TOP TELHA®

CLAY ROOF TILES



TECHNICAL CATALOG

Headquartered in Leme, in the interior of São Paulo state, TOPTELHA® is a tile factory that combines tradition and technology of the Marchi family, operating in the ceramics industry since 1947.

With a production capacity of 2,000,000 roofing tiles per month, TOPTELHA® prioritizes product quality, strict production control, and environmental preservation. Our entire process from clay extraction to product delivery to the customer is guided by sustainable practices. Starting with clay extraction, TOPTELHA® owns its own properly registered quarry, complying with current legislation and standards, with a rigorous environmental recovery plan that includes 5 hectares of reforestation. Production generates zero waste, as all discarded material is reused in the process, and tile firing is clean, carried out in gas-fired kilns, with low CO_2 generation and no particulate matter emissions, resulting in tiles with greater quality and uniformity.

In addition to its commitment to the environment, TOPTELHA® is also committed to its employees, partners, community, and society. Through internal programs aimed at improving workplace well-being and professional development, the company values and preserves its most important asset: people.

TOPTELHA® consistently participates in social projects within the community and the city where it operates, investing in initiatives that promote well-being, environmental preservation, and social development.

TOPTELHA®

CLAY ROOF TILES



TOP TELHA®

CLAY ROOF TILES





13 T/m²

Mediterranean Tile





13 T/m²

Roman Tile





17 T/m²

Colonial Tile

Mediterranean Line

NOA 21-0723.01



Terracota Plus Tile

Water-repellent with silicone.
Low absorption.



Terracota Prime Tile

100% acrylic resin finish with a glossy touch!
Low absorption.



Terracota Class Tile

100% acrylic resin finish with higher gloss and more vibrant color!
Low absorption.





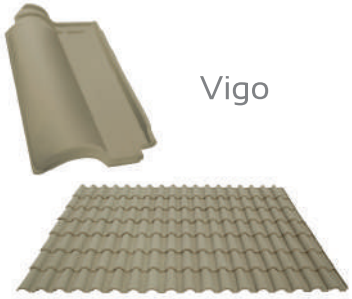


Engobadas



Ivory

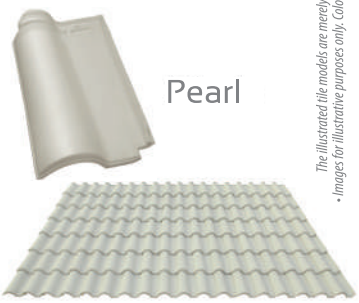
As telhas claras promovem conforto térmico para o ambiente!



Vigo



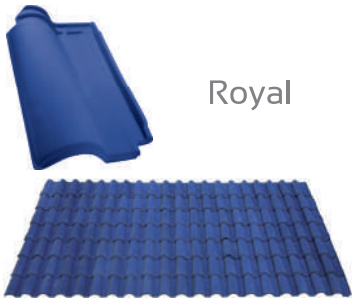
Garnet



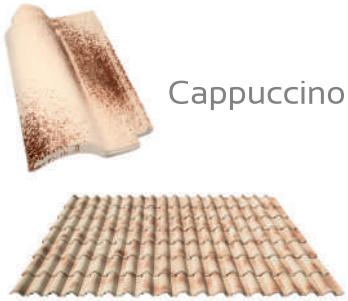
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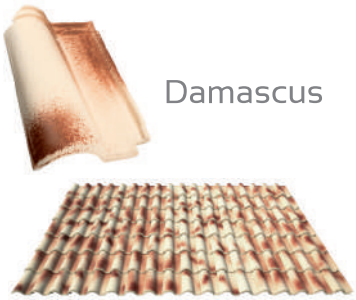
Coffee



Royal



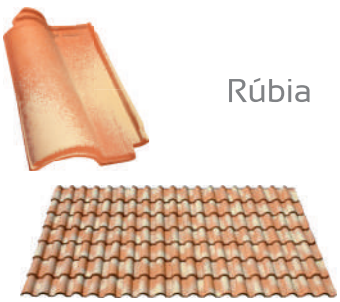
Cappuccino



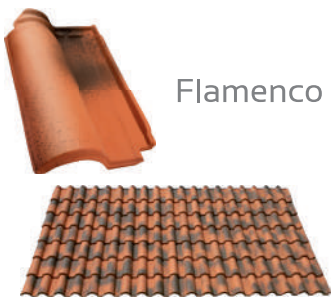
Damascus



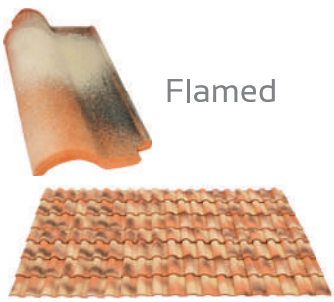
Grey



Rúbia



Flamenco



Flamed

The illustrated tile models are merely representative of the original product.
• Images for illustrative purposes only. Colors may vary according to the ceramic process.

