Wienerberger

2020 Natural Red

Sandtoft

The 20/20 roof tile is a modern take on the traditional plain tile, using a modern interlock to provide greater flexibility and performance. Pressed from natural alluvial Humber clay, this premium material delivers improved longevity and natural beauty. The clay's irregularity adds charm and texture to any roof.

Minimum Roof Pitch:

15° at a minimum of 100mm headlap
22.5° at a minimum of 75mm headlap

Covering Capacity:

20.5 tiles per m2 at 75mm headlap
22.7 tiles per m2 at 100mm headlap

Technical Data

Maximum Weight Per Sqm	45.4 m²
Quantity Per Pallet	480

Additional Information

Length x Width	330 x 226 mm
Cover Width	191

Phone

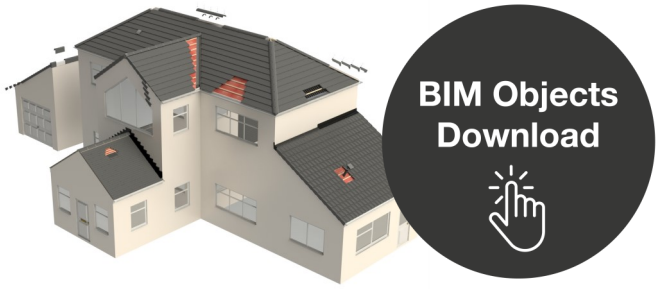
01427 871200

The content provided is correct as of date of printing. (Please see top-left corner) Due to the colour constraints of printing processes, the product colour may not be truly represented.

20/20

Product Technical Information Sheet

Minimum roof pitch*	15° at 100mm headlap 22.5° at 75mm headlap
Headlap (minimum)	75 mm
Headlap (maximum)	120 mm
Batten spacing at maximum gauge[1]	255 mm
Batten spacing at minimum gauge[1]	210 mm
Size of tile[1]	330 x 226 mm
Covering capacity	22.7 tiles per m^2 at 100mm headlap 20.5 tiles per m^2 at 75mm headlap
Cover width	191 mm
Profile depth	16 mm
Hanging length	300 mm
Weight as laid	45.4 kg per m^2 at 100mm headlap 41.0 kg per m^2 at 75mm headlap
Weight per 1000 (including pallet & packaging)	2.1 tonnes
Weight per tile	2.0 kg
Weight per pallet (including pallet & packaging)	1.008 tonnes
Quantity per pallet	480
Quantity per row/band	40
Quantity per mini pack	10
Quantity per layer	120
Mini packs per row	4
Battens per m^2	4.3m at 100mm headlap 3.9m at 75mm headlap
Batten size - up to 450 mm rafter centres	38 x 25mm
Batten size - up to 600 mm rafter centres	50 x 25mm
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



[1]Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Before deciding on the batten gauge and linear coverage, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved. Unless otherwise stated, data is based on the tiles laid at minimum headlap.

*For projects where the rafters are below 22.5 degrees **the roof substructure** must be installed in accordance with the **Sandtoft low pitch installation guide**. **Rafter length restrictions** apply at minimum roof pitch.

Tile Fixing - Sandtoft roof tiles must be laid and fixed to comply with BS 5534: the British Standard Code of practice for slating and tiling, and BS 8000: Part 6: the British Standard Code of practice for workmanship on building sites. To ensure compliance with these Standards we strongly recommend that a calculated fixing specification be obtained from Sandtoft Technical Support or using Sandtoft's online FixSPEC tool at https://roofspec.wienerberger.co.uk/FixSpec/Default.aspx

Product specification is subject to change and will be updated accordingly. Date of this data sheet publication; 08/09/2020

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Installation guide for 20/20

Sandtoft installation guide

Introduction

The following installation instructions are recommended minimum requirements for the 20/20. The designer and fixer should ensure that tiles are installed in accordance with BS 5534; The British Standard Code of Practice for Slating and tiling. In addition, local conditions and current good practice should be considered.

