over other slate alternatives.

Traditional slates

This range consists of double lap slates designed for traditional slating needs. There are two sizes of double lap slates made from 80% recycled slate.

Quality and standards

BritLock and BritSlate are certified by the BBA: Agrément Certificate 97/3351 applies, and are manufactured under quality management system BS EN ISO 9001.

These products meet the performance requirements of BS 5534.

Cassius, Rivius and Balmoral are manufactured under quality management system BS EN ISO 9001 and meet the performance requirements of BS 5534.

Environmental Qualities

All products in this range are manufactured to environmental standard ISO 14001 using 100% green electricity.

BritLock and BritSlate are manufactured in the UK's first carbon neutral factory, using 80% recycled slate.

Contents

See also page 110 for roofing systems

Slate colour range

Balmoral, Cassius and Rivius colour

BritSlate and BritLock colours

Not all colours are available from stock.
Always check with Customer Support on
0844 9395 950 before ordering.

Balmoral®

New Generation

Balmoral Antique Slate

Fittings and accessories

Slate fittings:	- LH verge slate - Slate-and-a-half slates (LH & RH verge)
Ridges:	- Duracoat legged angle - Duracoat half round - Clay half round - Clay angle
Mono ridges:	- Duracoat legged angle - Duracoat half round - Clay half round
Hips:	- Duracoat legged angle - Duracoat segmental - Clay third round - Clay angle
Valleys:	- Lead - Fibreglass
Clips:	- Slate, Eaves, Verge

For clay and Duracoat ridges see pages 66-68, for fittings and accessories see pages 102-103.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Slate vent - Gas terminals

See pages 110-127.

Slate fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

New Generation interlocking clay slate with an authentic slate appearance thanks to a riven surface, dressed edges and colour permanent ceramic finish.

Colours

68 Antique Slate

Clay slates are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof slater should inspect each batch of slates to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22.5°
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	255 mm
Batten spacing at min. gauge	210 mm
Size of slate	330 x 226 mm
Covering capacity at max. gauge	20.5 slates per m^2
Cover width	191 mm
Profile depth	16 mm
Hanging length	300 mm
Weight as laid	43.1 kg per m^2
Weight per 1000	2.1 tonnes
Weight per slate	2.1 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	480
Battens per m^2	3.9 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for slates	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for metal slate clips	55 x 3.35 mm aluminium ring shank clout head
Nail size/type for plastic slate clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on slates laid at minimum headlap.

Rivius®

Rivius Antique Slate

- New Generation interlocking clay tile with easy to lay open gauge
- Around 50% more cost effective than natural slate
- Large format interlocking design saves material and installation costs
- Riven surface and dressed edges enhance slate appearance
- Pressed from natural alluvial Humber clay and available in colour permanent Antique Slate colour
- High performance weatherproof design developed through intensive wind tunnel testing
- Manufactured to Environmental Management Standard ISO 14001

Rivius Antique Slate

Fittings and accessories

Slate fittings:	- LH verge slate - Half slates (LH & RH verge)
Ridges:	- Duracoat legged angle - Duracoat half round - Clay half round
Mono ridges:	- Duracoat legged angle - Duracoat half round - Clay half round
Hips:	- Duracoat legged angle - Duracoat segmental - Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Slate, Eaves, Verge

For clay and Duracoat ridges see pages 66-68, for fittings and accessories see pages 102-103.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Slate vent - Gas terminals

See pages 110-127.

Slate fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

Featuring a riven surface and dressed edges with a colour permanent ceramic finish, this large format interlocking clay slate offers significant cost savings over double lap slate products.

Colour

68 Antique Slate

Clay slates are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof slater should inspect each batch of slates to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22.5°
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	330 mm
Batten spacing at min. gauge	285 mm
Size of slate	405 x 323 mm
Covering capacity at max. gauge	10.5 slates per m^2
Cover width	288 mm
Profile depth	16 mm
Hanging length	365 mm
Weight as laid	41.0 kg per m^2
Weight per 1000	3.9 tonnes
Weight per slate	3.9 kg
Weight per pallet (inc. pallet)	0.9 tonnes
Quantity per pallet	210
Battens per m^2	3.3 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for slates	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for metal slate clips	55 x 3.35 mm aluminium ring shank clout head
Nail size/type for plastic slate clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on slates laid at minimum headlap.

continued

Rivius Antique Slate

Cassius®

The Cassius is a natural product that can yield savings of over 50% when compared to natural slate.

Cassius Antique Slate

- New Generation interlocking clay slate with easy to lay open gauge
- Over 50% more cost effective than natural slate
- More cost effective than fibre cement products
- Large format design means competitive with concrete thin leading edge products
- Clean lines and well defined thin leading edge enhances aesthetics
- Clay verge system available
- Pressed from natural alluvial Humber clay and available in two permanent colours
- No tops or eaves slates required
- High performance weatherproof design developed through intensive wind tunnel testing
- Manufactured to Environmental Management Standard ISO 14001

Cassius Antique Slate

Fittings and accessories

Slate fittings:	- LH verge slate - Half slates (LH & RH verge)
Ridges:	- Duracoat legged angle - Duracoat half round - Clay half round
Mono ridges:	- Duracoat legged angle - Duracoat half round - Clay half round
Hips:	- Duracoat legged angle - Duracoat segmental - Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Slate, Eaves, Verge

For clay and Duracoat ridges see pages 66-68, for fittings and accessories see pages 102-103.

Roofing systems

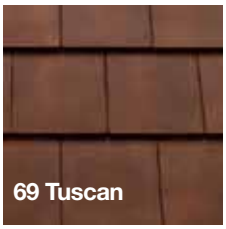
Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Slate vent - Gas terminals

See pages 110-127.

Slate fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

An innovative clay slate with a thin leading edge and colour permanent ceramic finish that offers significant cost savings over double lap slate products due to its large format interlocking design.

Colours



69 Tuscan

68 Antique Slate

Clay slates are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof slater should inspect each batch of slates to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	22.5°
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	330 mm
Batten spacing at min. gauge	285 mm
Size of slate	405 x 323 mm
Covering capacity at max. gauge	10.5 slates per m^2
Cover width	288 mm
Profile depth	16 mm
Hanging length	365 mm
Weight as laid	41.0kg per m^2
Weight per 1000	3.9 tonnes
Weight per slate	3.9 kg
Weight per pallet (inc. pallet)	1.0 tonnes
Quantity per pallet	240
Battens per m^2	3.3 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for slates	45 x 3.35 mm aluminium ring shank clout head
Nail size/type for metal slate clips	55 x 3.35 mm aluminium ring shank clout head
Nail size/type for plastic slate clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on slates laid at minimum headlap.

BritLock®

The BritLock is a highly sustainable roofing product made from 80% recycled natural slate, sourced from within the UK. Through the pioneering use of 100% green electricity, the manufacturing process for this product is certified as carbon neutral. In addition the interlocking lightweight design saves energy in production, transportation and installation.

- Made from 80% recycled slate waste
- Quicker and easier to install than natural slate
- Reduces completion times by up to 30%
- Significant weight saving over natural slate
- Requires fewer battens on the roof
- No holing or sorting needed
- Weathers like natural slate
- Consistent quality that is guaranteed

BritLock Slate Certificate
No. 97/3351

80% recycled
UK slate

Fittings and accessories

Slate fittings:	- LH verge slate - Tile-and-a-half slates (LH & RH verge) - Double slate
Ridges:	- Duracoat legged angle - Concrete legged angle - Concrete angle
Mono ridges:	- Duracoat legged angle - Concrete legged angle - Concrete angle
Hips:	- Duracoat legged angle - Concrete legged angle - Concrete angle
Valleys:	- Lead - Fibreglass
Clips:	- Verge, Valley

For clay and Duracoat ridges see pages 66-68, for fittings and accessories see pages 102-103.

Roofing systems

Dry roof systems:	- Ridge, Hip, BritLock mitred hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Slate vent* - Gas terminals

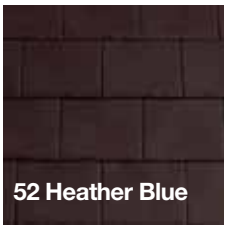
See pages 110-127.

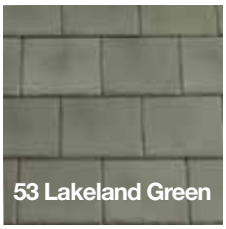
*Concealed slate vent minimum pitch 22.5º

Slate fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

A lightweight fully interlocking tile with a riven surface and thin leading edge. The single lap design offers savings through faster and easier fixing and reduced roof loadings.

Colours





All BritLock projects featured in this brochure are Slate Grey, this colour has been discontinued and replaced by Graphite.

Technical data

Minimum roof pitch*	17.5° at 120 mm headlap 22.5° at 75 mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at max. gauge	285 mm
Batten spacing at min. gauge	240 mm
Size of slate	360 x 340 mm
Covering capacity	13.9 slates per m² (at 120 mm headlap) 11.7 slates per m² (at 75 mm headlap)
Cover width	300 mm
Profile depth	11 mm
Hanging length	354 mm
Weight as laid	19.5 kg per m² (at 120 mm headlap) 16.4 kg per m² (at 75 mm headlap)
Weight per 1000	1.4 tonnes
Weight per slate	1.4 kg
Weight per crate (inc. crate)	0.7 tonnes
Quantity per crate	500
Battens per m²	4.2 m (at 120 mm headlap) 3.5 m (at 75 mm headlap)
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for slates	38 x 2.95 mm aluminium ring shank clout head nail

Note: Unless otherwise stated, data is based on slates laid at minimum headlap.

* Rafter length restrictions apply at minimum roof pitch.

BritLock


BANKFOOT
CHURCH

BritSlate® Duchess and BritSlate® Countess

BritSlate Duchess

Technical data	BritSlate Duchess	BritSlate Countess
Minimum roof pitch*	20°	22.5°
Size of slate	610 x 305 mm	510 x 255 mm
Cover width	305 mm	255 mm
Profile depth	6 mm	6 mm
Weight per 1000	2.0 tonnes	1.4 tonnes
Weight per slate	2.0 kg	1.4 kg
Weight per crate (inc. crate)	1.6 tonnes	1.5 tonnes
Quantity per crate	750	1000
Batten size – up to 600 mm rafter centres	50 x 25 mm	50 x 25 mm
Nail size/type for slates	38 x 2.95 mm ring shank clout head	

Note: Unless otherwise stated, data is based on slates laid at minimum headlap.

* Rafter length restrictions apply at minimum roof pitch.

BritSlate Certificate
No. 97/3351

80% recycled
UK slate

BritSlate Duchess

Fittings and accessories

Slate fittings:	- Slate-and-a-half slates - Double slates - Eaves slates - Tops slates
Ridges:	- Duracoat legged angle - Concrete legged angle - Concrete angle
Mono ridges:	- Duracoat legged angle - Concrete legged angle - Concrete angle
Hips:	- Duracoat legged angle - Concrete legged angle - Concrete angle
Valleys:	- Lead - Fibreglass
Clips:	- Slate hooks

For clay and Duracoat ridges see pages 66-68, for fittings and accessories see pages 102-103.

Roofing systems

Dry roof systems:	- Ridge, Hip - Verge
Ventilation systems:	- Ridge - Eaves - Top abutment - Slate vent* - Gas terminals

See pages 110-127.

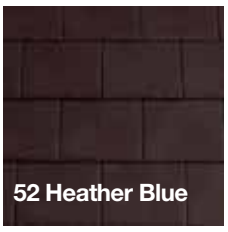
* Concealed slate vent min. pitch 22.5º

Slate fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

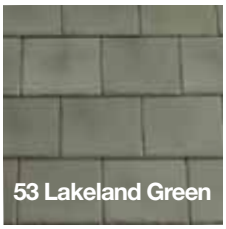
The combination of 80% recycled slate waste content with a manufacturing process powered by green electricity makes BritSlate a more sustainable option than imported natural slate.

Colours

55 Graphite



52 Heather Blue



53 Lakeland Green

All BritSlate projects featured in this brochure are Slate Grey, this colour has been discontinued and replaced by Graphite.