All TOPTELHA® tiles are water-repellent with silicone, regardless of model or color, except for Terracotta Prime, which is finished with 100% acrylic resin, and Terracotta Class, which is finished with 100% acrylic resin with added pigment. Surface marks on engobed tiles are inherent to the manufacturing process. Engobed (colored) tiles receive an application of a compound (engobe) only on the upper face of the tile. We offer an option of double-face tiles, in which the blended tiles have a ivory tone on the underside. Variations in shade are inherent to the ceramic process.

Mediterranean Characteristics

Average Lenght	424 mm	Average Weight	3,0 kg	Minimum Pitch	30% **	Tiles per 20´ Container	7040
Average Width	257 mm	Resistance	>300 kgf	Tiles per m^2	13	Distance between battles *	377mm
Average Height	68 mm	Water Absorption	13%	Tiles per Square	122	Packaging	310 and 124 tiles

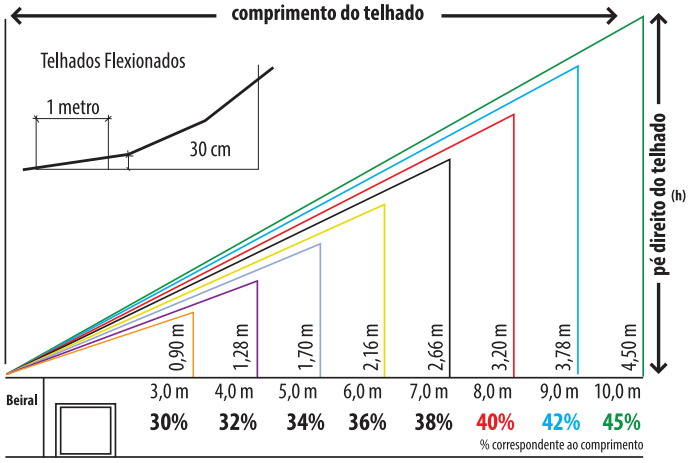
** The distance between battles must be checked against the batch of tiles delivered to the job site.*
*** Minimum roof pitch: 3 m. For pitches above 3 m, consult the roof pitch table.*

Mediterranean roof pitch

The roof pitch must be defined during the design phase, as this allows the roof slopes to be planned in a way that avoids excessive lengths, which helps prevent excessive rainwater accumulation on the roof.

The minimum allowable pitches depend on the length of the roof and are indicated in the table alongside. For roof lengths from 0 to 3 meters, the minimum pitch is 30%. For each additional meter, add 2% to the pitch value to ensure perfect watertightness of the roof and to prevent premature tile slippage. For pitches above 100%, all tiles must be mechanically fastened. For pitches between 45° and 100%, consult the specific table by accessing www.toptelha.com.br or contact technical support. Maximum allowable pitch: 173% (60°).

Maximum roof slope length: 10 m. For lengths above 10 m, consult the company's technical department. For the execution of curved roofs, a pitch of 30% must be maintained for the first meter, following the minimum pitch table for the remaining roof length.

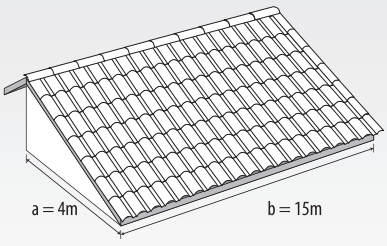


Mediterranean roof tile quantity calculation

Calculation
a = roof length (including eaves, if any)

b = roof width (including eaves, if any)

Fi = tile factor, including the roof pitch



The flat area of the roof is obtained by multiplying dimension b (width of a span) by dimension a (length of the roof).

The number of roof tiles is calculated by multiplying the flat area of the roof (including the distance of the eaves) by the factor Fi.

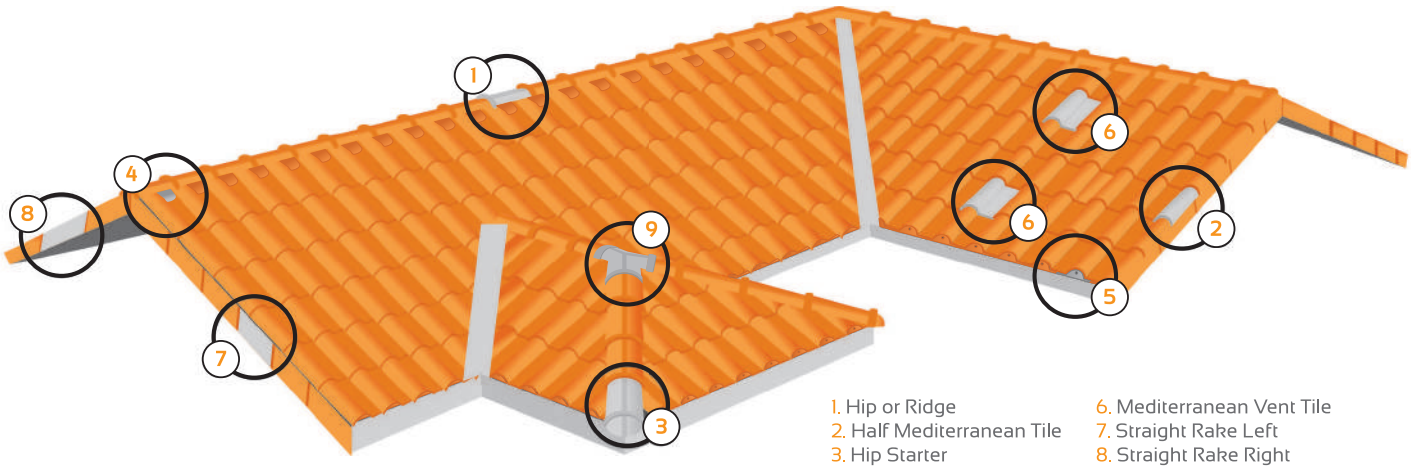
Example for a roof with a 32% slope:
a = 4 m
b = 15 m
Fi = 13,65

