

ROOF TILES OF DISTINCTION.

Tejas Borja is proud to introduce our newest line of clay roofing tiles - **TB- Flat**. **TB-Flat** is available in smooth, stone and wood shake textures. These profiles bring together the tradition of flat clay tiles and expand to offer bold new textures and finishes complementing a wide variety of architectural styles. From the sleek, contemporary to the rustic traditional, **TB-Flat** now provides even more choices for the discriminating designer.

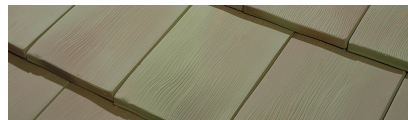
TB-Flat is an interlocking flat tile with a smooth surface texture. This beautiful and ergonomic tile works well with traditional architectural styles that require a flat roofing solution. In glaze finishes this tile can be used on the most modern architecture to provide a sleek, contemporary finish.

TB-Slate and **TB-Shake** represent the perfect union of nature and design. They stand out because of their textures which evoke elements as pure as wood and stone. The design of these tiles and accessories make them easy to install and create a long lasting statement of beauty. The elegant textures of **TB-Slate** and **TB-Shake** bring personality to your roof, easily integrating your home into its environment.

At Tejas Borja we are constantly striving to unite innovation and cutting edge creativity in order to bring you the latest aesthetic tools. Let **TB-Flat** bring your design dream to life!