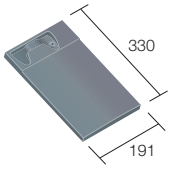
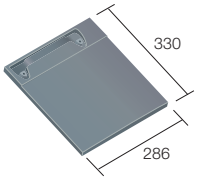
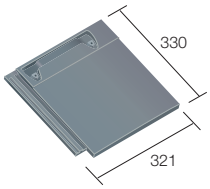
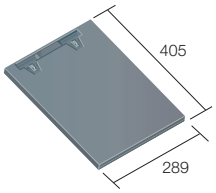
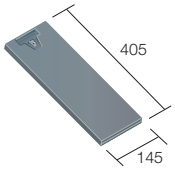
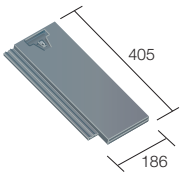
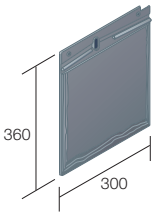
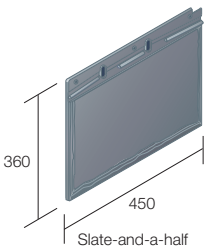
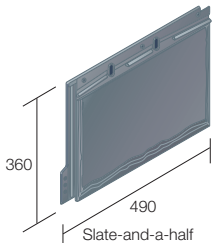
Moderate exposure

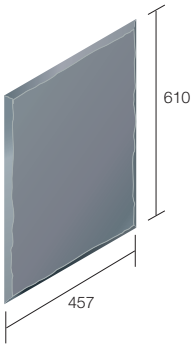
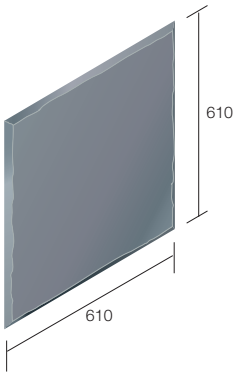
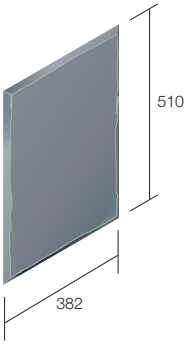
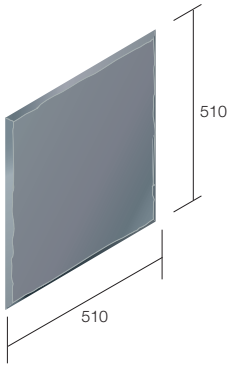
Rafter pitch	20°	22.5°	25°	30°	35°	40°	45°	69°
Headlap (minimum)								
Duchess	130	115	90	75	75	65	65	–
Countess	–	115	90	75	75	65	65	65
Coverage (m²)								
Duchess	13.7	13.3	12.6	12.3	12.3	12.1	12.1	–
Countess	–	19.9	18.7	18.1	18.1	17.7	17.7	17.7
Batten gauge (mm)								
Duchess	240	247	260	267	267	272	272	–
Countess	–	197	210	217	217	222	222	222
Battens per m²								
Duchess (m)	4.16	4.05	3.84	3.74	3.68	3.68	–	–
Countess (m)	–	5.08	4.76	4.61	4.65	4.5	4.5	4.5
Weight as laid (kg per m²)								
Duchess	27.4	26.6	25.2	24.6	24.6	24.2	24.2	–
Countess	–	27.9	26.2	25.3	25.3	24.8	24.8	24.8

Severe exposure

Rafter pitch	20°	22.5°	25°	30°	35°	40°	45°	69°
Headlap (minimum)								
Duchess	–	130	120	110	90	80	75	–
Countess	–	–	115	100	90	75	75	75
Coverage (m²)								
Duchess	–	13.7	13.4	13.1	12.6	12.4	12.3	–
Countess	–	–	19.9	19.1	18.7	18.1	18.1	18.1
Batten gauge (mm)								
Duchess	–	240	245	250	260	265	267	–
Countess	–	–	197	205	210	217	217	217
Battens per m²								
Duchess (m)	–	4.16	4.08	4.00	3.84	3.77	3.74	–
Countess (m)	–	–	5.08	4.88	4.76	4.61	4.61	4.61
Weight as laid (kg per m²)								
Duchess	–	27.4	26.8	26.2	25.2	24.8	24.6	–
Countess	–	–	27.9	26.7	26.2	25.3	25.3	25.3

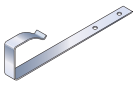
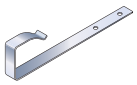
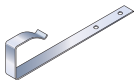
Slate fittings

Slate	LH verge slate	LH verge half slate/slate-and-a-half	RH verge half slate/slate-and-a-half
Balmoral		 Slate-and-a-half	 Slate-and-a-half
Cassius and Rivius		 Half slate	 Half slate
BritLock BritLock double slate is also available		 Slate-and-a-half	 Slate-and-a-half

Slate	Slate-and-a-half	Double slate	Eaves/tops slate
BritSlate Duchess			 (Supplied length dependant on gauge)
BritSlate Countess			 (Supplied length dependant on gauge)

Please note not all fittings, in all colours are available from stock. Please contact Customer Support for further information.

For ridge ventilators see page 123

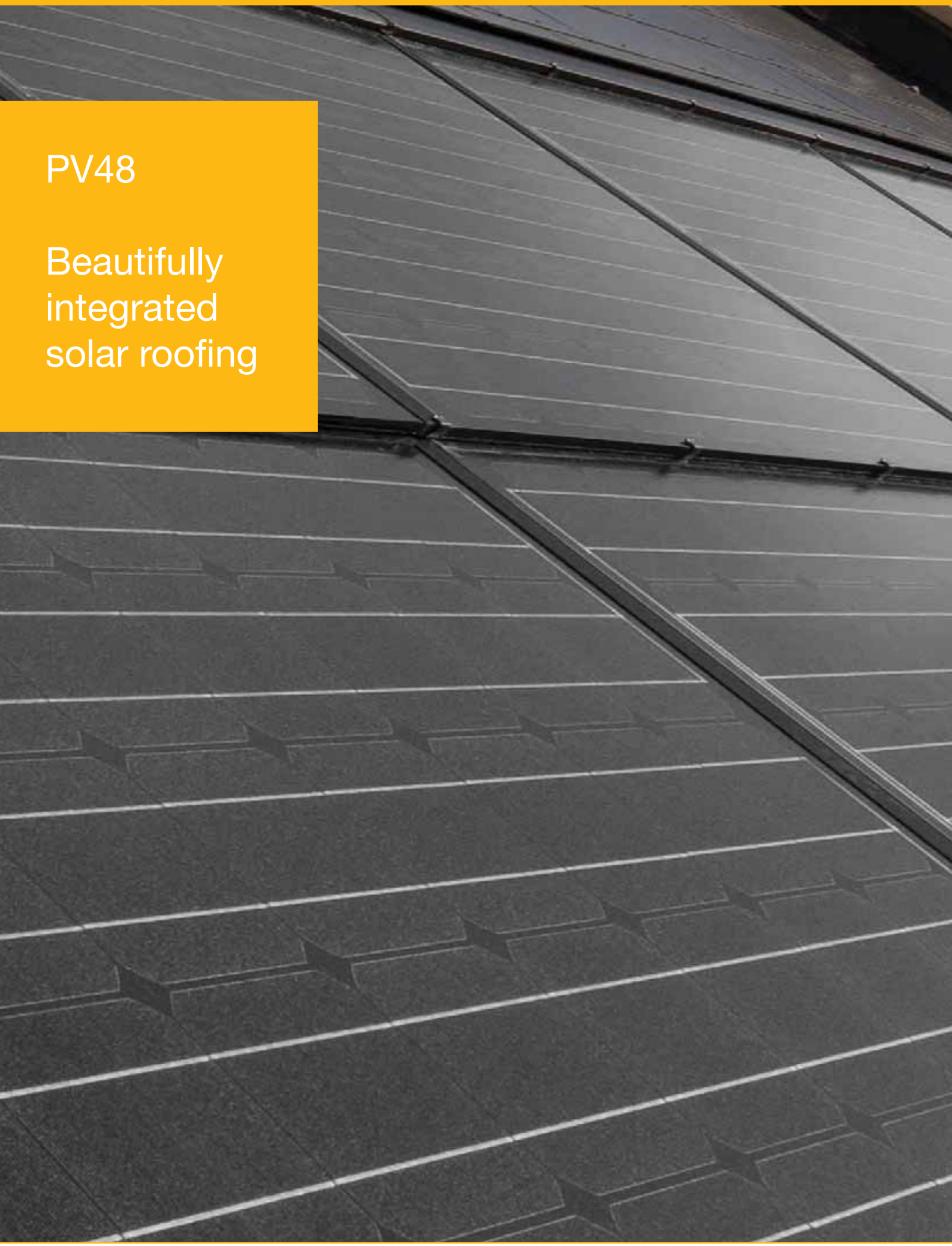
Slate	Slate clip	Verge clip	Eaves clip
Balmoral, Rivius and Cassius	 Nail size 65 x 3.35 mm	 Nail size 20 x 3.35 mm	 [1] Nail size 20 x 3.35 mm
BritLock	Not required	Verge/valley clip  Nail size 20 x 3.35 mm	Not required
BritSlate	Slate hook  75 mm, 100 mm and 120 mm available	Verge/valley clip  Nail size 20 x 3.35 mm	Not required

Nail type: aluminium clout head

1 When used in conjunction with Over Fascia Ventilator Strip, nail length should be increased to 40 mm for 10 mm Over Fascia Ventilator Strip, or 50 mm for 25 mm Over Fascia Ventilator Strip.

Slate fixing specification: Zonal fixing tables can be downloaded from www.sandtoft.com. Full instructions on use is included with every table. Alternatively, use our Fixing SPEC service by completing your details online or by contacting Sandtoft Technical Services on 0844 9395 999.

For Clay ridges see page 66, for Concrete ridges see page 25.



PV48

Beautifully integrated solar roofing

Designed for pitched roofs, the PV48 incorporates black photovoltaic modules with matching, easy-to-fit flashings that enable it to integrate with virtually all types of slate or tile. It can be used on both existing and new build properties and installed by any roofing contractor.

Unlike some PV panels which are offered without flashing kits there is no risk of any integration issues with the roof tiles. The system can be easily installed using a method already used widely by roofers, which reduces the risk of poor workmanship and subsequent weatherproofing problems. In addition, there is no need for a specialist solar installer which reduces the number of trades on the roof and saves time.

- Designed by roofing experts – roof integrated system developed by a trusted roofing company.
- Universal – compatible with virtually all types of tiles or slates, regardless of the manufacturer
- MCS approved (Certificate number 0067)
- RoofSPEC – offers the assurance of Sandtoft's RoofSPEC design liability guarantee
- Supplied ready-to-install by the roofing contractor
- Aesthetically pleasing – Building Integrated PV with the latest slim, black panels and unobtrusive flashings which are visually superior to bolt on systems
- One trade on the roof – requires no additional trades on the roof
- Ventilated – for higher performance efficiencies

PV.48

AJ Retrofit AWARDS 2012 FINALIST

APPROVED PRODUCT

MCS

BBA APPROVAL INSPECTION TESTING CERTIFICATION TECHNICAL APPROVALS FOR CONSTRUCTION

Certificate No: MCS BBA 0067

Technology: MCS 005 – Solar Photovoltaic Panels

In 2008 the UK government introduced the Climate Change Act. This commits the UK to reducing carbon emissions by 80% by 2050. Also, the EU Renewable Energy Directive commits the UK to increase its proportion of power produced from renewable sources to 15% by 2020.

To help ensure we meet these targets the Government has introduced two main drivers; firstly, legal obligations through the Building Regulations and the Code for Sustainable Homes. Secondly, financial incentives to encourage the installation of local renewable energy sources

Building Regulations and the Code for Sustainable Homes
A series of step changes to Building Regulations are planned to lead to the building of zero carbon homes by 2016. Each step change requires measures such as increased insulation, better airtightness, greater efficiency in energy use and eventually, sufficient onsite micro generation to fully offset the home's energy usage from heating, ventilation, hot water, fixed lighting and building services.

Feed-in Tariff (FIT)
The Feed-In Tariff (FIT), also referred to as 'Clean Energy Cashback', is a Government backed scheme designed to pay homeowners for creating their own "green electricity". Introduced in 2010 to encourage the take up of renewable energy to help fulfill the UK's target of 15% of total energy from renewables by 2020. The tariff gives three financial benefits; firstly, and the most financially attractive, payment is made for all the electricity produced, even if the homeowner uses it himself. Additionally, a smaller payment is made for electricity exported into the national grid. Thirdly, the electricity bill is reduced because the energy produced in the home reduces the amount drawn from the grid.

Tariff levels vary depending on the size of the system but they can be claimed by everyone, including households, landlords, businesses and organisations such as schools and care homes. To be eligible to claim the tariff the solar electrical system must be installed and commissioned by an MCS accredited installer, who will provide the necessary certification to the property owner.

Versatile Solar solutions for UK roofs
In order to help meet renewables targets Sandtoft has launched PV48, a new roof-integrated photovoltaic solar system, designed for use on pitched roofs with easy-to-fit flashings that enable it to integrate with virtually all types of slate or tile. It can be used on both existing and new build properties and installed by any roofing contractor.

Each PV48 panel covers 1.4 square metres on the roof, giving considerably more power output per square metre than many in-line systems. Because we believe that the roofing contractor is the best person to be on the roof, PV48 is expressly designed for installation by the roofer, using techniques that he is already familiar with, thus reducing the risk of poor workmanship and subsequent weatherproofing problems.