a x b x Fi = Number of roof tiles
4x15x13.65 = 819 Mediterranean tiles

For roofs with many cutouts (skylights, hidden roofs, and others), add 5 to 10% to the quantity of tiles.

Roof tile factor including roof pitch							
Pitch (%)	Fi	Pitch (%)	Fi	Pitch (%)	Fi	Pitch (%)	Fi
30	13,57	66	15,58	102	18,57	138	22,15
32	13,65	68	15,72	104	18,76	140	22,37
34	13,73	70	15,87	106	18,94	142	22,58
36	13,82	72	16,02	108	19,13	144	22,79
38	13,91	74	16,17	110	19,33	146	23,01
40	14,00	76	16,33	112	19,52	148	23,22
42	14,10	78	16,49	114	19,71	150	23,44
44	14,20	80	16,65	116	19,91	152	23,65
46	14,31	82	16,81	118	20,11	154	23,87
48	14,42	84	16,98	120	20,31	156	24,09
50	14,53	86	17,15	122	20,51	158	24,31
52	14,65	88	17,32	124	20,71	160	24,53
54	14,77	90	17,49	126	20,91	162	24,75
56	14,90	92	17,66	128	21,12	164	24,97
58	15,03	94	17,84	130	21,32	166	25,19
60	15,16	96	18,02	132	21,53	168	25,42
62	15,30	98	18,20	134	21,74	170	25,64
64	15,43	100	18,38	136	21,94	172	25,86

Mediterranean tile roofing



1. Hip or Ridge
2. Half Mediterranean Tile
3. Hip Starter
4. Under Ridge
5. Bird Stop
6. Mediterranean Vent Tile
7. Straight Rake Left
8. Straight Rake Right
9. 3-Way Ridge

Special Parts



1. Hip or Ridge



2. Mediterranean Half Tile



3. Spike End



4. Clog



5. Bird Stop



6. Mediterranean Ventilation Tile



7. Left Side Finishing



8. Right Side Finishing



9. 3-Way Ridge



10. Roman Half Tile

Pieces available in all tile colors. Terracotta tile available in Plus, Prime, and Class versions. The special glazed (colored) pieces receive an application of a compound (glaze) only on the top surface of the roof.

Technical data sheet for special parts

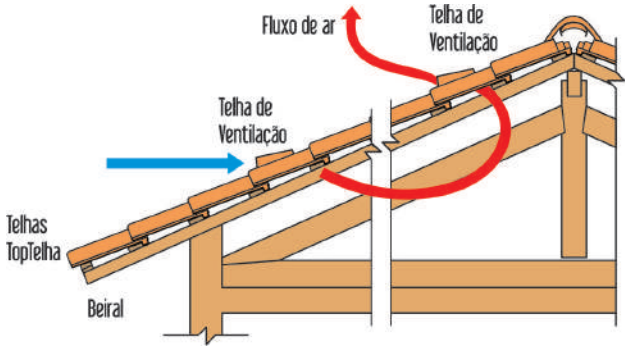
SPECIAL PARTS	LENGTH	WIDTH	HEIGHT	WEIGHT PER PIECE	CONSUMPTION	WATER ABSORPTION
Hip or Ridge	45 cm	21,7 cm	8 cm	2,9 kg	2,4 pç/m	< 13%
Mediterranean Half Tile	42 cm	14,5 cm	5,6 cm	2 kg	2,8 pç/m	< 13%
Clog	18,4 cm	11,8 cm	5,7 cm	0,7 kg	9,5 p/m*	< 13%
3-Way Ridge	40 cm	40,5 cm	11 cm	3,4 kg	•	< 13%
Spike End	40 cm	21,7 cm	9,5 cm	2,8 kg	•	< 13%
Mediterranean Ventilation Tile	42,4 cm	25,7 cm	9,5 cm	3,2 kg	3 pç/10 m^2	< 13%
Bird Stop	21,5 cm	4,8 cm	6,5 cm	0,28 kg	5 pç/m	< 13%
Roman Half Tile	45 cm	14 cm	4,6 cm	2 kg	2,7 pç/m	< 13%
Left Side Finishing	45,9 cm	8,30 cm	15,5 cm	2,5 kg	2,8 pç/m	< 13%
Right Side Finishing	45,9 cm	8,30 cm	15,5 cm	2,5 kg	2,8 pç/m	< 13%