BORJA TEXTURE Novelty

Shake



Green

slate



galicia grey

BORJA nature

Classics



RED



BROWN

BORJA decor

METALLIC

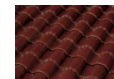


Copper



Lead

GLAZED



Cognac



Green



Cobalt Blue



Electric Blue



Alicante Blue



Sky Blue

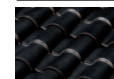


Carmin



Ivory

TAMIZADOS



Slate



Brown



Terracotta



Cream



Green



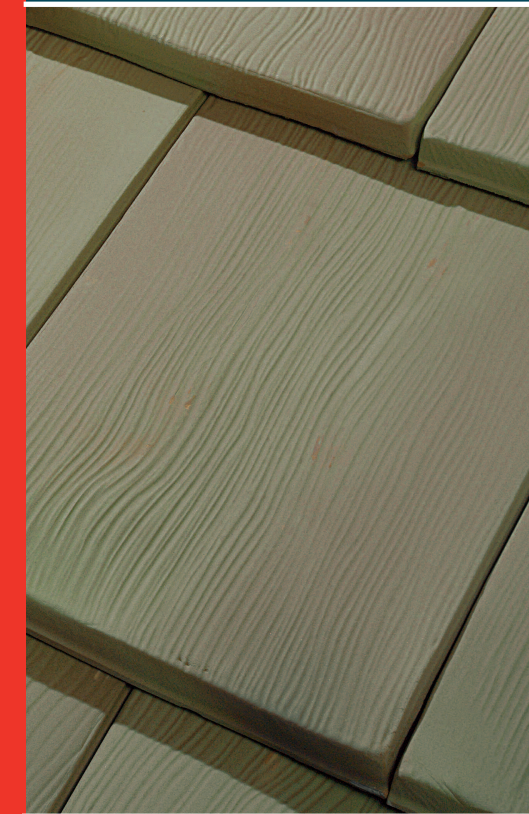
Blue

TB-Flat Tile



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Printed for 2008

NEW for 2008



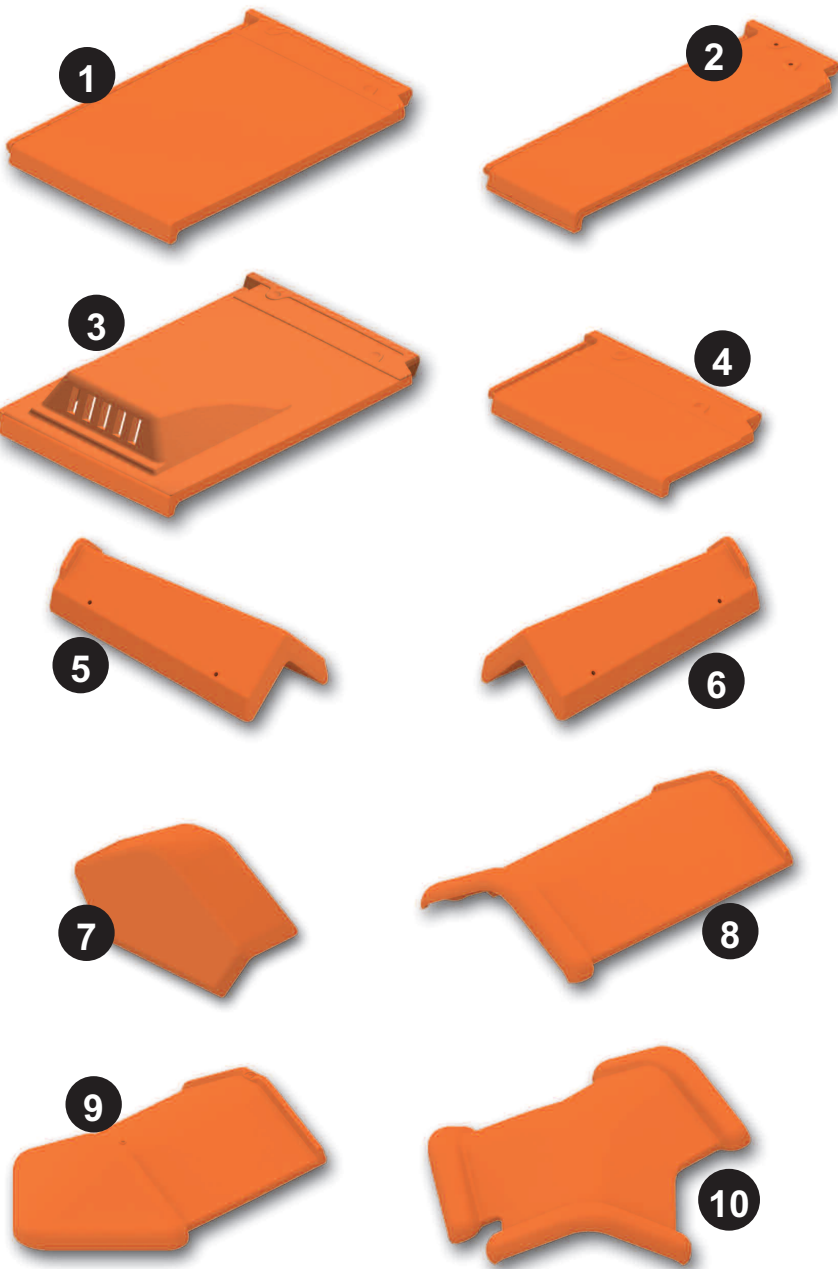
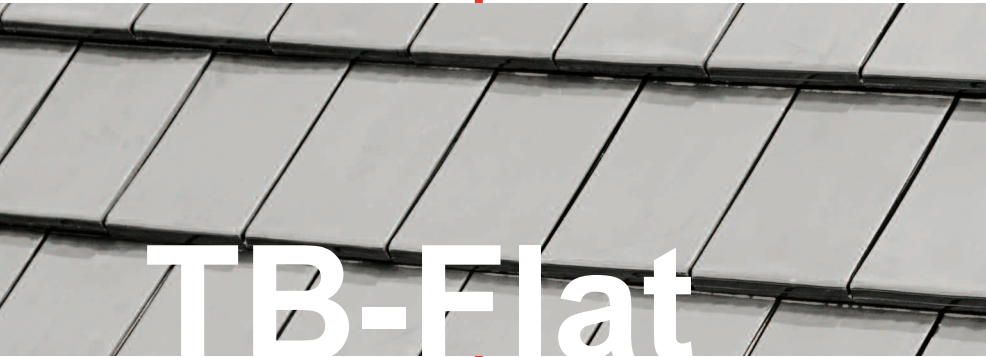
TB-Flat Tiles

A new concept in tile. A new aesthetic language
that unites design and innovation.


