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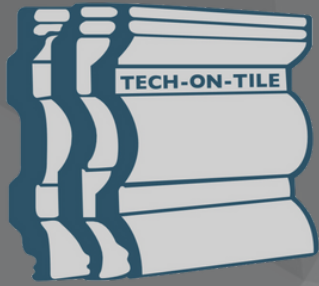
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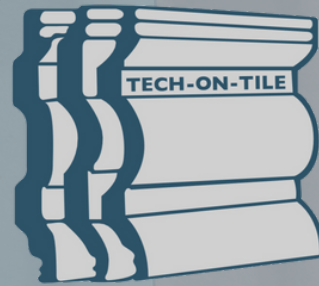
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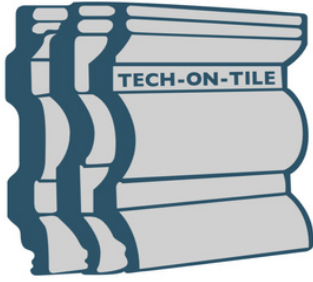


TECH-ON-TILE

STEP BY STEP **ROOFING** **GUIDE**



2023-2024



TECH-ON-TILE

Step by step roofing guide

1. Erection of roof trusses

2. Laying of underlay

3. Fixing of tiling battens

4. Fixing of roof tiles

STAGE 1

Erection of Roof Trusses



Step 1

TECH-ON-TILE

Fixing wall plates



Align wall plate minimum 76 x 38mm with inside wall and nail into position using 75mm wire nails every 400mm along wall plate

Step 2

TECH-ON-TILE

Marking out truss spacing



Mark position of all trusses at max centres of 900mm on both timber wall plates.



Adjust position of first and last truss at gable ends to ensure equal spacing at gables walls.

Step 2

TECH-ON-TILE

Marking out truss spacing



Mark position of all trusses at max centres of 900mm on both timber wall plates.



Adjust position of first and last truss at gable ends to ensure equal spacing at gables walls.

Step 3

TECH-ON-TILE

Positioning trusses at gable walls



Position first and last truss using temporary support bracing.



Make sure trusses are vertical.

Step 3

Continued

TECH-ON-TILE

Positioning trusses at gable walls



Make sure trusses protrude equally far on both sides over the wall plate.



Nail trusses to wall plate.

Step 4

TECH-ON-TILE

Positioning next two trusses



The next two trusses can now be positioned, plumbed and fixed temporarily to the first truss.



To keep the trusses in a vertical position, 38 x 38 battens are fixed on either side of the ridge.

Step 5

TECH-ON-TILE

Fixing of diagonal cross bracing



Fix diagonal cross bracing to the long webs of the first three trusses to create a rigid unit to which the other trusses can be attached with temporary battens. These temporary battens and bracing must be removed once all permanent battens are fixed.

Step 6

TECH-ON-TILE

Positioning remaining trusses



The remainder of the trusses can now be erected and attached to the three braced trusses.



Battens are used as temporary bracing to ensure trusses are installed vertically.

Step 7

TECH-ON-TILE

Alignment of trusses



Span a fish line above the wall plate from the first to the last truss to check alignment.



Adjust if necessary with wooden wedges under the tie beams of the trusses.



TECH-ON-TILE

Alignment of trusses



Screw nail all trusses with 100mm nails to the wall plate.

Step 8

TECH-ON-TILE

Fixing permanent bracing



Permanent diagonal bracing must now be installed at one gable end of the roof. Bracing members must be a minimum of 38 x 76mm.



Bracing members must be nailed to the underside of the trusses with 2 nails at approximately a 45° angle from the apex of the truss to the heel of the truss.

Step 8

Continued

TECH-ON-TILE

Fixing permanent bracing



Nailing of bracing members to trusses.



Bracing members must be connected to the wall plate with 3 nails.

Step 9

TECH-ON-TILE

Anchoring of trusses



Metal strips or galvanized wires have been built into the wall.