* *Consumption considering both sides of the roof slope in the bundling.*

Mediterranean ventilation tile

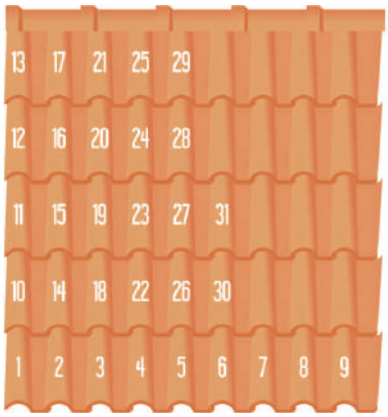
TOPTELHA® ventilation tile was developed to neutralize the effect of daily temperature variations. When installed, they allow the creation of an air current under the roof and the consequent removal of hot air, preventing the condensation of water vapor under the tiles and its effects, such as the deterioration of the wood framing.

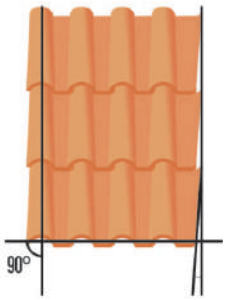
For the system to work, there must be at least 3 ventilation tiles for every 10 m^2 of roofing. After calculating the correct number of tiles for the installation, each roof span must be considered individually. Even with an area smaller than 10 m^2, a roof span must have a minimum of 3 ventilation tiles (2 tiles near the eaves and 1 tile near the ridge).



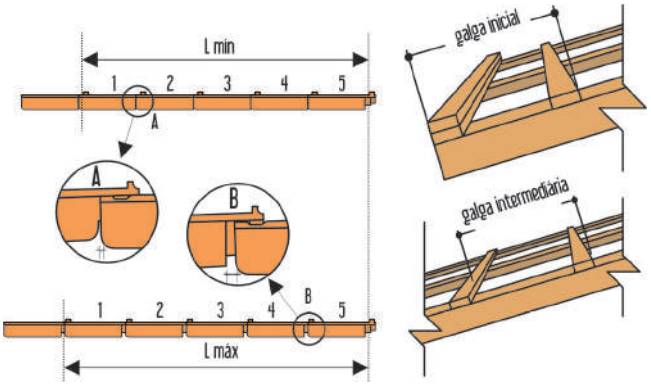
Mediterranean roofing alignment installation

The tiles must be placed with a small angle of inclination.
For correct alignment, verify that the two pins of the tile are fitted into the batten.
The alignment must be performed with a line or ruler.





Mediterranean Gauge



A = Minimum spacing
B = Maximum spacing

Average tile gauge = $\frac{L\ mín + L\ máx}{10}$

Initial tile gauge= 28 cm

All TOPTELHA® tiles are water-repellent with silicone, regardless of model or color, with the exception of the Terracotta Prime tile, which is 100% acrylic resin; and the Terracotta Class, which is 100% acrylic resin with added pigment.
Superficial marks in the engobe are inherent to the manufacturing process.
The engobed (colored) tiles receive an application of a compound (engobe) only on the top surface of the roof. We have a double-face option for the tiles, where the mixed ones are with an ivory tone on the bottom part.
Tone variations are inherent to the ceramic process.

Notes

1. The cutting and drilling of clay tiles must be carried out with the tiles wet. Cut tiles must be cleaned before being placed on the roof. Always use safety equipment.
2. *The gauge (distance between battens) must always be checked with the batch of tiles delivered to the construction site.
3. Images merely illustrative.
4. The superficial appearance of the tile may change over time, depending on the region climate, such as:

a. Darkened surface
b. Superficial greening or moss formation
c. Mold on the inside of the roof due to lack of ventilation or humidity

Warranty

The warranty does not cover the changes cited in item 4 alongside, sub-items A, B, and C, as well as defects resulting from:

- Breakage of TOPTELHA® products during the installation of antennas, electrical, or hydraulic connections
- Improper application of the product
- Inadequate use
- Inadequate transport and storage
- Failure to observe the product installation recommendations

Roman Line



Terracotta Plus Tile

Water-repellent with silicone.
Low absorption.





Terracotta Prime Tile

100% acrylic resin finish with a glossy touch!
Low absorption.





Terracotta Tile Class

100% acrylic resin finish with higher gloss and more vibrant color!
Low absorption.



Tone variations are inherent to the ceramic process. Images merely illustrative. Consult delivery times.