All work on site should be carried out in accordance with BS 8000-6: The British Standard Code of Practice for Workmanship on building sites.

Storage

20/20 are supplied shrink wrapped on wooden pallets and should be stored on firm, level ground.

Ventilation and Dry Systems

Guidance on the installation of all of Sandtoft's ventilation and dry roofing systems is available on the website www.wienerberger.co.uk/technical-hub/rooftiles and in the relevant Sandtoft installation guides.

Underlay and Tile battens

Guidance on the installation of underlay and tile battens is given in the Sandtoft *Underlay* and *Battens* installation guides.

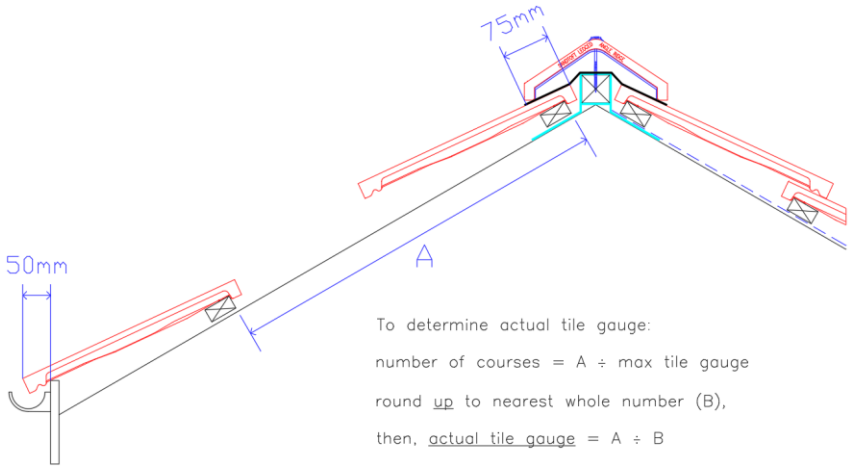
Tile Gauge

The 20/20 has an 'open' gauge so it is relatively easy to avoid having a cut course at eaves or ridge by reducing the gauge if necessary. 20/20 can be set out at batten gauges from 210mm to 255mm dependant on pitch. At a roof pitch of 22.5° or higher the battens can be set at a maximum spacing of 255mm to ensure a minimum 75mm head lap. For roof pitches of 15° to 22.5° the battens must be set out at a maximum spacing of 230mm to ensure a minimum 100mm head lap.

Setting Out up the roof (Gauge)

Set the first batten at eaves to allow the tails of the eaves course tiles to overhang the fascia by approximately 50mm, ie; just short of the centre of the gutter.

Set the last batten at the ridge so that the ridge tiles will overlap the top course of tiles by at least 75mm. See drawing below.



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Measure the distance (A) from the first, eaves course batten to the top course batten. Divide this distance by the maximum tile gauge (255/230mm). Round the answer up to the nearest whole number (B) this gives the number of tile courses required. Divide A by B to determine the actual batten gauge. Fix the remaining battens at this gauge.

Alternatively, it is technically possible to set out most of the roof at maximum gauge and then reduce the gauge of the last few courses to avoid having a cut course at the ridge. However, care must be taken to ensure that doing this will be aesthetically acceptable.

Linear Coverage

The average linear coverage (cover width) of the 20/20 is 191mm. There is a 3 to 4mm adjustment (shunt) built into the side interlocks to aid setting out across the roof.

Setting out across the roof

Lay a course of tiles along the eaves, setting the tiles at the average linear coverage. At this stage, some adjustment in shunt could be made, if necessary, to allow a 30 to 60mm overhang at verges. Ensure verge overhang is equal at left and right ends. Mark the position along the eaves and top battens of every third tile.

Alternatively, take a gauge rod (ie a short length of tile batten) and mark the position of three tiles with their sidelocks fully closed, then mark the position of the three tiles fully 'open'. Set the average coverage by making a third mark midway between the previous 2 marks on the rod. Use this third position to mark out along the eaves and top battens.