To resist uplift forces, each truss must now be permanently anchored to the wall and wall plate with these metal straps or galvanized wires.

STAGE 2

Laying of underlay/undertile



Step 10

TECH-ON-TILE

Fixing of undertile



Undertile must be fixed horizontally over rafters prior to battening.



Undertile is secured with clout nails to the centre of the rafters.

Step 10

Continued

TECH-ON-TILE

Fixing of undertile



The horizontal overlap should not be less than 150mm. Vertical laps must be secured over a rafter, allowing for a 150mm side overlap.

Step 11

TECH-ON-TILE

Undertile at eaves



At open eaves, the underlay can be stopped for aesthetic reasons at the external wall protruding the outside wall face, by 20mm.

STAGE 3

Fixing of tiling battens



Step 12

TECH-ON-TILE

Fixing of plaster batten



At a one tile roof overhang at eaves, place the first tiling batten (plaster batten) in line with the outside wall so that it acts as a finishing batten for plastering the outside wall.

Step 13

TECH-ON-TILE

Cutting of rafter ends



Measure 335mm from the top of the first tiling (plaster) batten down the slope of the rafter and make a mark on the first and the last rafter.



Use a chalk line to mark all rafters and cut off the rafter ends at right angles if no gutters and fascia boards are to be used.

Step 14

TECH-ON-TILE

Fixing of tilting batten



Fix a 38 x 50mm tilting batten placed on edge flush with the ends of the rafter.

Step 15

TECH-ON-TILE

Fixing of top batten



Place the top tiling batten maximum 25mm away from the apex (top end) of the trusses and nail into position.

Step 16

TECH-ON-TILE

Spacing of battens



Measure the distance from the top tiling batten to the top of the plaster batten. Divide equally by the number of courses required to establish the correct batten centres which should be between 320 and 345mm.

Step 16

Continued

TECH-ON-TILE

Spacing of battens



Mark the batten centres at each end of the first and last truss.

Step 17

TECH-ON-TILE

Marking of batten spacing



Use a chalk line to mark the batten centres.

Step 18

TECH-ON-TILE

Fixing of battens



Fix battens with 75mm long nails according to chalk lines. Battens must span over at least 3 trusses and joints must be staggered.



Allow for sufficient overhang at gable ends for trimming.

Step 19

TECH-ON-TILE

Establishing verge overhang



Establish verge overhang at gables by setting out a full course of tiles at the eaves and the ridge.



Adjust tiles to ensure that an equal roof overhang is achieved at both gable ends with full tiles.

Step 20

TECH-ON-TILE

Cutting of batten ends



Mark the correct roof overhang with a chalk line from the top batten to the plaster batten.



Cut off the end of the tiling battens, but do not cut the bottom tilting batten.

Step 21

TECH-ON-TILE

Fixing verge counter battens



Nail the verge counter batten to the ends of the tiling battens at both gable ends.



Nail the bottom end to the tilting batten

Step 22

TECH-ON-TILE

Cutting of tilting batten



The tilting batten must extend 20mm past the verge counter batten.



Now cut the tilting batten.

STAGE 4

Fixing of roof tiles



Step 23

TECH-ON-TILE

Alignment of tiles



Mark every third course of tiling with a chalk line to ensure perfect vertical alignment of tiles.

Step 23

Continued

TECH-ON-TILE

Alignment of tiles



Tiling should always be done from the right to left working from bottom to top in width of three tiles as set out at the eaves and ridges. This is the only way to keep the tiles in a straight line ensuring perfect alignment at the gable ends.

Step 24

TECH-ON-TILE

Fixing requirements of tiles



The minimum fixing requirement in unexposed areas is that every tile at the roof overhang and under the ridge must be nailed.



Clout nails must penetrate the batten by at least 25mm (75mm long nails for Double Roman tiles).

Step 25

TECH-ON-TILE

Fixing of rake tiles



Mark the front of the first rake tile and cut to line up with the eaves course of tiling. The first rake tile must butt up against the second course of tiles.