Características Romana

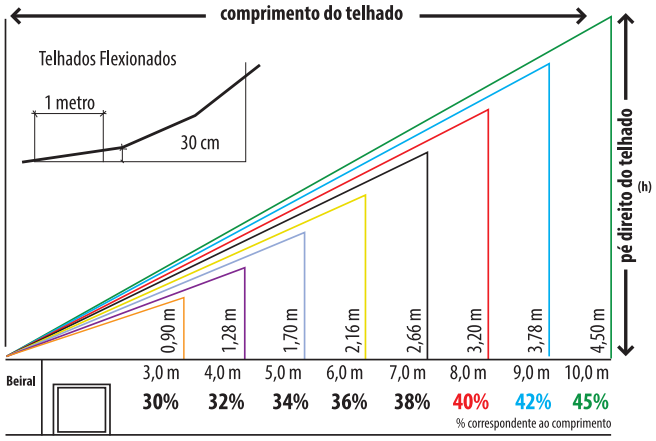
Average Lenght	445 mm	Average Weight	3,0 kg	Minimum Pitch	30% **	Tiles per 20´ Container	7040
Average Width	253 mm	Resistance	>300 kgf	Tiles per m^2	13	Distance between battles *	377mm
Average Height	68 mm	Water Absorption	13%	Tiles per Square	122	Packaging	310 and 124 tiles

** The distance between battles must be checked against the batch of tiles delivered to the job site.*
*** Minimum roof pitch: 3 m. For pitches above 3 m, consult the roof pitch table.*

Roman roof pitch

The minimum allowable pitches depend on the length of the roof and are indicated in the table alongside. For roof lengths from 0 to 3 meters, the minimum pitch is 30%. For each additional meter, add 2% to the pitch value to ensure perfect watertightness of the roof and to prevent premature tile slippage. For pitches above 100%, all tiles must be mechanically fastened. For pitches between 45° and 100%, consult the specific table by accessing www.toptelha.com.br or contact technical support. Maximum allowable pitch: 173% (60°).

Maximum roof slope length: 10 m. For lengths above 10 m, consult the company's technical department. For the execution of curved roofs, a pitch of 30% must be maintained for the first meter, following the minimum pitch table for the remaining roof length.

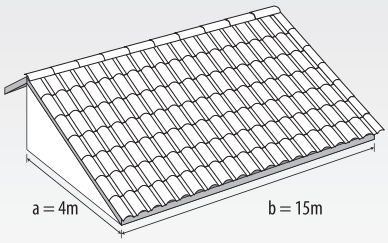


Roman roof tile quantity calculation

Calculation
a = roof length
(including eaves, if any)

b = roof width
(including eaves, if any)

Fi = tile factor, including the roof pitch



The flat area of the roof is obtained by multiplying dimension b (width of a span) by dimension a (length of the roof).

The number of roof tiles is calculated by multiplying the flat area of the roof (including the distance of the eaves) by the factor Fi.

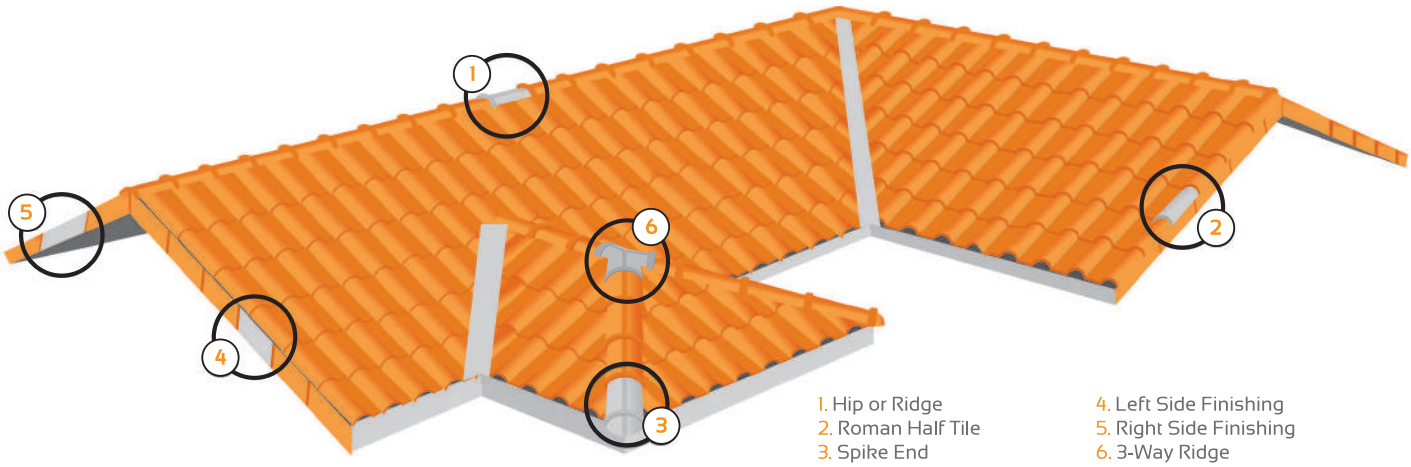
Example for a roof with a 32% slope:
a = 4 m
b = 15 m
Fi = 13,65

a x b x Fi = Number of roof tiles
4x15x13.65 = 819 Roman

For roofs with many cutouts (skylights, hidden roofs, and others), add 5 to 10% to the quantity of tiles.