PV48 is aesthetically pleasing; both the panels and the flashing are black. The flashings provide seamless integration between the roof tiles and solar panels as well as maintaining straight vertical lines on the roof, avoiding the step effect that occurs with in-line broken bonded PV systems.

Sandtoft PV48 is MCS certified and registered on the MCS website list of suitable PV products. The website also provides lists of MCS accredited installers.

Integrated design
The Sandtoft PV48 solar system has been designed by roofing experts to integrate into most slate and tile roof coverings. The system has been designed in the UK and has been rigorously wind tunnel tested to ensure it is extremely resistant to UK weather conditions.

The system is integrated with the roof tiles or slates, rather than installed over the top of the roof covering, so it does not increase the roof weight loading. On new build or re-roof projects, it saves the cost of the roof tiles it replaces.

Because the PV48 integrates with the tiling there are no brackets or cables penetrating the roof covering, further reducing the risk of water ingress.

Planning permission and BuildingControl
In normal circumstances Planning Permission is not needed to install a Sandtoft PV48 system on the roof. However, if the building is listed, or is in a conservation area or has had its 'permitted development' rights removed then the local planning authority must be consulted before installing solar panels as conditions may be imposed. For example, the planning authority may ask for the PV system to be positioned on a roof face which is not visible from the main road or perhaps on an outbuilding if possible.

Electricity generation
Solar roofs generate electricity from daylight; intense sunlight is not necessary. The UK is a perfectly suitable location for solar roof power generation. UK irradiance levels currently stand at 1000 W/m²/year for London, with a range of 800 W/m²/year to 1000 W/m²/year across the UK; similar in fact to irradiance levels in Germany and the Netherlands.

Roof installation
Suitable for new build and retrofit, installation can be carried out by the roofing contractor with minimal training, which Sandtoft can provide. All roof components, including flashings are supplied with the solar panels as a complete system.

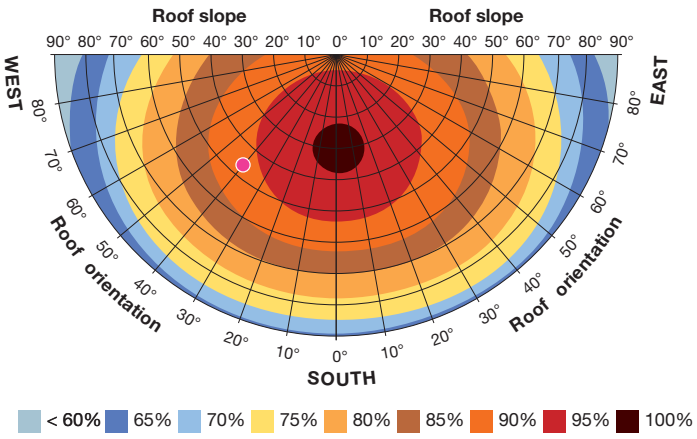
The system is simply installed over the tile battens using standard counterbattens without the need to reset the tile gauge.

The roofing contractor connects the solar panels together with simple push fit connectors and passes a pair of cables through the underlay into the roof space for later connection by the electrical contractor.

Maintenance
PV systems need little maintenance. Panels should be cleaned periodically for best performance, although the rain washes them naturally.

Electrical connection and commissioning
An electrical pack is supplied with every PV48 system which includes the appropriate inverter, total generation meter, isolators and DC cables.

Once the on roof installation has been completed and the building is connected to the power grid, the solar electrical system can be installed and commissioned by an MCS certified installer.



Example: a roof that faces south-west and has a pitch of 45° still yields 90% of the maximum potential power output

The Microgeneration Certification Scheme (MCS) is an independent scheme supported by the Department of Energy and Climate Change, for the certification of microgeneration products and installers.

The scheme is designed to create safe, reliable and low carbon energy sources to meet EU 2020 renewables targets. Its aim is to provide standards for unfamiliar technologies, protect consumers and to offer information through the certification'mark'.

To be eligible to claim the feed-in tariff both the pv system and the electrical contractor must be MCS certificated.

Electrical data per panel measured under STC

(standard test conditions: 1000W/m², 25°C, AM 1.5)

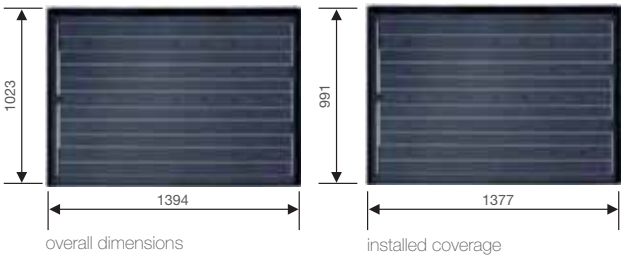
Power per panel	200 W
Max. power voltage	25.0 V
Open circuit voltage	30.25 V
Max. power current	8.0 A
Short-circuit current	8.7 A

Panel data

Number of cells	48
Maximum system voltage	1000 V
Reverse current loading capacity	17 A
Front surface	special hardened low iron glass
Panel connection	connection box with 3 bypass diodes and 2.0m solar cable
Frame	aluminium frame and flashing system in matt black making for greater fire resistance and long term durability

On-roof data

Size of panel	1394 w mm x 1023 h mm
Installed coverage of panel	377 w mm x 991 h mm
Minimum roof pitch	22.5°
Weight per panel	17 kg
Weight as laid	12.2 kg/m²
External fire test (BS 476-3: 2004)	unclassified



Note: Remember to include the flashings when calculating the dimensions of the array.

Popular system sizes

System size (panels)	Output per year (kWh)	System size (kWp)	Carbon offset per year (kg)	% of typical home's electricity requirements per year*
6	1020	1.2	540	31%
10	1700	2.0	899	52%
12	2040	2.4	1079	62%
15	2550	3.0	1349	77%
16	2720	3.2	1439	82%
18	3060	3.6	1619	93%
20	3400	4.0	1799	103%

*Based on a typical electricity consumption of 3,300kWh/year: source www.ofgem.gov.uk

Roofing systems

Cassius interlocking clay slate with Sandtoft's Profile Ridge System

Mortar failure is one of the most common roof defects and can often lead to rain penetration and damage to the roof structure, or even building fabric. For mortar to remain effective, regular maintenance is required, which comes at a cost, during the lifespan of a building

Sandtoft's range of roofing systems has been designed to eliminate these defects and significantly reduce ongoing maintenance costs.

In addition, these systems can also provide adequate and discreet ventilation as a means of controlling condensation. As with all Sandtoft products our roofing systems are carefully designed and tested using an in depth and practical knowledge of roofing, to ensure they provide reliable, long lasting, secure, and durable roofs and more consistent standards of workmanship.

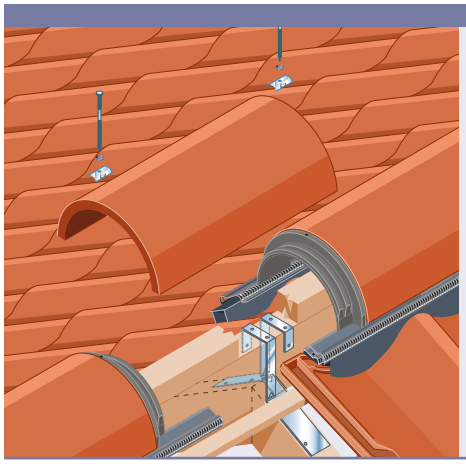
To complement our ventilated ridge systems we also offer a range of ridge and tile ventilators for connection to soil and mechanical extraction pipes and for additional roof space ventilation where required.

New to the range is Koraflex, an ideal replacement for lead for weather-proofing junctions such as side and top abutments around chimneys and dormers etc. Available in three colours it can be used to either replicate lead or complement the tile colours.

Our new vapour permeable membranes, are suitable for both warm and cold roof designs on any roof shape and building type. They perform all the usual functions of good quality roof underlays and provide many benefits over the traditional bitumen-based underlays; in particular helping to avoid condensation in the roof space.

Contents

Profile Ridge



The Profile Ridge system incorporates ventilation strips to support the ridges and provide high level ventilation. Ridge unions provide an efficient seal between each ridge and give the appearance of a 10mm mortar joint.

To complete the system and to enhance aesthetics, profile fillers are supplied for profiled tile types. The fillers click into the ventilation strips and both are marked to ensure correct orientation.

Available in 3 options for use with:

- Concrete and Duracoat half round ridges 457
- Concrete and Duracoat legged angle ridges 457
- Clay half round ridges 305

Performance

Profile Ridge provides 5000 mm²/linear metre free vent area per side.

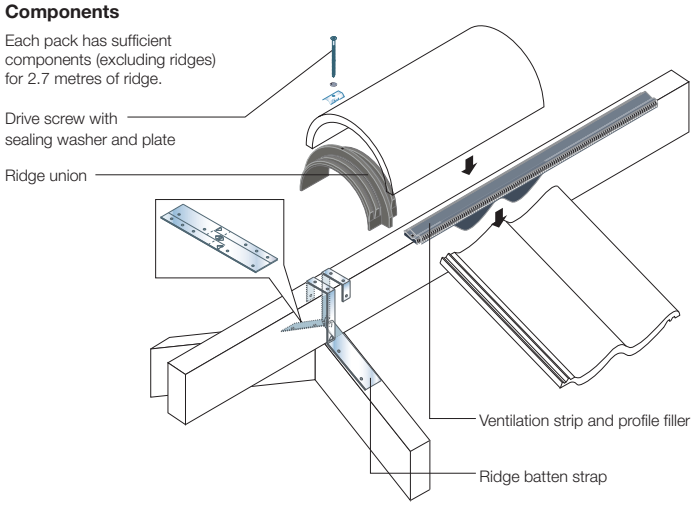
Minimum and maximum pitch

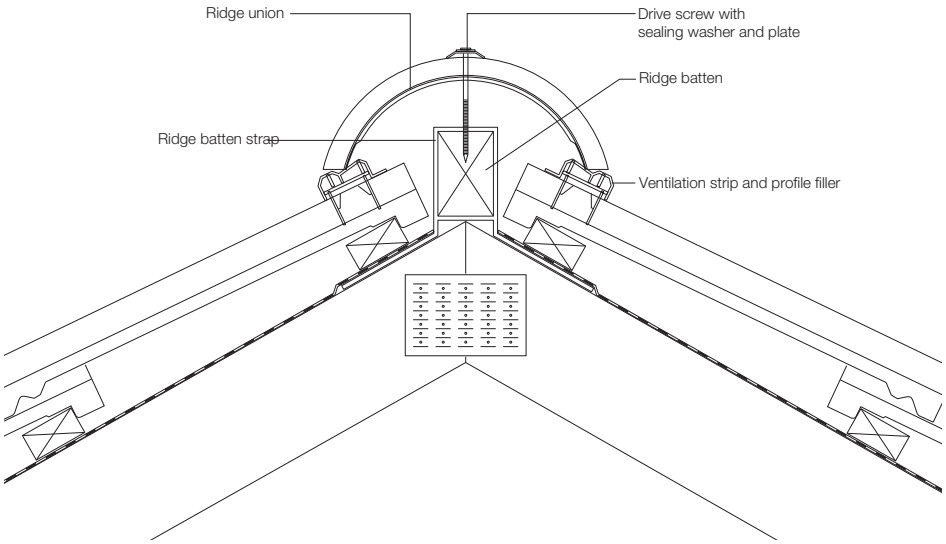
The minimum pitch is that which is recommended for each particular tile or slate. Refer to relevant product page.

Ridge profile	Suitable for	Max. pitch
Concrete/Duracoat half round	Double Pantile	50°
	Double Roman	50°
	Bold Roll	45°
	Lindum	50°
	Standard Pattern	50°
	Shire	50°
	Plain Tile	50°
	Cassius	50°
	Olympus	50°
	20/20	50°
	Neo Pantile	50°
	Balmoral	50°
Concrete/Duracoat legged angle	Calderdale	45°
	Dual Calderdale	45°
	BritLock	45°
	BritSlate	45°
	Cassius	45°
	Rivius	45°
	Balmoral	45°
Clay half round 305	Cassius	50°
	Olympus	50°
	20/20	50°
	Neo Pantile	50°
	Humber	50°
	Village	50°
	Goxhill	50°
	County	45°
	Balmoral	50°

Components

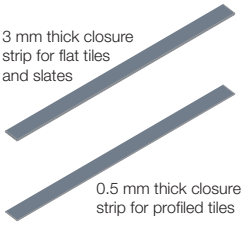
Each pack has sufficient components (excluding ridges) for 2.7 metres of ridge.