Thereafter, each following rake tile will fit easily always butting against the next course of tiling above.

Step 25

Continued

TECH-ON-TILE

Fixing of rake tiles



Rake tiles must be fixed with serrated nails.



The top rake tiles are mitred on site. Once mitred, top rake tiles form a neat junction on the roof and are bedded with the ridge tiles.

Step 26

TECH-ON-TILE

Setting out of ridge tiles



Taper ridge tiles have a variable overlap and require no cutting. The ridge tiles must always be set out along the full length of the ridge adjusting the overlap before bedding.

Step 27

TECH-ON-TILE

Placing DPC under ridge tiles



Before bedding, a 150mm wide PDC must be installed under the ridge tiles.

Step 28

TECH-ON-TILE

Mixing of bedding mortar



The bedding mortar for bedding of the ridge tiles, consists of 3 parts of clean plaster sand and one part of cement.



The mortar must be thoroughly mixed and suitably tinted to the colour of the tiles.

Step 29

TECH-ON-TILE

Fixing and finishing of ridge tiles



Ridge tiles are edge bedded into a continuous bed of mortar which is placed on top of the top course of tiles.



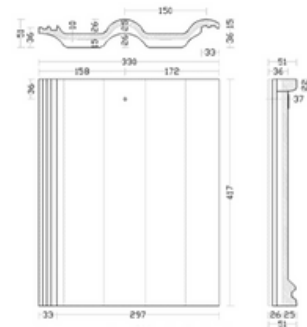
The excess mortar must be cut off and neatly pointed at right angles to the tiling and wet brushed for a neat finish.



Strength you can trust



Red



Black



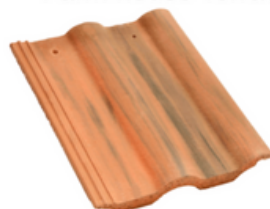
Tan

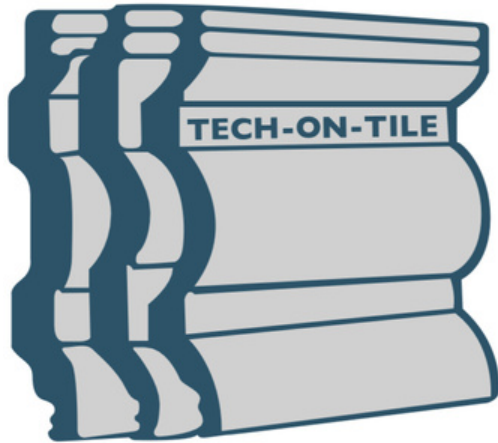


Brown



Terracotta





TECH-ON-TILE

Strength you can trust



Venetian

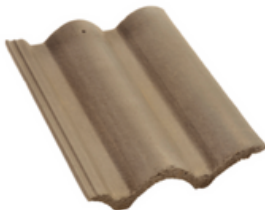
Red



Farm house Red



Black



Economical



Grey



Tan



Farm house Tan



Green



Brown



Farm house Brown



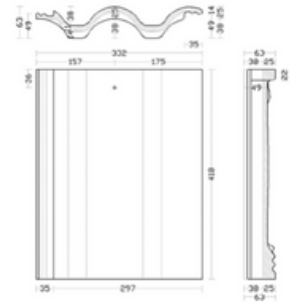
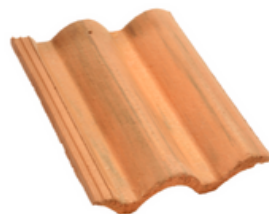
Maroon