Roof tile factor including roof pitch							
Pitch (%)	Fi	Pitch (%)	Fi	Pitch (%)	Fi	Pitch (%)	Fi
30	13,57	66	15,58	102	18,57	138	22,15
32	13,65	68	15,72	104	18,76	140	22,37
34	13,73	70	15,87	106	18,94	142	22,58
36	13,82	72	16,02	108	19,13	144	22,79
38	13,91	74	16,17	110	19,33	146	23,01
40	14,00	76	16,33	112	19,52	148	23,22
42	14,10	78	16,49	114	19,71	150	23,44
44	14,20	80	16,65	116	19,91	152	23,65
46	14,31	82	16,81	118	20,11	154	23,87
48	14,42	84	16,98	120	20,31	156	24,09
50	14,53	86	17,15	122	20,51	158	24,31
52	14,65	88	17,32	124	20,71	160	24,53
54	14,77	90	17,49	126	20,91	162	24,75
56	14,90	92	17,66	128	21,12	164	24,97
58	15,03	94	17,84	130	21,32	166	25,19
60	15,16	96	18,02	132	21,53	168	25,42
62	15,30	98	18,20	134	21,74	170	25,64
64	15,43	100	18,38	136	21,94	172	25,86

Cobertura Romana

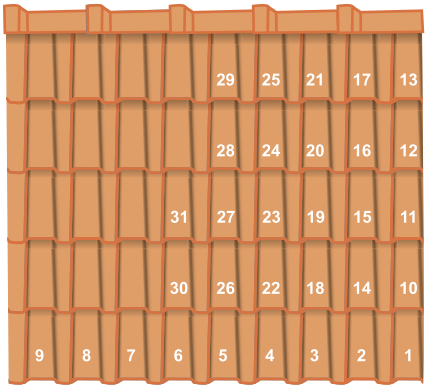


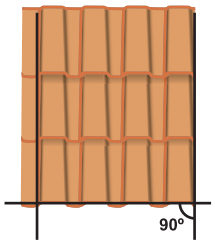
1. Hip or Ridge
2. Roman Half Tile
3. Spike End
4. Left Side Finishing
5. Right Side Finishing
6. 3-Way Ridge

Use the technical data sheet from page 4

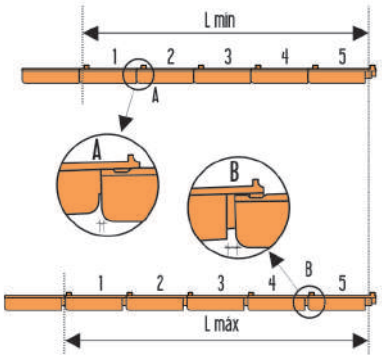
Roman roofing alignment installation

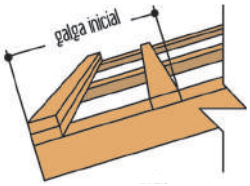
The tiles must be placed with a small angle of inclination.
For correct alignment, verify that the two pins of the tile are fitted into the batten.
The alignment must be performed with a line or ruler.





Roman gauge





A = Minimum spacing
B = Maximum spacing

Average tile gauge = $\frac{\text{L mín + L máx}}{10}$

Initial tile gauge = 33 cm

Notes

1. The cutting and drilling of clay tiles must be carried out with the tiles wet. Cut tiles must be cleaned before being placed on the roof. Always use safety equipment.
2. *The gauge (distance between battens) must always be checked with the batch of tiles delivered to the construction site.
3. Images merely illustrative.
4. The superficial appearance of the tile may change over time, depending on the region climate, such as:

a. Darkened surface
b. Superficial greening or moss formation
c. Mold on the inside of the roof due to lack of ventilation or humidity

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The warranty does not cover the changes cited in item 4 alongside, sub-items A, B, and C, as well as defects resulting from:

- Breakage of TOPTELHA® products during the installation of antennas, electrical, or hydraulic connections
- Improper application of the product
- Inadequate use
- Inadequate transport and storage
- Failure to observe the product installation recommendations



TOPTELHA® is a guarantee of protection, comfort, and quality.

When choosing your roof, choose TOPTELHA®. The only one with an extended warranty of quality and tranquility.

TOPTELHA®

CLAY ROOF TILES

Colonial Line

Water repellent with silicone.
Low absorption.

25 YEARS WARRANTY



Terracota Plus



Terracota Class



Flamenco



Gray



Rúbia e Flamenco



Ivory



Rúbia



Flamed

Tone variations are inherent to the ceramic process. Images merely illustrative. Consult delivery times.

All TOPTELHA® tiles are water-repellent with silicone, regardless of model or color, with the exception of the Terracotta Prime tile, which is 100% acrylic resin; and the Terracotta Class, which is 100% acrylic resin with added pigment. Superficial marks in the engobe are inherent to the manufacturing process. The engobed (colored) tiles receive an application of a compound (engobe) only on the top surface of the roof. We have a double-face option for the tiles, where the mixed ones are with an ivory tone on the bottom part. Tone variations are inherent to the ceramic process