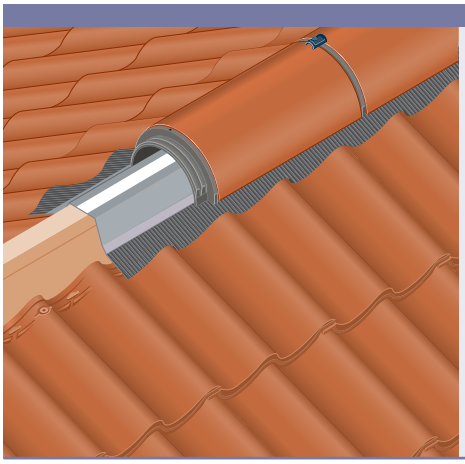


Using Gas Vent Terminals with Profile ridge – dry ridge systems

When gas flue terminals are used in conjunction with the Sandtoft Profile ridge, a gas vent conversion kit is required. This consists of 4 x 900 mm long ventilator-closure strips to prevent exhaust gases from entering the roof void at either end of the gas flue terminal.



RollRidge



Sandtoft RollRidge is an extremely quick roll out system that uses the minimum of components. The system comprises a ventilated 5m ridge roll, batten straps to secure the ridge timber and ridge unions with fixings.

It is suitable for use with most clay and concrete tiles and slates (except sandfaced tiles).

Available in 7 options for use with:

- Concrete and Duracoat half round ridges 457
- Concrete and Duracoat legged angle ridges 457
- Clay half round ridges 305
- Clay half round ridges 325
- Clay half round interlocking ridges 344*
- Clay angle interlocking ridges 330*
- Clay and concrete baby ridge

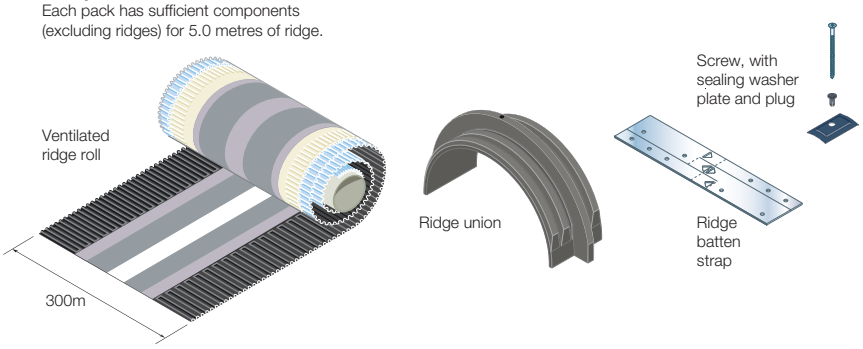
Performance
RollRidge provides 5000 mm²/linear metre free vent area per side.

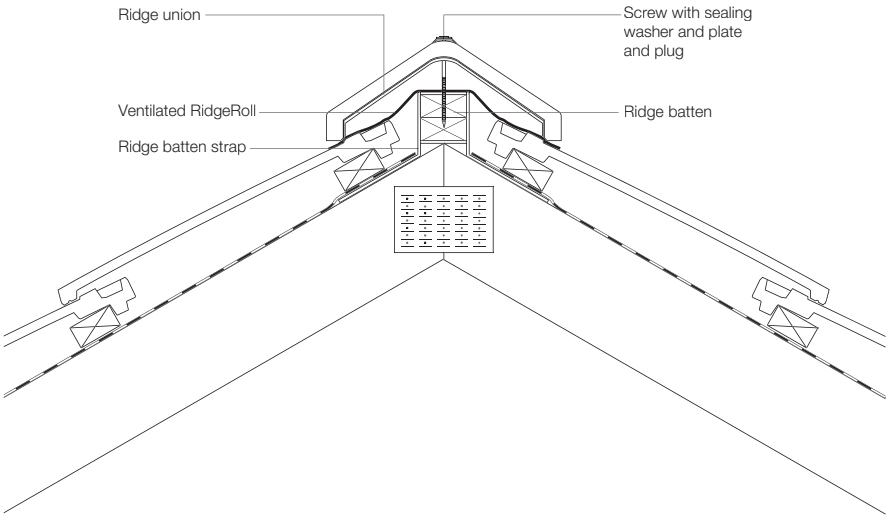
* Ridge unions not required

Minimum and maximum pitch
The minimum pitch is that which is recommended for each particular tile or slate. Refer to relevant product page.

Ridge profile	Suitable for	Max. pitch
Concrete/Duracoat half round	Double Pantile	50°
	Double Roman	50°
	Lindum	50°
	Standard Pattern	50°
	Shire	50°
	Plain Tile	50°
	Cassius	45°
	Olympus	50°
	20/20	45°
	Neo Pantile	50°
	Balmoral	45°
	Modula	50°
Concrete/Duracoat legged angle	Calderdale	45°
	Dual Calderdale	45°
	BritLock	45°
	BritSlate	45°
	Cassius	45°
	Rivius	45°
	Balmoral	45°
Clay half round 305	Olympus	50°
	20/20	50°
	Neo Pantile	50°
	Cassius	50°
	Rivius	50°
	Balmoral	50°
	Humber	50°
	Village	50°
	Modula	50°
Clay half round 325	301	50°
	Flemish	45°
	Tempest	45°
Clay half round interlocking 344	Flemish	45°
	Tempest	45°
	Actua	45°
Clay angle interlocking 330	Actua	45°

Components
Each pack has sufficient components (excluding ridges) for 5.0 metres of ridge.

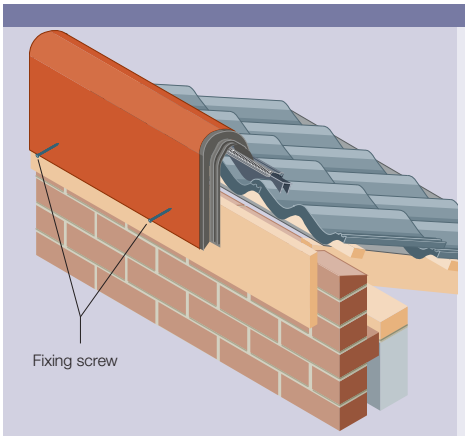




Using Gas Vent Terminals with RollRidge – dry ridge systems

When gas flue terminals are used in conjunction with the Sandtoft RollRidge, a gas vent conversion kit is required.

Profile Mono Ridge



The Profile Mono Ridge system incorporates ventilation strips to support the ridges and provide high level roof space ventilation. Ridge unions provide an efficient seal between each ridge, giving the appearance of a 10mm mortar joint. To complete the system and to enhance aesthetics, profile fillers are supplied for profiled tile types. The fillers easily click into the ventilation strips and both are marked to ensure correct orientation.

The mono ridges are secured to the wall or fascia using the screws and sealing washers supplied.

Available in 3 options for use with:

- Concrete & Duracoat half round mono ridges 457
- Concrete & Duracoat legged angle mono ridges 457
- Clay half round mono ridges 305

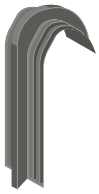
Performance
Profile Mono Ridge provides 5000 mm²/linear metre free vent area.

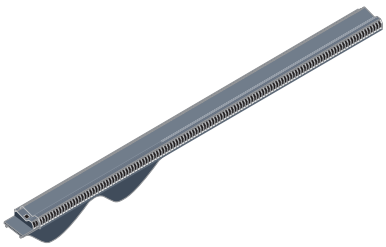
Minimum and maximum pitch
The minimum pitch is that which is recommended for each particular tile or slate. Refer to relevant product page.

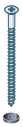
Ridge profile	Suitable for	Max. pitch
Concrete/Duracoat half round	Double Pantile	50°
	Double Roman	50°
	Lindum	50°
	Standard Pattern	50°
	Shire	50°
	Plain Tile	50°
	Cassius	50°
	Olympus	50°
	20/20	50°
	Neo Pantile	50°
	Balmoral	50°
Concrete/Duracoat legged angle	Calderdale	45°
	Dual Calderdale	45°
	BritLock	45°
	BritSlate	45°
	Cassius	45°
	Rivius	45°
	Balmoral	45°
Clay half round 305	Cassius	50°
	Rivius	50°
	Olympus	50°
	20/20	50°
	Neo Pantile	50°
	Humber	50°
	Village	50°
	Goxhill	50°
	County	45°
	Balmoral	50°

Components

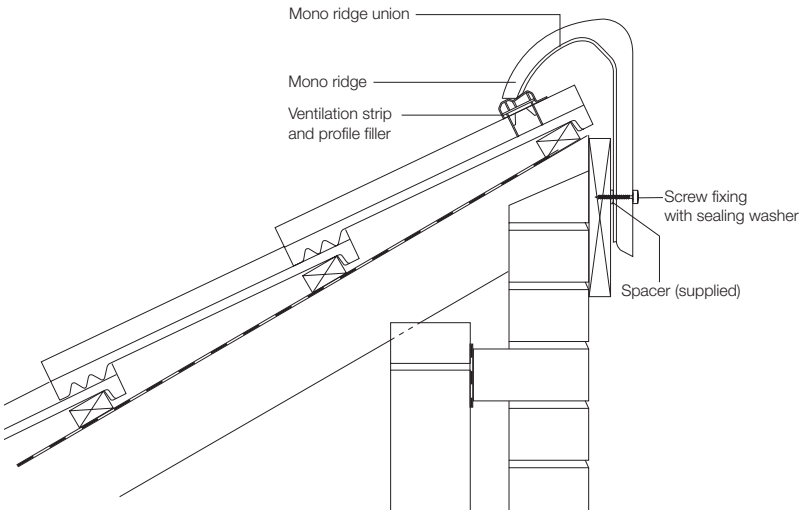
Each pack has sufficient components (excluding mono ridges) for 2.7 metres of ridge.


Mono ridge union

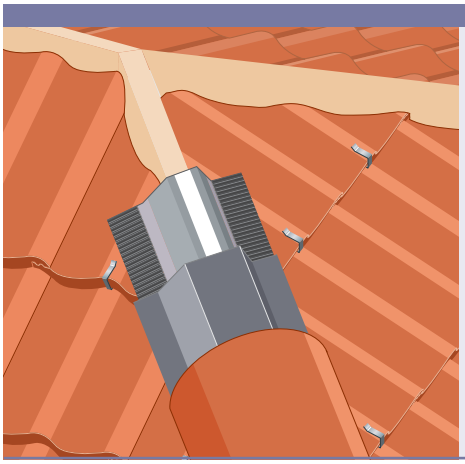

Ventilation strip and profile filler (Double Pantile shown)


Screw with sealing washer


Spacer (not drawn to scale)



Roll Hip



Sandtoft Roll Hip is an extremely quick roll out system. Roll Hip comprises a ventilated hip roll to seal the junction between roof elevations and trays to support the hip ridges.

Hip unions are available to suit most Sandtoft concrete, Duracoat and clay hip profiles and provide an efficient seal between each hip ridge, giving the appearance of a 10mm mortar joint.

Not suitable for sandfaced tiles.

Available in 6 options for use with:

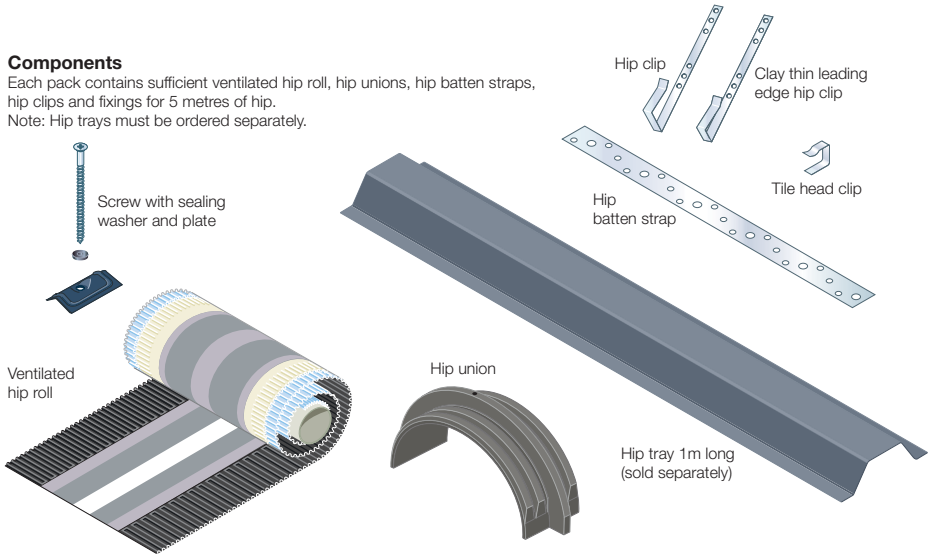
- Concrete & Duracoat segmental ridges 457
- Concrete & Duracoat legged angle ridges 457
- Clay third round ridges 305
- Clay half round ridges 325
- Clay angle interlocking ridges 330*
- Clay and concrete baby ridge

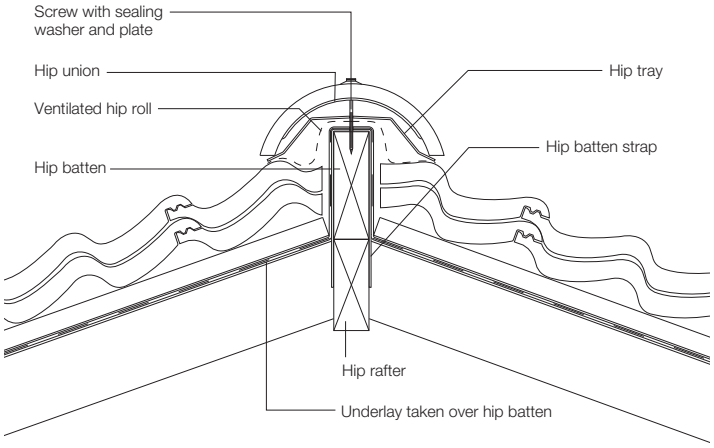
* Hip unions not required

Minimum and maximum pitch
The minimum pitch is that which is recommended for each particular tile or slate. Refer to relevant product page. The system can be used up to a maximum roof pitch of 55° on hips that are 90° on plan.