TEJAS BORJA
Unique since 1899
Francisco Navarro Borja

TB-FLAT

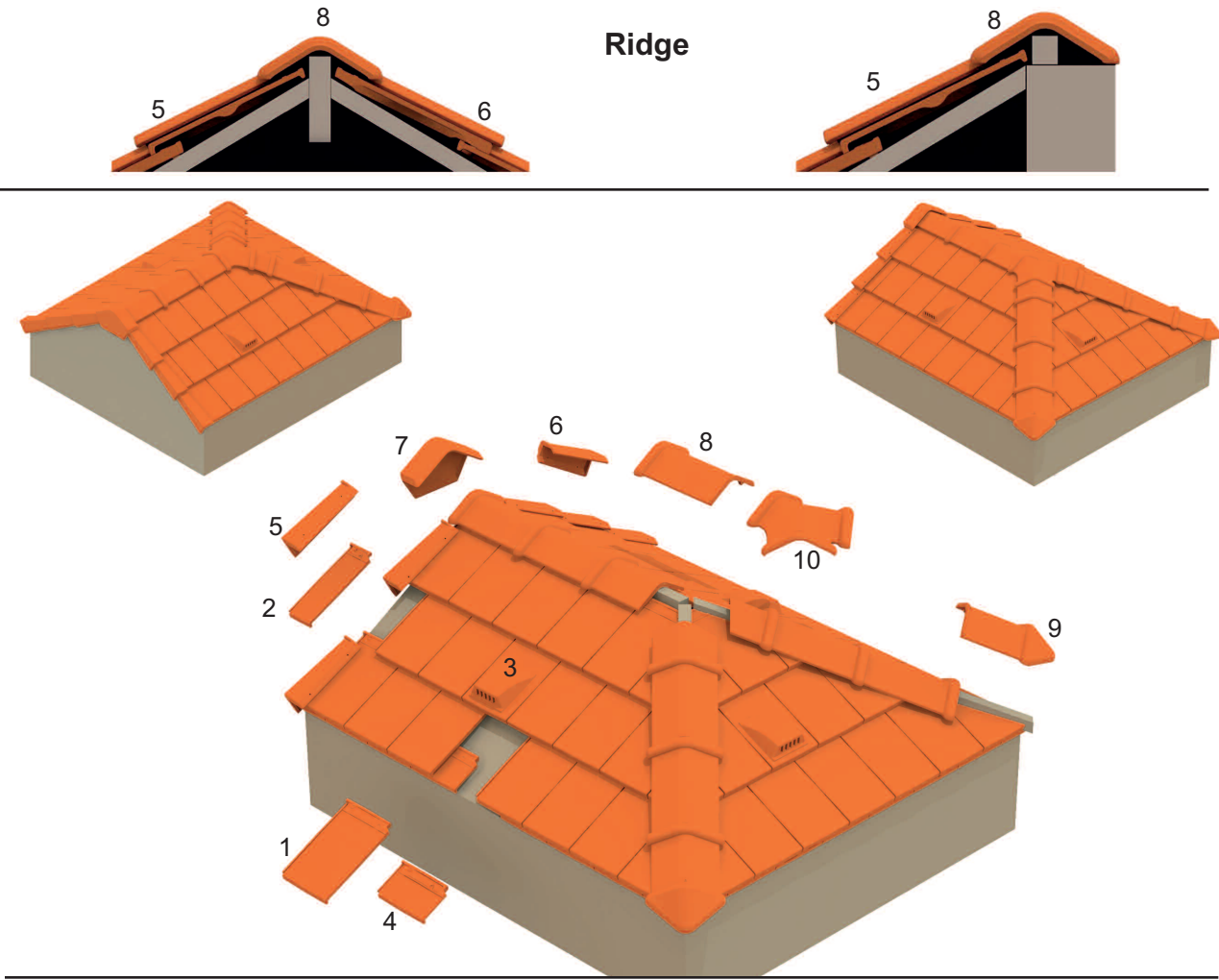
Finishing Pieces



- 1) TB - Flat**
Length*: 40.7 cm.
Width*: 27.9 cm.
Height*: 2.7 cm.
Weight*: 3.19 Kg.
- 2) Half Tile - Flat**
Length*: 40.8 cm.
Width*: 15.4 cm.
Height*: 2.9 cm.
Weight*: 1.77 Kg.
- 3) Ventilation Tile - Flat**
Length*: 40.7 cm.
Width*: 27.9 cm.
Height*: 7.8 cm.
Weight*: 3.9 Kg.
- 4) Starter Tile F**
Length*: 17.4 cm.
Width*: 27.6 cm.
Height*: 2.6 cm.
Weight*: 1.27 Kg.
- 5) TB - Flat universal gable - holes left**
Length*: 35.2 cm.
Width*: 11.6 cm.
Height*: 11.6 cm.
Weight*: 1.59 Kg.
- 6) TB - Flat universal gable - holes right**
Length*: 35.2 cm.
Width*: 11.6 cm.
Height*: 11.6 cm.
Weight*: 1.59 Kg.
- 7) Universal Gable 1160° angled ridge end cap**
Length*: 37 cm.
Width*: 11.9 cm.
Height*: 23.4 cm.
- 8) 1160° angled ridge**
Length*: 42.2 cm.
Width*: 29.3 cm.
Height*: 10 cm.
Weight*: 3.20 Kg.
- 9) 1160° angled ridge end**
Length*: 42.2 cm.
Width*: 29.3 cm.
Height*: 10 cm.
Weight*: 2.83 Kg.
- 10) 3 way 1160° angled ridge**
Length*: 45.1 cm.
Width*: 47.5 cm.
Height*: 13.8 cm.
Weight*: 4.37 Kg.

*Estimated values.

Placement and Construction Details



VERY IMPORTANT:
TB-Flat tile is a product especially designed to decorate roofs. It's necessary to waterproof surfaces for all pitches. Its design implies that the TB-Flat surface tile is not uniformly flat. Each tile can vary up to 8 mm along the horizontal plane (according to UNE standard 1304), so we recommend combining the contents of each pallet to attain a uniform appearance.

Installation

SUPPORT
The tiles can be placed on any suitable type of support or structure that is dry or with mortar, which uses wood, metallic lath, or a continuous surface of waterproof wood board.

Regardless of support or structure however, the roof surface must be perfectly even. Special attention should be paid to inclined floors by plumbing and leveling them with finishing mortar.

MOUNTING THE TILES
TB-Flat tile Installation is similar to Alicante Flat tile installation. In order to get the correct placement, you should start along the eave line from right to left in accordance with the direction of the side fittings, so that the next tile fits over the one previously positioned. Begin this operation using the STARTER TILE (4) [sic], placing the first row of tiles on top of it and even with the eave line. After this first line (the eaves), begin to mount the remaining tiles, placing them one on top of the other in ascending and parallel rows. Keep in mind that we recommend installing this model tile in discontinuous joints, cross-bonded or joined in "herringbone" fashion, so that a HALF TB-FLAT (2) tile must be placed on the left and right sides of the roof surface.

If the installation is completed in continuous joints, the half tile will not be necessary. Once the tiles are all placed, finish the sides of the roof surface with the TB - FLAT UNIVERSAL SIDE - HOLES LEFT (5) and the TB - FLAT UNIVERSAL SIDE - HOLES RIGHT (6).