Colonial characteristics

Average Lenght	548 mm
Average Width	223 mm
Average Height	68 mm

Average Weight	3,6 kg
Resistance	>300 kgf
Water Absorption	13%

Minimum Pitch	35% **
Tiles per m²	17
Tiles per Square	183

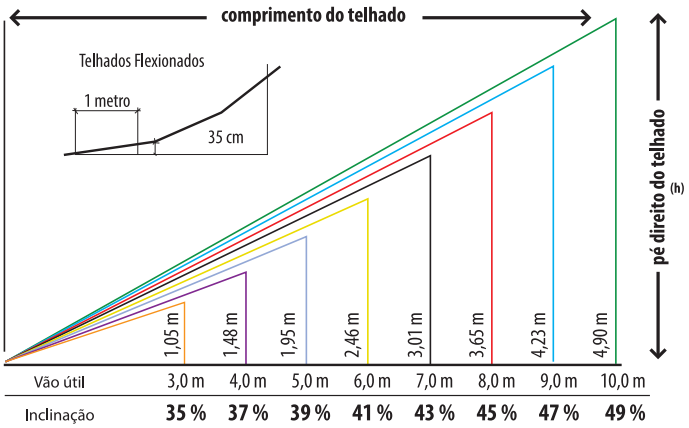
Tiles per 20´ Container	7040
Distance between battles *	478 mm
Packaging	140 tiles

**The fitting gauge (distance between battens) must be checked using the tiles delivered to the construction site. **Minimum pitch up to 3 m. Above 3 m, consult the roof pitch table. Superficial marks in the engobe are inherent to the manufacturing process. Engobed (colored) tiles receive an application of a compound (engobe) only on the top surface of the roof.*

Colonial roof pitch

The minimum allowable pitches depend on the length of the roof and are indicated in the table alongside. For roof lengths from 0 to 3 meters, the minimum pitch is 35%. For each additional meter, add 2% to the pitch value to ensure perfect watertightness of the roof and to prevent premature tile slippage. For pitches above 100%, all tiles must be mechanically fastened. For pitches between 45° and 100%, consult the specific table by accessing www.toptelha.com.br or contact technical support. Maximum allowable pitch: 173% (60°).

Maximum roof slope length: 10 m. For lengths above 10 m, consult the company's technical department. For the execution of curved roofs, a pitch of 35% must be maintained for the first meter, following the minimum pitch table for the remaining roof length.

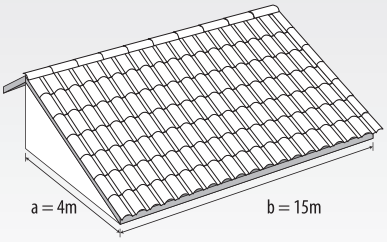


Cálculo de quantidade de telhas Colonial

Calculation
a = roof length
(including eaves, if any)

b = roof width
(including eaves, if any)

Fi = tile factor, including the roof pitch



The flat area of the roof is obtained by multiplying dimension b (width of a span) by dimension a (length of the roof).

The number of roof tiles is calculated by multiplying the flat area of the roof (including the distance of the eaves) by the factor Fi.

Example for a roof with a 37% slope:
a = 4 m
b = 15 m
Fi = 18,13

a x b x Fi = Number of roof tiles
4 x 15 x 18,13 = 1088 Colonial tiles

For roofs with many cutouts (skylights, hidden roofs, and others), add 5 to 10% to the quantity of tiles.

Roof tile factor including roof pitch							
Pitch (%)	Fi	Pitch (%)	Fi	Pitch (%)		Pitch (%)	Fi
35	18,01	71	20,85	107	24,90	143	29,66
37	18,13	73	21,05	109	25,15	145	29,94
39	18,25	75	21,25	111	25,40	147	30,22
41	18,37	77	21,46	113	25,65	149	30,51
43	18,51	79	21,66	115	25,91	151	30,79
45	18,64	81	21,88	117	26,17	153	31,07
47	18,78	83	22,09	119	26,42	155	31,36
49	18,93	85	22,31	121	26,69	157	31,64
51	19,08	87	22,53	123	26,95	159	31,93
43	19,24	89	22,76	125	27,21	161	32,22
55	19,40	91	22,99	127	27,48	163	32,51
57	19,57	93	23,22	129	27,75	165	32,80
59	19,74	95	23,45	131	28,02	167	33,09
61	19,91	97	23,68	133	28,29	169	33,38
63	20,09	99	23,92	135	28,56	171	33,68
65	20,28	101	24,16	137	28,83	173	33,97
67	20,46	103	24,40	139	29,11	-	-
69	20,65	105	24,65	141	29,39	-	-