Ridge profile	Suitable for
Concrete/Duracoat segmental	Double Pantile
	Double Roman
	Lindum
	Standard Pattern
	Shire
	Plain Tile
	Cassius
	Olympus
	20/20
	Neo Pantile
	Balmoral
Concrete/Duracoat legged angle	Cassius
	Rivius
	Balmoral
	Calderdale
	Dual Calderdale
	BritLock
	BritSlate
Clay third round 305	Cassius
	Olympus
	20/20
	Neo Pantile
	Humber
	Village
	Goxhill
	Balmoral
	Modula
Clay half round 325	301
	Tempest
Clay angle interlocking 330	Actua

Components
Each pack contains sufficient ventilated hip roll, hip unions, hip batten straps, hip clips and fixings for 5 metres of hip.
Note: Hip trays must be ordered separately.





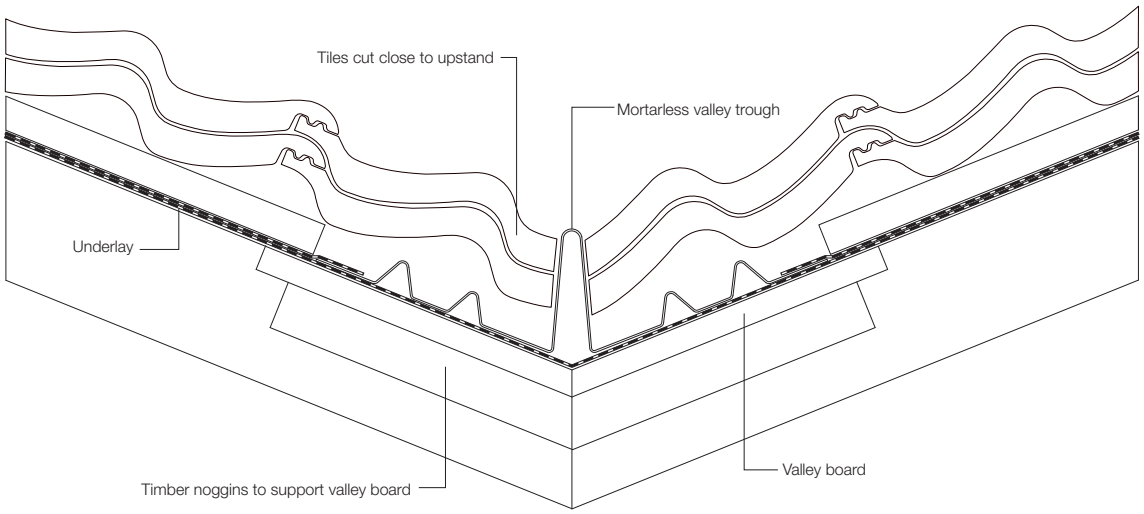
Mortarless Valley Trough

NEW

Sandtoft mortarless valley trough is an easy to install solution that eliminates the problems associated with mortar-bedded valleys. The trough is available in two upstand heights to suit most flat and profile tiles and slates.

Roof tiles or slates are installed close to the valley trough upstand. Where the installation of small cut tiles is unavoidable Sandtoft provides a range of top and tail clips (available separately).

Available in 3 m lengths.



Upstand heights
70 mm upstand to suit flat and low profile tiles
110 mm upstand to suit all profile tiles

Also available:
Top and tail clips to suit standard tiles (sufficient for 5 m valley)
Top and tail clips to suit thin leading edge tiles (sufficient for 5 m valley)

Mortarless Bonding Gutter

NEW

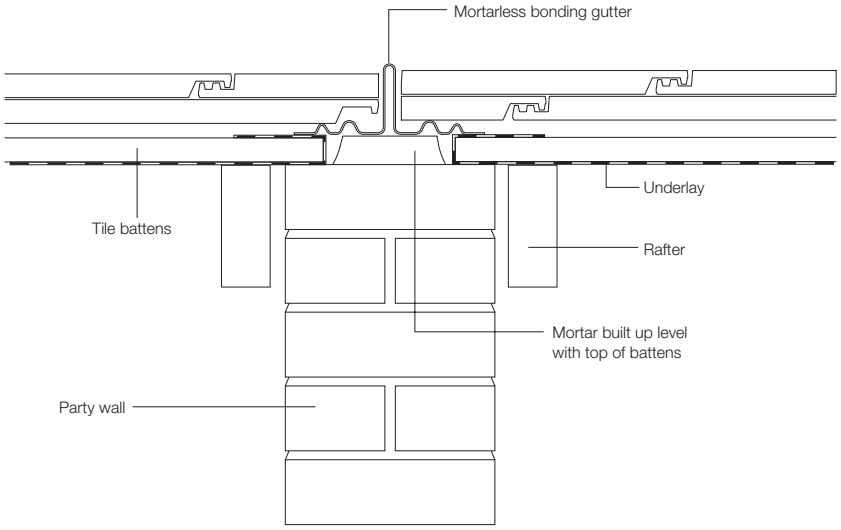
Sandtoft mortarless bonding gutter is an easy to install solution to weather the junction between roof coverings – such as in cases where an adjoining property is re-roofed in a different material.

The mortarless bonding gutter is available in two upstand heights to suit most flat and profile tiles and slates.

The bonding gutter can be installed directly over the tile battens, or where a firebreak is required, over a bed of mortar as shown in the detail below.

Roof tiles or slates are installed close to the gutter upstand and where the installation of small cut tiles is unavoidable Sandtoft provides a range of top and tail clips (available separately).

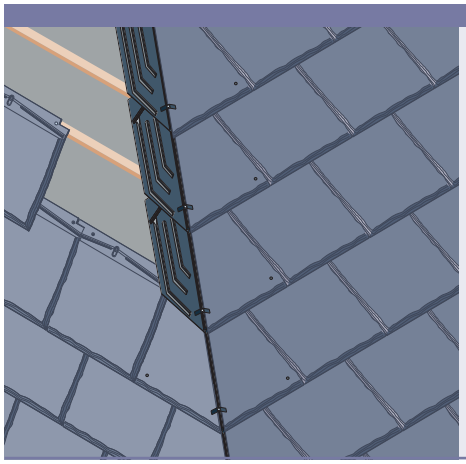
Available in 3 m lengths.



Upstand heights
70 mm upstand to suit flat and low profile tiles
110 mm upstand to suit all profile tiles

Also available:
Top and tail clips to suit standard tiles (sufficient for 5 m rafter)
Top and tail clips to suit thin leading edge tiles (sufficient for 5 m rafter)

BritLock Mitred Hip



BritLock mitred hip provides a neat and secure hip detail without the need for hip tiles. Slates, slate-and-a-half-slates or double slates are cut to form a neat junction. The hip soaker units provide an effective weatherproof junction.

The hip slates are secured using the clips and screws provided and also each hip slate is drilled at the tail and fixed to the batten using a screw with sealing washer and cap (not provided).

Minimum pitch
The BritLock mitred hip system is suitable for roof pitches down to 22.5°.

Maximum pitch
The BritLock mitred hip system can be used up to a maximum roof pitch of 55° on hips that are 90° on plan.

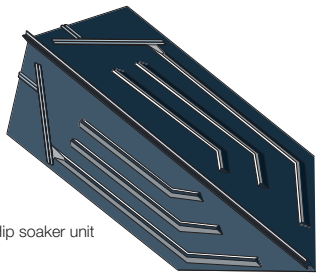
BritSlate Mitred Hips
Sandtoft does not offer a bespoke system for close mitred hips for BritSlates but the recommendations given in BS 5534 for natural slates using metal soakers can be followed.

Slates, slate-and-a-half slates or double slates should be cut neatly to form the hip junction. The tail of each cut slate should be drilled and secured to the slate battens using suitable screws with sealing washers and caps.

Information on lead soakers can be found in BS 5534 and also the Lead Sheet Association manual.

Components

Each pack has sufficient components (excluding slates) for 10 courses at one hip.



Hip soaker unit

Sealing washer

Stainless steel clip

100 x 6 mm Hard yellow passivated zinc screw

Multiverge, Large & Medium Format Dry Verge

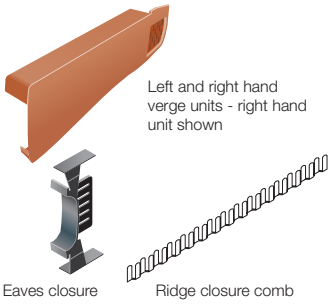
Sandtoft Dry Verge Systems are easy-to-use and provide a neat, secure and mortarless finish at roof verges.

Each system comprises of verge units to suit left and right hand verges – these are available in colours to complement the roof tiles.

Eaves closures secure the tail of the first verge unit and are designed to close the gap to prevent birds and rodents getting into the roof space.

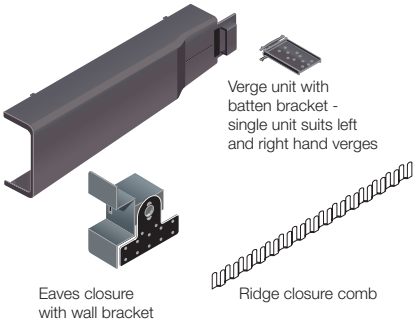
Ridge closure combs close the gap and prevent birds and rodents getting into the roof space.

Multiverge



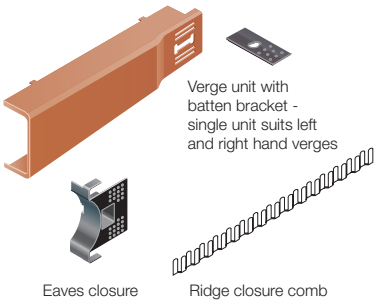
Suits: Most large format clay and concrete tiles
Colours: Light/Dark Grey, Terracotta Red/Rustic, Brown
* Made to order (minimum quantity applies)

Large Format Dry Verge



Suits: Cassius, Rivius, Olympus
Colours: Natural Red, Tuscan, Flanders, Antique Slate

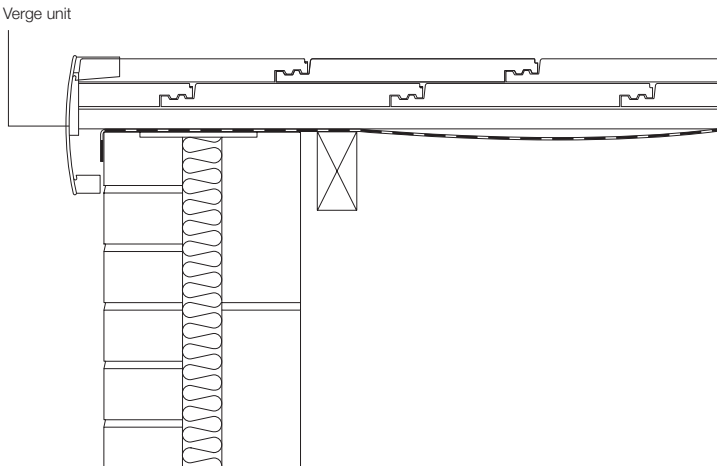
Medium Format Dry Verge



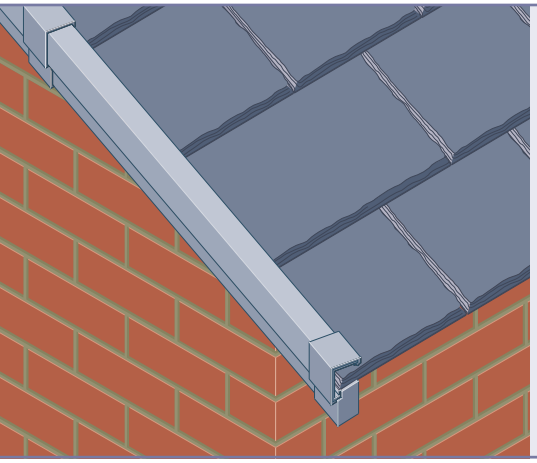
Suits: 20/20, Balmoral
Colours: Natural Red, Tuscan, Flanders, Antique Slate

Minimum and maximum pitch
The minimum pitch is that which is recommended for each particular tile or slate. Refer to relevant product page.