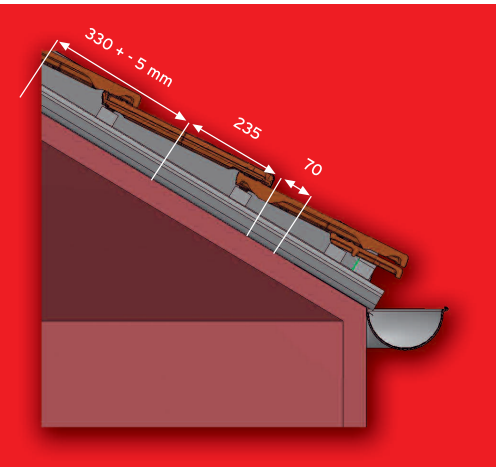
Finally, finish the ridge with the 1160° ANGLED RIDGE (8). At the ends of the side ridges, use the 116°ANGLED RIDGE END (9), and at the end of the central ridge, the 1160 ANGLED RIDGE END CAP (7).

FIXING
- *WITH MORTAR*
Use the minimum amount of mortar necessary for affixing the ceramic pieces, and always do so allowing for the correct ventilation of all roofing pieces. We recommend the use of mortars (preferably waterproof) with a 1:2:10 ratio dosage; that is, for every m3 of dry sand, use 200 kg of hydraulic lime and 100 kg of cement.

- *WITH LATH* (This is the recommended installation method.):
You can use Lath made of wood, metal or PVC. Place it perpendicular to the line of maximum pitch, spacing each piece at 2 meter intervals to allow for the ventilation of the underside of the tiles.

First place the support lath for the STARTER TILE (4) between 8 and 10 cm. from the edge of the support; the tile will hang out from 6 to 8 cm. Mount the support lath from the first row of TB_FLAT TILE in such a way that it overlaps and is even with the STARTER TILE (4) and is a distance of 23.5 cm from the first piece of lath. Using this method you will create the first row of tiles (the eaves). Finally, install the rest of the tiles with a lath interval of 33 cm. + 0.5cm - 0.5 cm. (Always verify these values during construction.)

Keep in mind that in order to affix the sides, you must prepare the support lath parallel to the line of maximum pitch and perpendicular to the eaves. To affix the ceramic pieces you should use nails or self drilling screws made of tempered and galvanized steel. Additionally you should use washers for affixing them with a hammer,



gun, polyurethane foam or paste especially designed for affixing tiles. Finally, seal all of holes.

PITCH
Because of its flat and decorative design, the TB-Flat tile is recommended on pitches greater than 40% so that the differentiating aesthetic value of the roof is not lost.

VERY IMPORTANT: This is a product especially designed to decorate roofs, therefore it is very important that you waterproof the entire support surface for all pitches.

VENTILATION
The tile undersides should be ventilated to properly protect the roof and to avoid the formation of condensation. Air should be allowed to enter through the eaves, so they should not be sealed or closed off. To do this, use eaves comb filler. The same applies to roof valleys if any are present.

A minimum of 1 VENTILATION TILE (3) for every 5 m2 should be positioned when using continuous structure (attaching by mortar), and 1 tile for every 10 m2 when using discontinuous structure (attaching on lath), along with a minimum of 3 ventilation tiles per roof surface (two on the low side and one on the high side). Air should be able to pass through the top and side ridges so do not seal them off with mortar.

To allow air to flow throughout the roofing area, use the minimum amount of mortar to affix the ceramic pieces (attaching by mortar), or interrupt the placement of the laths at two meter intervals (dry fixing).

LONG ROOF SURFACES
For roof lengths greater than 12 m, an intermediary gutter needs to be used. Always waterproof the entire roof.

All of TEJAS BORJA, S.A.U's products conform to the governing European regulations. The method of tile placement is the responsibility of the installer. It should conform to the Spanish regulation pertaining to ceramic tile roof mounting (UNE-136020:2004) and TEJAS BORJA, S.A.U's technical specifications