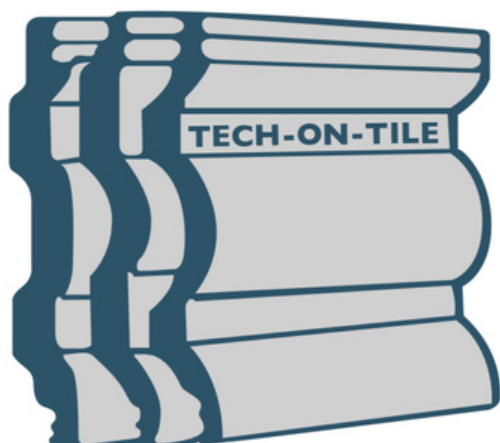


Terracotta



Farm house Terracotta





Elite



TECH-ON-TILE

Strength you can trust



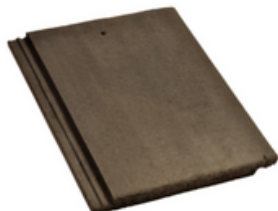
Red



Farm house Red



Black



Economical



Grey



Tan



Farm house Tan



Tan Farm house Red



Brown



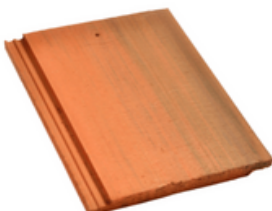
Farm house Brown

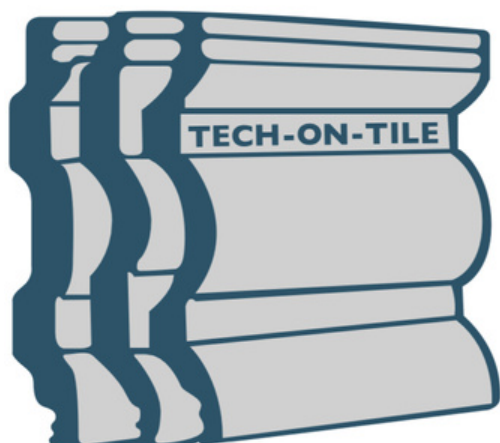


Terracotta



Farm house Terracotta





TECH-ON-TILE

Strength you can trust



New age Elite

Red



Farm house Red



Black



Economical



Tan



Farm house Tan



Brown



Farm house Brown

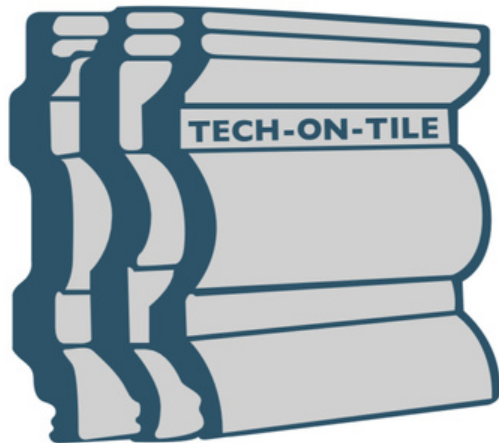


Terracotta



Farm house Terracotta





TECH-ON-TILE

Strength you can trust



V-Ridge



Flat cap Ridge



Flat cap Hip starter



Cap Ridge

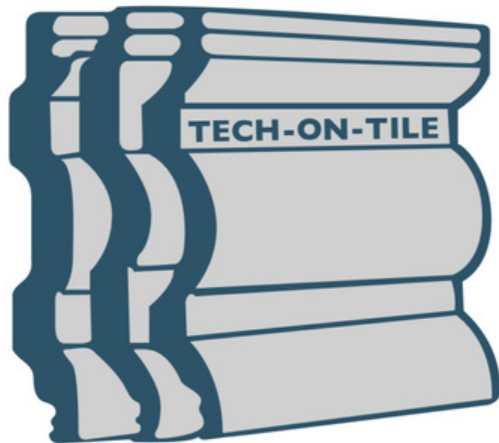


Taper Ridge