There are no specific maximum roof pitches but please note that for some tile profiles and roof pitches it may be necessary to cut the top course verge units to form a mitre either side of the ridge apex.



Slate Verge



The Sandtoft Slate Verge system is available in 2.4 metre lengths and is suitable for use with BritLock Slates and BritSlates. The system is easy to fit and provides a neat and mortar-less finish at roof verges.

A connector and left and right hand eaves stop ends are available.

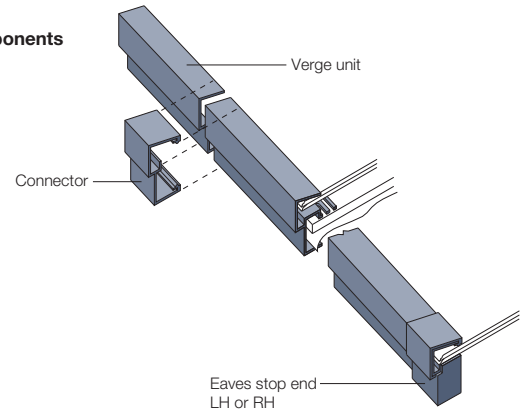
Block end ridges are used to finish the verges at the ridge.

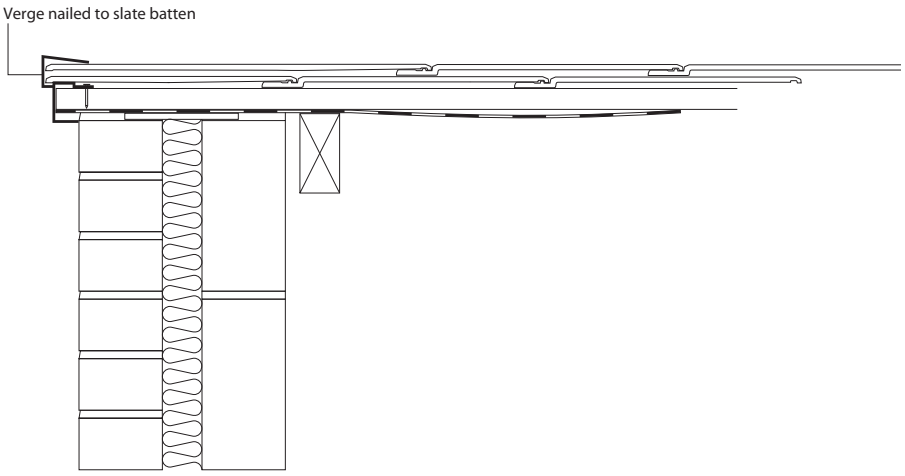
Performance
Suitable for roof pitches from 17.5° up to 54°.

The system can be used with brick and smooth rendered walls or bargeboard constructions on new and refurbishment work.

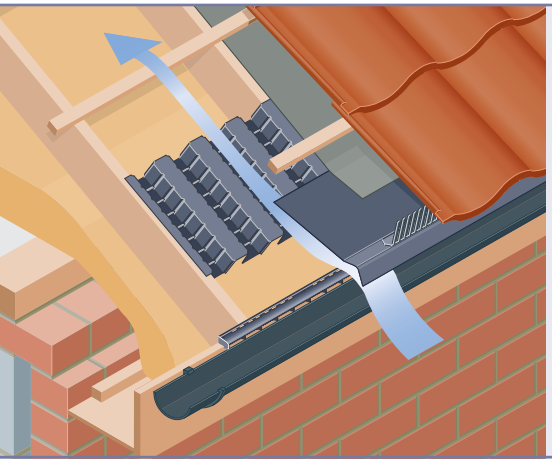
Suitable for:
BritLock
BritSlate

Components





Eaves ventilation



Designed as a complete and comprehensive solution, Sandtoft over fascia ventilation provides continuous free vent areas of 10,000 mm² and 25,000 mm² and insulation retention irrespective of rafter centres and soffit width. The over fascia ventilation strip provides effective resistance to large insects and driving rain.

The spacer tray provides a clear air path over the insulation irrespective of soffit width and roof pitch. The underlay support tray prevents sagging of the underlay behind the fascia and eliminates the problem of long-term deterioration of the underlay at the eaves.

Performance
Free vent areas
The 10 mm over fascia ventilator strip provides 10,000 mm² per linear metre.

The 25 mm over fascia ventilator strip provides 25,000 mm² per linear metre.

The spacer tray provides 25,000 mm² per linear metre

The underlay support tray forms the drip edge into the gutter.

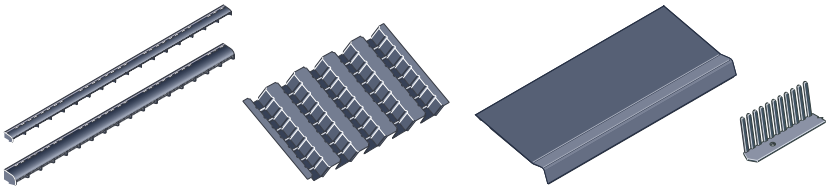
The 10 mm and 25 mm over fascia ventilator strips, spacer tray and underlay support tray are supplied in 6 metre packs.

Bird comb filler is available separately to suit profiled tiles.

Suitable for all Sandtoft and Koramic tiles and slates.

Components

The Sandtoft eaves ventilation system is available in 6 metre packs.
The bird comb filler is available separately to suit profiled tiles.

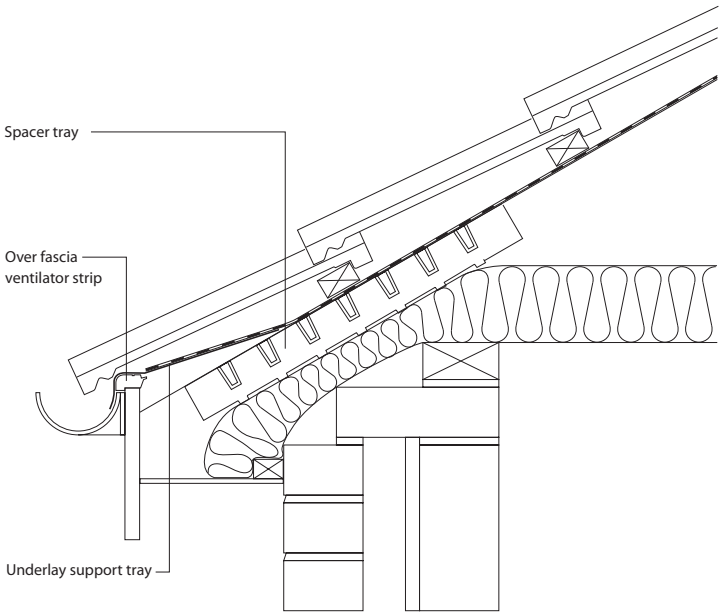


Over fascia ventilator strip
10 mm and 25 mm

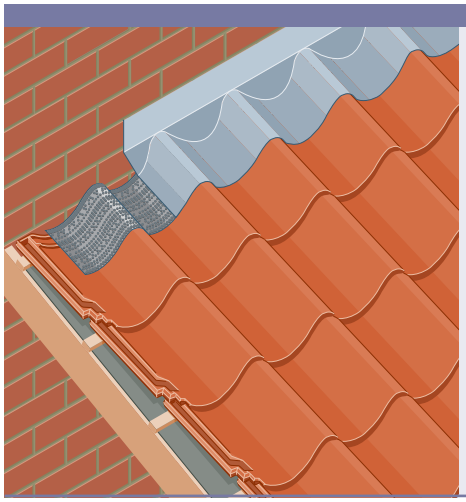
Spacer tray
6000 mm long
To suit 400, 450
and 600 mm centres

Underlay support tray

Bird comb filler
1000 x 55 mm



Rollvent



The Sandtoft Rollvent top abutment ventilation system provides a neat and discrete way of ventilating the roof space at a top abutment.

The system comprises a roll that is dressed onto the top course of tiles with an adhesive strip to secure the roll to the tiles or slates. Copper clips are included to secure the lead flashing over the roll. The system is compatible with all Sandtoft and Koramic tiles and slates.

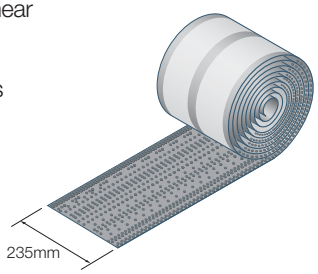
Performance

The Sandtoft Rollvent top abutment ventilation system provides 5000 mm²/linear metre free vent area.

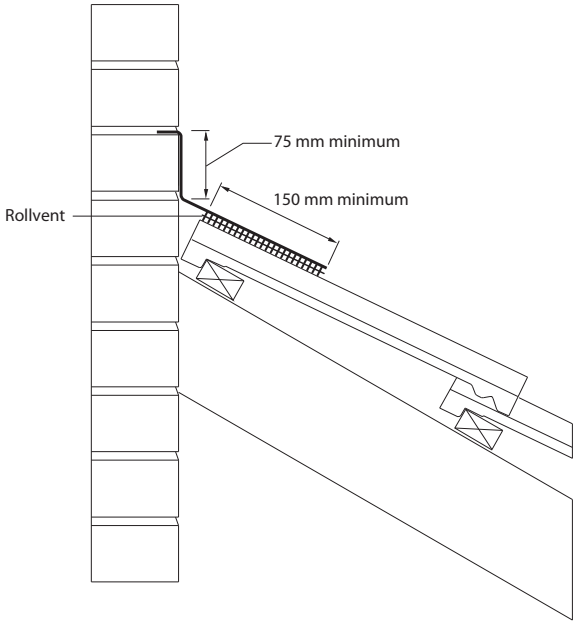
Suitable for all Sandtoft and Koramic tiles and slates.

Minimum pitch 15°.

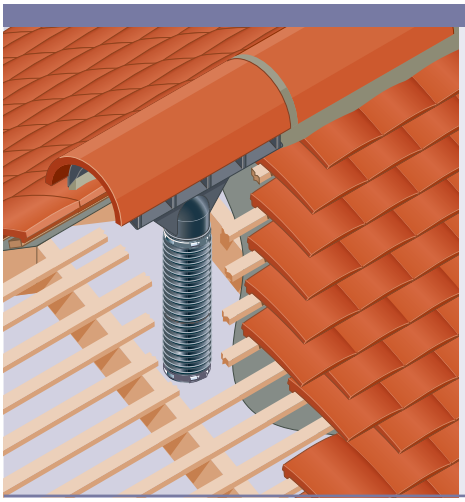
Components



Rollvent
The Sandtoft Rollvent top abutment ventilation system comes in 3 metre rolls and is suitable for all Sandtoft tiles and slates. Copper fixing clips are included to secure the Rollvent and lead flashing.



Ridge ventilators



Sandtoft offers a range of ridge ventilators and terminals to provide practical solutions for roof space ventilation, soil pipe and mechanical extraction. Within the range, concealed ventilators are available to maximise the aesthetic features of the roof by being virtually unseen once installed.

Flexible pipes and pipe adaptors are available for connection for soil pipe and mechanical extraction. A range of gas vent ridge terminals are also available to suit most Sandtoft ridge profiles.

		Free vent area (mm²)	Spacing (m) to provide 5,000 mm² per m
Concealed air vent ridges:	Concrete/Duracoat half round	10,000	2.00
	Concrete/Duracoat legged angle	10,000	2.00
	Clay half round	10,000	2.00

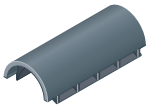
For airflow resistance data, please contact Technical Services on 0844 9395 999

Minimum and maximum pitch

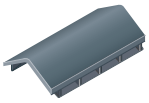
The minimum pitch is that which is recommended for each particular tile or slate. Refer to relevant product page.

The maximum recommended roof pitch is 45°.

Concrete/Duracoat air vent ridges



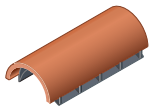
Half round concealed air vent ridge



Legged angle concealed air vent ridge

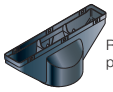
All air vent ridges are 457mm long.

Clay ridge air vent ridges



Half round concealed air vent ridge

Accessories



Ridge ventilator pipe adaptor

Flexible pipe

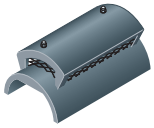
Gas vent ridge terminals*

A range of ridge ventilation terminals to suit Sandtoft clay, concrete and slate ridge profiles, for use on duo-pitch roofs.