Strike a chalk line from eaves to ridge at each mark. Tiles can be laid to these marks to ensure perpendicular lines remain straight.

Tile Fixing Generally

Load out all sides of the roof uniformly, randomly mixing tiles from different pallets.

20/20 are laid half bond (also referred to as 'cross bond' or 'broken bond'), starting at the right hand side of the roof plane and working towards the left. Use tile and a half tiles every alternate course at verges to create the half bond.

Make sure that every third tile is positioned to the chalk line.

Nail each tile using 45 x 3.35mm aluminium clout head nails and clip where required by the fixing specification.. Drive the nails fully home. Use Sandtoft's *'*Fix*SPEC*' service to determine correct fixings for each project. This can be found at www.roofspec.co.uk. Contact Sandtoft *Technical Support* for further information.

Eaves

Position the fascia board or tilt fillet so that the eaves course tiles lie at the same pitch as the tiles above. If using an over fascia ventilator then adjust the height of the fascia or tilt fillet accordingly. Contact Sandtoft *Technical Support* for further information.

Eaves clips should be nailed into the fascia using 25mm long aluminium clout head nails. If using an over fascia ventilator then carefully locate the clip nails through the slots provided in the ventilator. Depending upon the depth of the ventilator use an appropriate length of nail that gives adequate penetration into the fascia or tilt fillet.

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Verges - Generally

Finish the gable wall level with the tops of the rafters. Generally, the outer skin of the wall will be stone or brickwork, or there may be a timber bargeboard. An alternative construction sometimes adopted is a gable ladder, to extend the roofing out beyond the gable wall.

At the right hand verge fit standard tiles and right hand tile and a half tiles in alternate courses. At the left hand verge fit left hand verge tiles and left hand tile and a half tiles in alternate courses.

Medium Format Dry Verge

Carry the underlay 40mm over the edge and turn down the wall. Terminate the tile battens 36mm beyond outer edge of wall or bargeboard.

Position a tile on the eaves course at the left/right hand verge with the correct overhang over the eaves and verge. Locate the eaves closure unit under this tile and then screw to the wall or bargeboard through suitable holes in the eaves closure bracket.

Fit a batten bracket into the appropriate left or right hand slot of a verge unit (marked on each verge unit for correct orientation).

Locate the first verge unit over the eaves closure and click into position. Nail the batten bracket onto the eaves course tile batten using 25mm clout nails. Continue to fit verge units on each course up to the ridge. Verge units can be installed as the tiling progresses or all at once before the tiles have been laid. *Please note; minimum gauge for MF Dry Verge is 230mm*

Install a ridge end cap or ridge closure comb (with block end ridges) to prevent access into the roof space by birds or rodents.

(See the *Medium Format Verge installation guide* for further information).

Bedded Verge

Terminate the underlay midway across outer leaf of brickwork or masonry. Bed a 6mm thick fibre cement undercloak on to the wall above the underlay and below the battens, projecting about 30 to 60mm beyond the outer wall face. Do not allow the undercloak to tilt inwards, towards the roof. Either lay the undercloak level or with a slight tilt outwards.

Carry tiling battens with pre-treated ends over the undercloak and finish them 25mm to 50mm from the outer edge of the undercloak. Fix verge clips to each tile batten with its outer edge aligned with the outer edge of the undercloak.

Lay a 100mm wide bed of underlay onto the undercloak. Avoid contact between the mortar and the ends of the battens. Bed the verge tiles onto the mortar. Nail every verge tile and also secure the tails of the tiles in the verge clips.

Neatly point up the joint as the mortar starts to 'go off'.

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Ridge - Generally

Ideally, tiling should finish with a full course at the ridge. The 20/20 has an 'open' gauge, therefore it is easy avoid having a cut course by reducing the gauge if necessary.

Ensure all top course tiles are fixed in accordance with the site specific fixing specification.