Taper Hip starter





TECH-ON-TILE

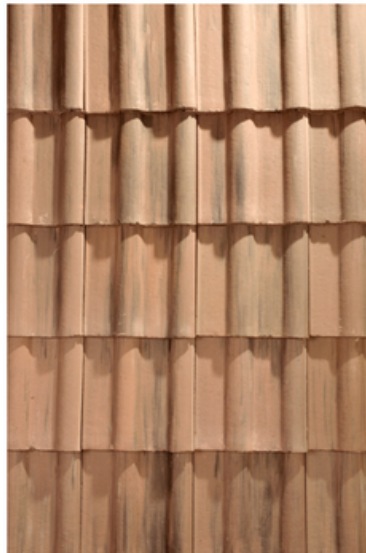
Strength you can trust



Red Farm house



Brown Farm house



Tan Farm house

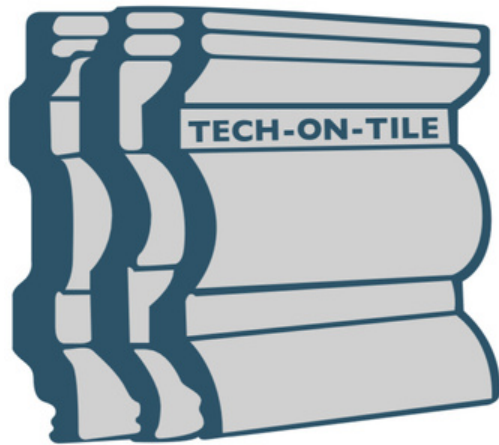


Economical



Terracotta Farm house





TECH-ON-TILE

Strength you can trust



Autumn



Antique



Red Dusk



River Stone

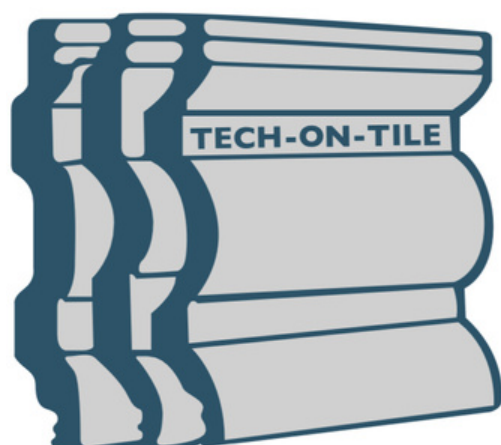


Tuscany



Sunset





TECH-ON-TILE

Strength you can trust



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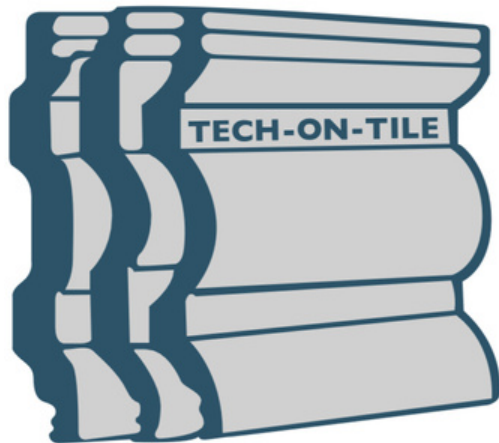
Polokwane

Office hours:

Mon-Fri: 08:00am-16:30pm

Sat: 08:00am-12:00pm

Sun: Closed



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Our partners



ALPHA SAND

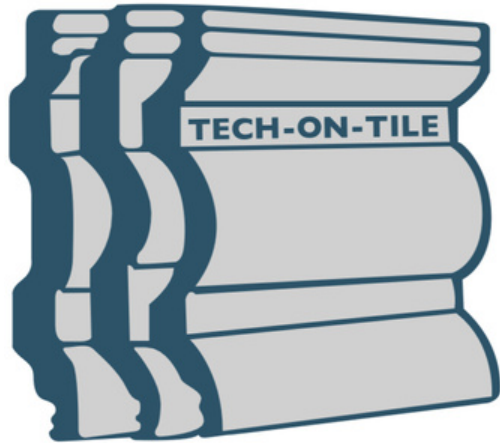


Duva Timbers



SABS

South African Bureau of Standards



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