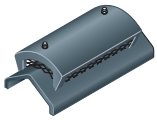
Sandtoft gas vent ridge terminals are designated as low-resistance types, as required by British Gas.

Please refer to the manufacturer of gas equipment for suitability.

Terminals are available to suit the following ridge profiles:



Concrete/Duracoat half round



Concrete/Duracoat legged angle

Clay half round 305

*** Important**

When gas flue terminals are used in conjunction with dry fix systems a gas vent conversion kit is required. This consists of 4 No. 900 mm long ventilator-closure strips to prevent exhaust gases from entering the roof void at either end of the gas flue vent terminal.

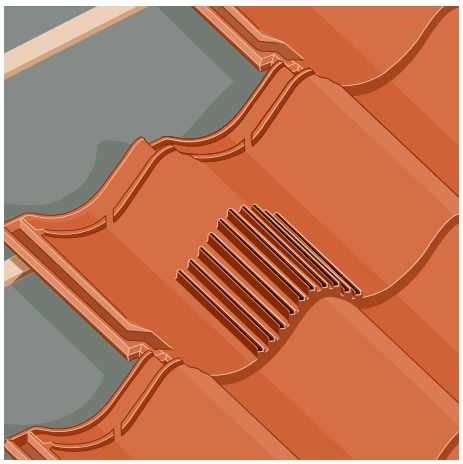
Tile ventilators

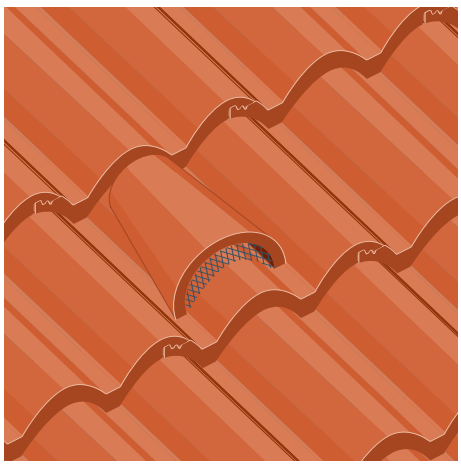
Sandtoft offers a range of tile and slate ventilators to suit different applications and aesthetic requirements.

Cowl Ventilators provide a practical solution for high level roof space ventilation and for connection to soil or mechanical extraction pipes.

Concealed Ventilators and Invisivents are designed to maximise the aesthetic features of the roof by being virtually unseen once installed and can be used for both low and high level ventilation, as well as for connection to soil or mechanical extraction pipes.

Flexible pipes and pipe adaptors are available for connecting concealed ventilators to soil or mechanical extraction pipes.





Concealed ventilator range

*Minimum roof pitch 22.5°**

Free vent area: 10,000 mm²

Spacing at low level (10,000 mm² per m): 1.00 m intervals.

Spacing at high level (5,000 mm² per m): 2.00 m intervals.

Available to suit:

Olympus
Cassius
Rivius
Neo Pantile†
County†
20/20†
Balmoral†
Old English
Arcadia
Greenwood
Bridgwater
Calderdale
Dual Calderdale
Double Pantile
Double Roman
Lindum
Standard Pattern†
Shire†
BritLock
BritSlate
Pennine
Modula
Old Hollow 451†
Flemish 401†
Tempest 44‡
Actua

Low pitch concealed ventilator range

*Minimum roof pitch 15°**

Free vent area: 5,000 mm²

Spacing at low level (10,000 mm²) 0.5 m intervals

Spacing at high level (5,000 mm²) 1.0 m intervals

Available to suit:

20/20
BritLock

Cowl ventilator range (concrete/clay)

*Minimum roof pitch 22.5°**

Free vent area: 3,000 mm²

Spacing at high level (5,000 mm² per m): 0.56 m intervals.

Available to suit:

Calderdale
Double Pantile
Double Roman
Lindum
Shire
Standard Pattern
Old English
Arcadia
Neo Pantile
County
Greenwood
Gaelic
Cassius
Rivius
Olympus

Low pitch cowl ventilator range

*Minimum roof pitch 15°**

Free vent area: 7,500 mm²

Spacing at low level (10,000 mm²) 0.75 m intervals

Spacing at high level (5,000 mm²) 1.5 m intervals

Available to suit:

Actua
Double Pantile▲
Double Roman▲
Calderdale
FD
Modula

Invisivent ventilator range

*Minimum roof pitch 35°**

Free vent area: 7,500 mm²

Spacing at low level (10,000 mm² per m): 0.75 m intervals.

Spacing at high level (5,000 mm² per m): 1.50 m intervals.

Available to suit:

Goxhill
Village
Humber
Plain tile
301 Smooth Plain Tile
303 Sanded Plain Tile
311 Handcrafted Plain Tile

Notes

* Where the minimum roof pitch recommended for a particular tile is greater than the ventilator minimum pitch then this minimum roof pitch also applies to the ventilator.

† Supplied as 2-tile units

‡ Supplied as 3-tile units

▲ Not available in colours with a sanded finish

For airflow resistance advice please contact Technical Services on 0844 9395 999.

KoraFlex flashing system

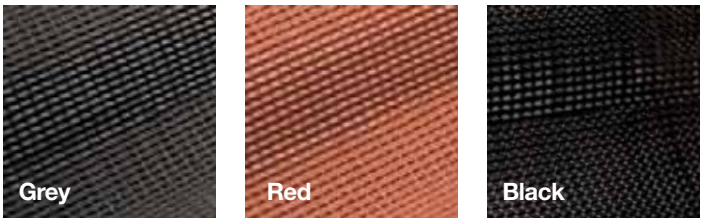
KoraFlex is an aluminium roll, fully coated with a butyl adhesive backing for superior adhesion. It is an ideal replacement for lead for weatherproofing roof junctions such as side and top abutments around chimneys and dormers etc.

Easy to install
KoraFlex is much lighter than lead making it easier to handle and install. The profiled surface allows the flashing to be dressed closely into the shape of the tiles. KoraFlex can be simply cut to length and width using a sharp knife.

Technical data

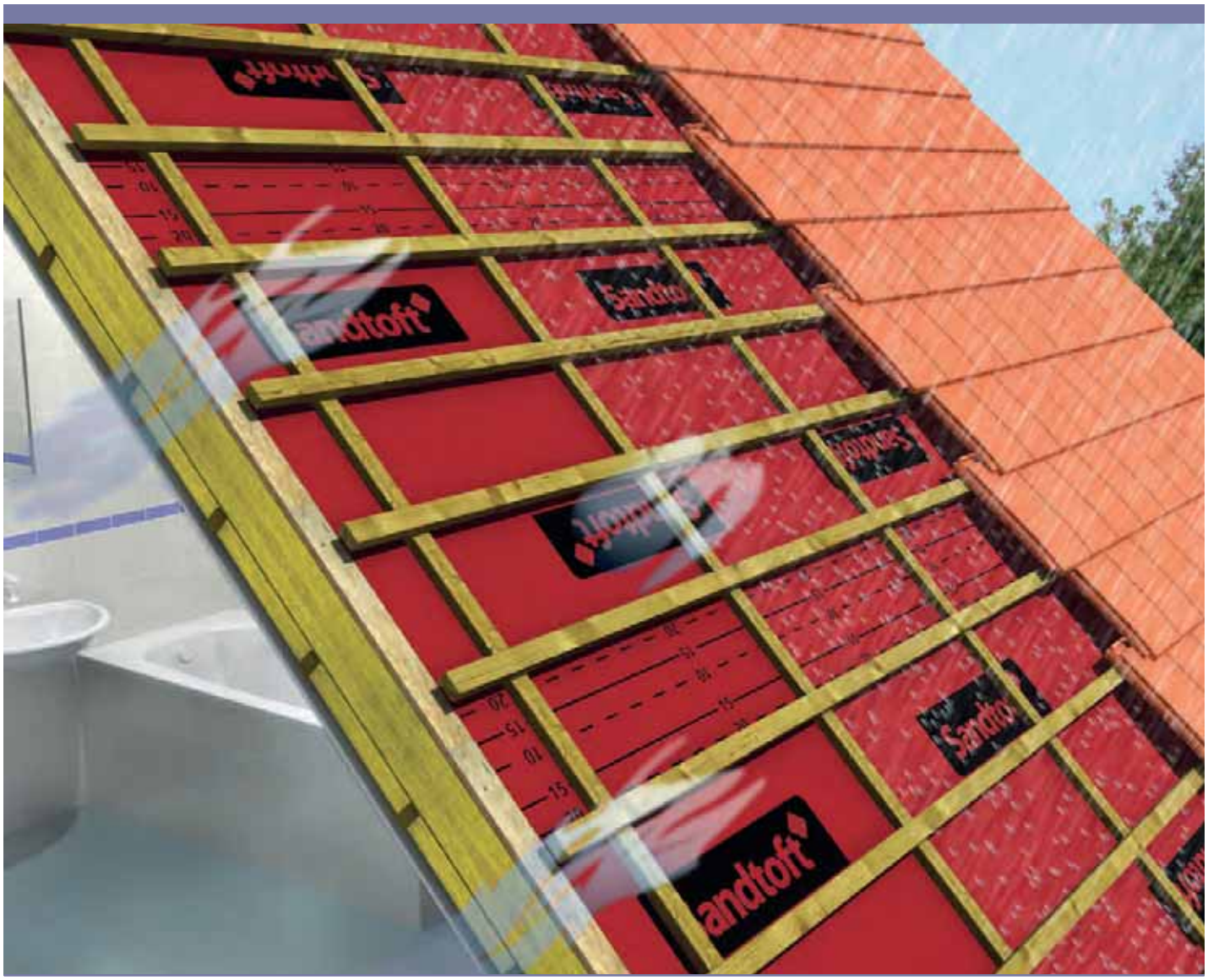
Material:	Aluminium with butyl adhesive backing
Length:	5 metres
Width:	320mm, 450mm
Colours:	Grey, Red and Black
Workable period:	Can be repositioned within 1 hour
UV stable:	Yes

Colours



Sizes and colours
KoraFlex is available in 320 and 450mm widths and in three standard colours; grey, red and black. Flashings can either be chosen to replicate lead (using grey) or be unobtrusive by more closely matching the colour of the tiles.

Koratech® Classic & Koratech® Super vapour permeable membranes



Koratech Classic & Koratech Super can be used with all concrete and clay roof tiles and slates and are suitable for both warm and cold roof designs on any roof shape and building type.

Both membranes perform all the usual functions of a good quality roof underlay; i.e. they act as a secondary line of defence against wind driven rain and snow, they reduce the wind loading on the roof tiles and slates and act as a temporary roof covering during building construction.

These membranes also provide many benefits over the traditional bitumen-based underlays; in particular they help avoid condensation in the roof space.

Koratech Classic
Certificate No. 10/4722

Koratech Super
Certificate No. 10/4719

Technical data	Koratech Classic	Koratech Super
Specification		
Roll size	1.5 x 50m	1.5 x 50m
Material weight	142 g/m²	160 g/m²
Performance		
Water vapour transmission at 25°C/75%RH (grams/m²/day)	1112	1166
Water vapour resistance (MNs/gm) (Meganewton seconds per gram)	0.18	0.18
Tensile strength unaged (N/50mm)		
Longitudinal	247	389
Transverse	197	349
Tensile strength aged (N/50mm)(1)		
Longitudinal	179	-
Transverse	147	-
Wet strength (N/50mm)(2)		
Longitudinal	240	-
Transverse	205	-
Nail tear strength (N)		
Longitudinal	194	389
Transverse	260	395
Wind uplift resistance (KPa)		
Batten spacing 350mm	0.5	1.0
Batten spacing 330mm	0.5	1.0
Batten spacing 300mm	1.0	2.0
Batten spacing 250mm	2.5	2.5

(1) UVA aged for 336 hours at 50°C & heat aged for 90 days at 70 ± 2°C

(2) Wet strength soak at 23°C for 24 hours – tested surface wet

Wind loadings

Wind blowing over a pitched roof generates positive and negative pressures which are exerted on both the underlay and the roofing tiles or slates. The wind load on the underlay can be as much as two thirds of the total load, depending on how 'air open' the tiles or slates are. It is therefore important that the underlay can withstand these wind loads in order to minimise the pressure on the tiles or slates.

Sandtoft Koratech Classic and Super are designed to withstand wind load pressures up to 0.5 and 1.0 Kpa respectively when used with a maximum batten spacing of 350 mm.

To avoid the risk of the underlay 'flapping' in high wind conditions and transferring wind load to the tiles or slates it is important that Koratech Classic and Super are laid with a drape of not more than 10 mm.

Secondary line of defence

Koratech Classic & Koratech Super provide additional protection to the internal roof substructure during extreme weather conditions where wind-driven rain or snow may drive through the tiles or slates by safely draining it away to the gutter or other rainwater system.