Dry Ridge

Terminate the underlay 5 to 30mm from the ridge apex. Fix a timber batten along the ridge apex, securing with ridge batten straps provided. The timber height will depend upon the pitch of the roof - use tile battens to make up to the appropriate height of ridge batten, ensuring that the screws penetrate by at least 25mm. Lay the top courses of tiles ensuring each tile is nailed (and clipped if required in manufacturer's fixing recommendations).

There are two dry ridge systems available to suit the 20/20, as follows:

> **RollRidge:** Lay the ridge roll along the centre line of the apex and tack to the ridge batten. Remove the paper backing from each side of the ridge roll and press the edges of the ridge roll onto the tiles. To preserve an air path take care not to flatten the corrugations. Fit and secure the ridge tiles over the ridge roll with ridge unions using the stainless steel screws, sealing washers and plates provided.
>
> **Profile Ridge:** Place and connect together the ventilation units on the top tile courses on each side of the ridge. Fit and secure the ridge tiles onto the ventilation units with ridge unions using the stainless steel screws, sealing washers and plates provided.

Fit block end ridge tiles or plastic ridge end caps at the gables.

Bedded Ridge

Lay a continuous bed of mortar along the top course of tiles at each side of the ridge. Joints between each ridge and at the gable end should be 'solid bedded' by placing a tile slip to 'straddle' across the tops of the top courses of tiles to support the mortar. Place a full bed of mortar onto the tile slip. To prevent cracking, reduce the amount of mortar by inserting additional tile slips into mortar.

Place each ridge onto the mortar bed and tap down to give no more than a 10mm deep mortar bed between the ridge and the tiles. A string line can be used to ensure the ridge line is straight and true.

Neatly point up the joint as the mortar starts to 'go off'.

To comply with BS 5534 all ridge tiles must be mechanically fixed. This can be achieved using the Sandtoft bedded ridge fixing kit and securing into an additional ridge batten using the stainless steel screws and sealing washers. The height of the ridge batten will depend upon the pitch of the roof - use tile battens to make up the height of ridge batten to allow at least 25mm penetration of the ridge-fixing screws.

Installation guide for 20/20

Hips - Generally

Cut the general tiles closely to the hip timber and at the same relative angle. All tiles at the hip should be nailed (and clipped if required in manufacturer's fixing recommendations). Ensure small cut pieces are secured by drilling or notching the cut tiles to facilitate nailing. Fix additional battens if necessary. Hip clips are also available to secure cut tiles.

Dry Hip

Fix an additional timber batten along the hip, securing with hip batten straps provided. The timber height will depend upon the pitch of the roof - use tile battens to make up to the appropriate height of hip batten.

Lay tiles as described earlier. Lay the hip roll along centre line of hip and tack to hip batten. Remove paper backing from each side of the hip roll and then press and dress edge of hip roll neatly onto tiles.

Cut the first length of the hip tray to fit the corner at the eaves. Nail the hip tray to the hip batten with its under-lap section facing towards roof apex. Continue fixing subsequent hip trays, each overlapping the previous one.

Place a dry hip starter ridge directly over the hip tray, close against the eaves tiles, and secure to the hip timber using a screw. Fit a hip union under the open end of the dry hip starter ridge and then locate the next hip ridge over the union. Secure using the screw with sealing washer and plate. Continue fixing subsequent hip ridges to the ridge apex.

Bedded Hip

Nail or screw a hip iron to the lower end of the hip timber. This will prevent the hip ridge tiles from sliding down the hip as they are bedded.

Cut the first hip ridge to the shape of the eaves at the corner. Lay a continuous bed of mortar along the tiles at each side of the hip. Joints between each hip ridge and at the eaves end should be ‘solid bedded’ by placing a tile slip to 'straddle' across the tiles at either side of the hip to support the mortar. Place a full bed of mortar onto the tile slip. To prevent cracking, reduce the amount of mortar by inserting additional tile slips into mortar.