Special parts



1. Hip or Ridge



2. Colonial Tile



3. 3-Way Ridge



4. Spike End



5. Bird Stop

One can use the colonial roof tile itself as a ridge tile

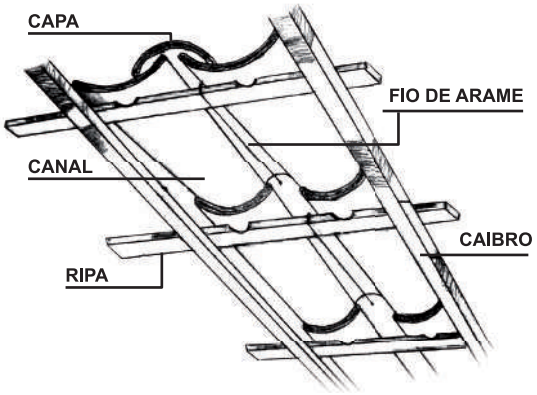
Technical data sheet for special parts

SPECIAL PARTS	LENGTH	WIDTH	HEIGHT	WEIGHT PER PIECE	CONSUMPTION*	WATER ABSORPTION
Cumeeira	45 cm	21,7 cm	8 cm	2,9 kg	2,4 pç/m	< 13%
Colonial	54,8 cm	22,3 cm	6,8 cm	3,6 kg	2,1 pç/m	< 13%
3 Vias	40 cm	40,5 cm	11 cm	3,4 kg	•	< 13%
Final de Espigão	40,5 cm	21,7 cm	9,5 cm	2,8 kg	•	< 13%
Passarinheira Colonial	12,7 cm	5,0 cm	7,0 cm	0,2 kg	4 pç/m	< 13%

**Consumption per linear meter when used as a ridge tile.*

Fastening of the colonial roof tile

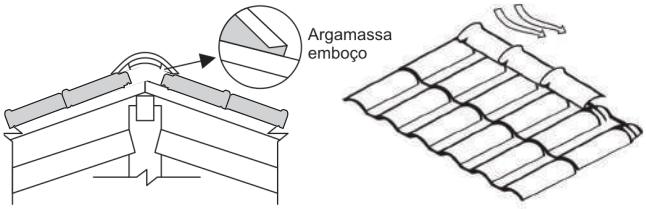
It is recommended to tie the channels up to the 3rd installed row. All cap tiles must be tied to the upper batten they are on, meaning, always tying to the batten above where the tile was laid.



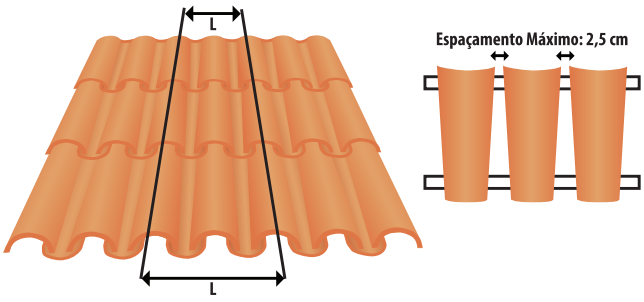
The fastening of the tiles can be done with copper wires or galvanized steel wire.

Installation of the colonial ridge tile

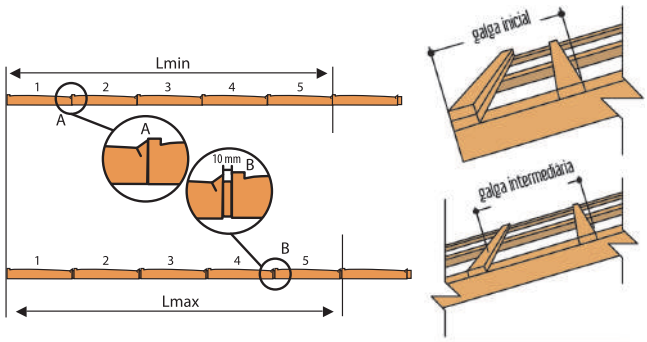
One must plan ahead for the installation of the ridge tile to avoid cuts and obtain the best aesthetic finish. It is very important that the mortar used for the bedding (plastering) is protected by the ridge tile, not remaining exposed to atmospheric agents.



Colonial installation and alignment



Colonial gauge



A = Minimum spacing
B = Maximum spacing

Average tile gauge = $\frac{\text{L mín + L máx}}{10}$

Initial tile gauge = 39 cm

Observations and warranty

The observations and items covered by the warranty period of the Colonial Line, are the same observations and items covered by the Mediterranean Line and Roman Line.

www.toptelha.com.br



Prioritizing the delivery of quality to our consumers, TOPTELHA® clay tiles have a 25-year warranty and national and international quality certifications.

All tiles have perfect alignment, homogeneous colors, are water-repellent for lower water absorption, with the option of also being resin-coated. Our tiles promote thermal comfort and incomparable resistance.

To guarantee rigid quality control, all produced batches are evaluated in our internal laboratory, from the characterization of the raw material to the final product.

The Mediterranean tile line is qualified by PSQ/PBQP-H, "certified according to Inmetro Ordinance no. 658 of 12/17/2012 by CCB, an organism accredited by the General Coordination for Accreditation of Inmetro", access: goo.gl. It also has international certification NOA 21-0723.01 through MIAMI-DADE COUNTY, with certification for sale in the United States.

The Warranty Certificates for the Mediterranean, Roman, and Colonial Tiles are duly registered in the registry of deeds and documents of Leme (SP), guaranteeing strict compliance with the requirements of the ABNT-NBR 15310 standard.

The same seriousness used to guarantee quality in production is applied to preserve nature. TOPTELHA®'s commitment to the environment is guided by compliance with environmental legislation and standards in its manufacturing unit and quarrying areas, which are recovered through strict compliance with its environmental recovery plan

CCB ABNT NBR 15310 · PSQ Programa Setorial da Qualidade CERÂMICA VERMELHA · PBQP-H · ANICER

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CT - TOPTELHA 03/2024