Temporary roof covering

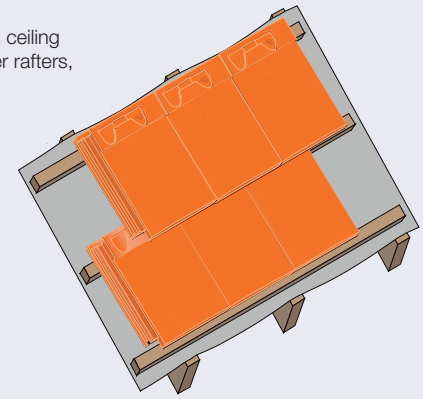
Often the roof underlay must act as a temporary waterproof covering until the tiles or slates are installed. Koratech Classic & Koratech Super will provide temporary protection against rain for up to a month prior to the installation of the tiles or slates.

Accessories

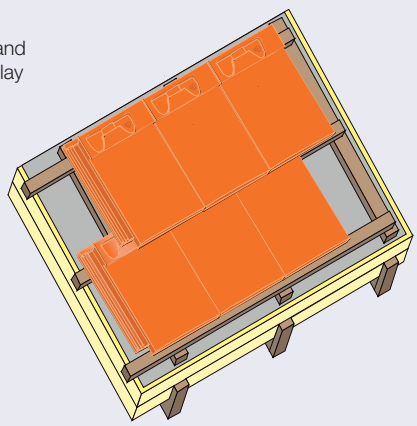
Underlay support tray 1500mm

Example roof constructions

Cold roof
Insulation at horizontal ceiling level, underlay laid over rafters, tile battens.



Warm roof
Insulation between and above rafters, underlay laid over insulation, counterbattens, tile battens.



Heritage service

Heritage
SERVICE

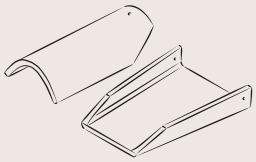
Our Lady of Beauchief and St Thomas of Canterbury:
Under and Over with splitter and diminished under tiles Dark Chestnut

We use our expertise to help preserve the nation's heritage, creating bespoke clay tiles for conservation and restoration projects. Our team of craftsmen draw on generations of experience, blending their expertise with 21st century design tools to reproduce historic roofing products.

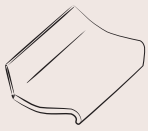
Great emphasis is placed on the retention of traditional skills and methods allowing us to produce tiles and fittings, not just to our own exacting standards, but to those of conservation bodies and local planners.

Our experience also enables us to take an active role in the development and fulfilment of roofing specifications, ensuring the roof is not only replaced like-for-like but will perform for generations to come.

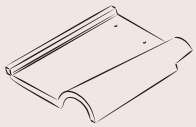
Typical Heritage products:



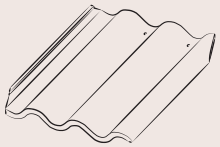
Tegula & Imbrex



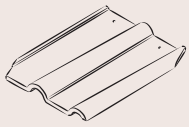
Specialist Pantiles



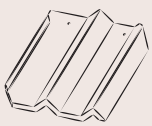
Bambino & Single Roman



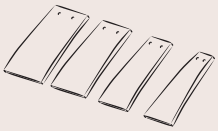
Triple Rolls



Specialist Double Romans

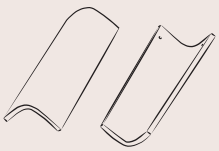


V-Tile



Oast Tiles

Peg Tiles and '11 x 7' Plain Tiles and Feature Tiles



Under & Overs

Vault Tiles

Bespoke Ridge

Slotted Roll-Top ridges and inserts are also available





Because of our dedication to pitched roofing, we offer the greatest choice of roof tiles in the industry. The years spent developing such a wide range has helped us to generate the diversity of expertise needed to carry out heritage work as economically as possible and of the highest complexity.

Every project is unique, with many requiring authentic copies of historic tiles and fittings. Old designs can be closely copied and reproduced faithfully to match the original tiles, using the same raw materials and methods to blend harmoniously with the existing building and environment.

In addition, because we have built up such a large portfolio of heritage products we can offer designs from our previous projects as ‘standard’ items when requested by the client.

Award Winner

Recent and on-going projects:

- Boston Guildhall, Lincolnshire
- Cambridge University Library
- Charlton Farm, Somerset
- Ednaston Manor, Derbyshire
- Eton College
- Fountains Abbey Estate World Heritage Site, North Yorks
- Golders Green Crematorium, London
- Government House, Portmeirion Village, Wales
- Heals Building, London
- Holy Trinity Church, Blendworth, Hants
- London Zoo
- Magdalene College, Cambridge
- Reform Club, Pall Mall, London
- Renaissance Club, Berwick
- St Leonard's Boathouse
- St Thomas of Canterbury Church, Sheffield
- Victoria and Albert Museum, London
- Welbeck Estate, Notts
- Well Court, Edinburgh

Raising Industry Standards

At Sandtoft we believe our continuing success rests on the lasting excellence of what we do. Our benchmark is positioned above the industry standard. As a company, we view things over the long term and have an uncompromising approach to quality.

Quality management in production

The quality management system at every Sandtoft facility is independently certified to BS EN ISO 9001. We always seek to exceed the internationally recognised standard with processes which are subject to regular independent assessment.

Compliance with product standards

Clay and concrete tiles are subject to product standards set by the European Standards Institute. In the UK these are adopted by the BSI and enforced as BS ENs (British Standard European norms). Sandtoft plays an active role working with the BSI and CEN in the development of new standards.

As no European standard applies to reconstituted slates, Sandtoft BritLock and BritSlate products are independently certified by the BBA – the principal UK body for the assessment of building materials. The BBA's certification lays down strict parameters for the sourcing of raw materials and the method of manufacturing. Regular, independent audits take place to ensure their standards are met.

Sandtoft operates a rigorous system of continuous improvement at all manufacturing sites. We actively seek the input of our customers and have the flexibility to rapidly implement changes.

Summary of relevant standards and certificates applicable to Sandtoft tiles and slates

BS EN ISO 9001	Quality Management Systems
EN ISO 14001	Environmental Management Systems
BS EN 490	Concrete roofing tiles and fittings *Product specifications*
BS EN 491	Concrete roofing tiles and fittings *Test Methods*
BS EN 1304	Clay roofing tiles for discontinuous laying *Product definitions and specifications*
BS EN 1024	Clay roofing tiles for discontinuous laying *Determination of geometric characteristics*
BS EN 538	Clay roofing tiles for discontinuous laying *Flexural strength test*
BS EN 539-1	Clay roofing tiles for discontinuous laying *Part 1: Impermeability test*
BS EN 539-2	Clay roofing tiles for discontinuous laying *Part 2: Test for frost resistance*
BBA	Agrément certificates BritSlate BritLock Koratech® Classic Koratech® Super Koraflex

Humber Flanders

Sandtoft's Environmental Philosophy

Sandtoft Roof Tiles Ltd is pursuing a sustainability strategy that we believe makes a real difference. In addition to general environmental good practice, the driving force of our strategy is to reduce our CO_2 emissions and to embrace the wider sustainable manufacturing requirements developed as part of our Responsible Sourcing certification to the BRE Environmental and Sustainability Standard BES 6001. Our key environmental achievements are:

Switching to 100% green electricity

Since 2006, Sandtoft has used a 100% green source of electricity for all production sites. All our manufacturing facilities now use only electricity generated from green sources such as wind farms and hydro-electric plants. This has substantially reduced our CO_2 emissions. We are now considering projects which can generate electricity on our own sites – for example installation of a wind turbine at the Broomfleet site.

Meeting Climate Change Targets

As part of the ceramic industry's Climate Change Agreement with the UK Government, Sandtoft committed to achieving a 10% reduction in energy consumption per Tonne of clay product between 2000 and 2010. The Broomfleet clay roof tile factory achieved compliance with these target reductions by 2006 and achieved a total reduction of over 18% in the full period to 2010. Discussions with UK Government are now continuing as to what the forward energy reduction targets will be for the period 2013 to 2023. When this performance is combined with the switch to green electricity, the total reduction in CO_2 emissions since 2000 for our clay roof tile products stands at over 30%.

Using Recycled Materials

Sandtoft has been using recycled aggregates in the production process since the 1990s. Our recycled slates are manufactured using approximately 80% recycled slate waste recovered from UK quarries where high levels of waste have accumulated over the years. In addition we are now starting to utilise recycled production waste as a replacement for sand in the manufacture of our concrete roof tiles. This is a trend we expect to continue with the recovery of previously used roof tiles being undertaken in the UK and considered as part of a wider campaign of resource efficiency across Europe. We are also increasing efforts to use recycled water in the production process to reduce the amount of potable water used. Currently more than 75% of the water used in clay roof tile manufacture comes from our own sources.

Waste Minimisation

Sandtoft places the highest priority on the minimisation of waste in the production process. For example, in the last 15 years we have reduced the line waste in our concrete production significantly and continue to work to further reduce this in line with industry best practice. Sandtoft sends very little waste to landfill and by 2015 plans to reduce that to zero. Typically we send less than 1 Tonne of waste to landfill for every million tiles that we produce. Currently the majority of waste is either recycled back into the manufacturing process or collected for off-site recycling.

Environmental Management

All Sandtoft UK sites are certified to Environmental Management System ISO 14001. For the latest on our environmental achievements visit **www.sandtoft.com.**

The Code for Sustainable Homes

The Code for Sustainable Homes is part of the UK government's programme to improve the sustainability of new dwellings. The Code has a star rating system to measure performance, starting from level 1, up to the highest sustainability rating of level 6.

In the Code there are 9 categories used to measure sustainability. Credits are awarded for each category, with up to 104 total credits available. For the environmental impact of building materials there are 15 credits are available. The code breaks down building materials into five key elements; roof, external walls, internal walls, ground and upper floors and windows. Up to 3 credits are available for each of these elements. The scores awarded are based on the Building Research Establishment (BRE) Green Guide to specification whose rating for each element is as follows:

Green Guide rating	Credits
A+ rating	3
A rating	2
B rating	1
C rating	0.5
D rating	0.25
E rating	0

The BRE Green Guide provides ratings for various construction types within each building element. If, for example, a designer chooses to use Sandtoft clay tiles with trussed rafters, battens and underlay, this is rated A+ and is worth 3 credits in the Code for Sustainable Homes.

The table below shows the BRE Green Guide ratings for some common roofing elements in domestic situations.

Construction and materials	Rating
Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and UK produced clay plain tiles	A+
Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and concrete interlocking tiles	A+
Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and resin bonded slates	A
Timber trussed rafters and joists with insulation, roofing underlay, counterbattens, battens and integrated photovoltaic roof tiles	A+

This product selector represents an overview of Sandtoft's products, systems and services. To find out more please visit our website where you will find detailed technical information, an extensive CAD library, a photo gallery, case studies and much more:
www.sandtoft.com

Sandtoft Services

Customer Support
General enquiries, pricing and orders
T 0844 9395 900
F 0844 9395 950
info@sandtoft.co.uk

Technical Services
Full range of technical services
T 0844 9395 999
F 0844 9395 950
technical@sandtoft.co.uk

Distribution Services
Vehicle and delivery information
T 0844 9395 955
F 0844 9395 950
distribution@sandtoft.co.uk

Sandtoft Training and Assessment Centre
Belton Road
Sandtoft
Doncaster
DN8 5SY
T 0844 9395 900

Roof Tile Library and Showroom
See Sandtoft Southern Distribution Centre

Wienerberger London Showroom
26 Store street, London, WC1E 7BT

Wienerberger Cheadle Showroom
(by appointment - Tel: 0161 491 8200)
Wienerberger House
Brooks Drive
Cheadle Royal Business Park
Cheadle
Greater Manchester SK8 3SA

Manufacturing & Stocking Locations

Broomfleet
Sandtoft Roof Tiles Ltd.
(off Tongue Lane)
Broomfleet
Brough
East Yorkshire
HU15 1RS

Goxhill
Sandtoft Roof Tiles Ltd.
(off Neatgangs Lane)
Goxhill Tileries
Barrow upon Humber
North Lincolnshire
DN19 7EN

Heckmondwike
Sandtoft Roof Tiles Ltd.
Smithies Lane
(off Station Lane)
Heckmondwike
West Yorkshire
WF16 0PU

Sandtoft
Sandtoft Roof Tiles Ltd.
Belton Road
Sandtoft
Doncaster
DN8 5SY

Sandtoft Southern Distribution Centre
Ewhurst Works
Horsham Road
Walliswood
Ockley
Surrey
RH5 5QH

Nationwide stockist network
Sandtoft products are available from stockists nationwide, for details of your nearest stockist visit www.sandtoft.com

June 2012