Place each hip ridge onto the mortar bed and tap down to give no more than a 10mm deep mortar bed between the hip ridge and the tiles. A string line can be used to ensure the hip line is straight and true.

Neatly point up the joint as the mortar starts to 'go off'.

To comply with BS 5534 all hip ridge tiles must be mechanically fixed. This can be achieved using the Sandtoft bedded ridge fixing kit and securing into the hip timber using the stainless steel screws and sealing washers. The height of the hip timber can be built up if necessary, using tile battens, to allow at least 25mm penetration of the hip ridge fixing screws.

Installation guide for 20/20

Ridge/Hip Junctions

Where the hip meets the ridge a Koraflex or lead saddle is required to weather the junction. See *Lead Sheet Association Manual* for details.

Cut the ridge and hip ridge tiles to finish closely together with no more than a 10mm joint at the butt joint. The end hip ridge should finish level with the top of the ridge line.

Valleys

Fit support timbers to the rafter sides so that the top surface of the valley boards are set level with the tops of the rafters. Overlay the valley boards with 6mm continuous plywood, butt jointed over rafters. Lay a continuous strip of underlay centred on the valley.

Install each Mortarless Valley trough by setting it centrally over the valley boards and secure by nailing through its outer flanges into the valley boards at 500mm centres. Where overlapping additional lengths, the overlap should be 150mm for roof pitches over 39 degrees, 200mm for pitches 30 to 39 degrees, 300mm for pitches 22.5 to 29 degrees and 350mm for pitches below 22.5 degrees.

Install the general roof underlay to overlap the valley troughs, trimmed to finish between the two outer water bars each side of the central upstand.
Cut the tile battens to terminate on the outer flanges of the valley trough and nail to secure the batten ends into the valley boards but not through the valley trough.

Neatly cut the tiles into the valley at a rake to finish close (max 15mm gap) to the valley upstand. Mechanically fix all cut tiles. Use Sandtoft top and tail clips where necessary to ensure minimum two-point fixing of all cut valley tiles.

At the top of the valley, where it meets another valley or ridge, etc, install a KoraFlex saddle to weather the junction. Install Mortarless valley eaves piece at eaves..

Top Edge Abutments

Where the top of the tiling meets a wall (abutment) Sandtofts top abutment ventilator system can be used. Guidance on the installation this system is given in the Sandtoft *Installation guide for Top Abutment Ventilator.*

Side Abutments Generally

Weather side abutments using a secret gutter. In addition, to prevent the possibility of the secret gutter becoming blocked by debris over time, a cover flashing is also recommended.

If a cover flashing is not fitted then verge clips can be used to secure the edge tiles.If possible set out the tiling to fit full standard tiles, half tiles or three quarter tiles at left and right hand abutments.

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Side Abutment Secret Gutter

Fix timber bearers, flush with the tops of the rafters, to support the secret gutter and battens ends. Finish the underlay to turn up against the wall by at least 75mm. Cut the tile battens, making sure they are fully supported on the rafter or bearer.

Fix a counterbatten over the bearer or rafter, allowing sufficient space to the wall for the secret gutter. Install the continuous secret gutter with its upstand against the wall and its outside edge nailed to the battens or counterbatten – pre-drill the fixing holes to avoid splitting the gutter. Allow a minimum 150mm overlap between each secret gutter.

Finish the tiling within 15mm of wall, ensuring that broken bond is maintained and fixing all tiles. Install a KoraFlex step and cover flashing, overlapping the secret gutter upstand by not less than 65mm and dressed over the tiling by not less than 150mm.

At the eaves install a KoraFlex soaker between the secret gutter and the gutter, welted at the outer edge and fully supported on a board.

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At Sandtoft we are continually innovating and improving our product range.
We reserve the right to change product specifications without notice. Please contact our Customer Support Team for the latest information or visit;

www.wienerberger.co.uk/technical-hub/rooftiles

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