LEED QUALIFYING

MADE IN U. S. A.

MCA® Clay Roof Tile

CORONA TAPERED MISSION™

THE LEADER IN THE CLAY ROOF TILE INDUSTRY IN THE U.S.A.

Corona Tapered Mission™ ... Excellence in Versatile Design

Marriott's Newport Coast Villas, Newport Coast, CA - 4 Different Custom Blends: CB228-R, CB227-R, CB301-R

Versatility

Corona Tapered Mission is the most popular two-piece clay roof tile in the industry. It brings the traditional beauty and warmth of Hacienda or Tuscan design to any project. This versatile tile adds distinction and style to commercial buildings, custom homes, institutional and military projects throughout the world. Combined with the option of Turret Tile®, the appeal of Corona Tapered Mission Tile is extraordinary.

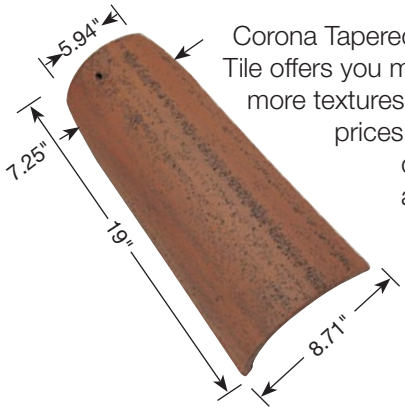
Green Building Product

Build Green and earn LEED points with MCA's Corona Tapered Mission Tile. 60% of MCA's clay content is pre-consumer recycled material.

Durability

Corona Tapered Mission Tile is an extremely durable tile. It is rated ASTM C1167 Grade 1, the highest quality available, and meets freeze/thaw and salt intrusion conditions. Competitively priced and 100% made in America, Corona Tapered Mission is backed by a 50-Year limited warranty.

For more information, please contact MCA sales office at 1-800-736-6221 or visit the website at www.mca-tile.com.



Corona Tapered Mission™ Tile offers you more colors, more textures, affordable prices and higher quality than any roof tile in the industry today.

The Tile is Vintage Red

Turret Roof Option

CC/CODES, CERTIFICATIONS

- IAPMO UES ER-356*
- TDI Approval RC-21
- Florida Building Code, FL22539.4
- Class A, E108 (UL790)
- ASTM C1167 Grade 1
- Made in USA
- Miami-Dade County, FL NOA No. 19-1021.26 (Exp. 02/16/22)

* IAPMO UES Evaluation Report covers City of Los Angeles and is in lieu of ICC-ES.

Corona Tapered Mission™ - Natural Red & Flashed Colors

MCA Clay Roof Tile

OP/OVERALL PRODUCT

For the timely elegance of old world tradition, M.C.A. uses new technology to create our Corona Tapered Mission™ Tile. Originally handcrafted by molding clay to the body's thigh this heritage has spanned the centuries for today's installations. Old Spanish or Mediterranean designs are well suited for Corona Tapered Mission™ Tile and will enhance the beauty of your project. Custom blends and colors are also available.

B338 Palace Blend

Bellagio Resort, Las Vegas, NV Various Custom Blends

INSTALLATION METHOD

(1) At roof pitches of 3:12 and steeper, provide a minimum of one layer ASTM D-226 Type II No. 30 (14kg) felt or upgraded material. Provide in strict accordance with pertinent requirements of governmental and/or other agencies having jurisdiction.
(2) Install birdstop or 1 x 2 (18mm x 36mm) wood strip at eave to boost first course of tile.
(3) Install first row of tile leaving a 3" (76mm) overhang with a minimum of one corrosion-resistant nail not less than No. 11 gauge (3mm dia.), 5/16" (7.9mm) head per tile or tile tie system.
(4) Install booster tile above birdstops.
(5) Install starter tiles directly above booster tile.
(6) Install 2 x 6 (36mm x 140mm) nailer on hip and ridge, set neatly in ASTM C-270 Type M cement mortar.
(7) Install rake tiles (if required) on all gable using 2 nails per tile.
(8) Install 2 x 3 (36mm x 64mm) nailer under first row of cover tile after gable roll with adjacent 2 x 2 (36mm x 36mm) nailer along rake side.

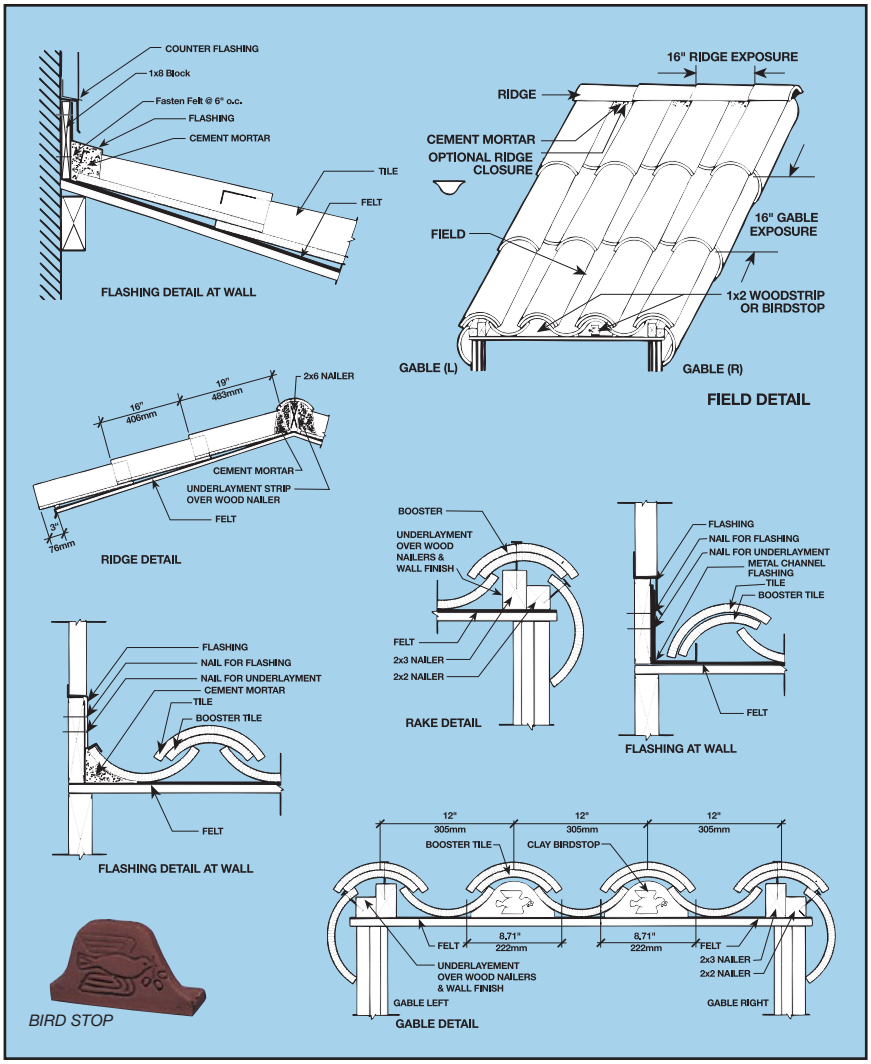
TILE SPECIFICATIONS:

Actual size:	19" x 8.71" (5.94")*
Exposed size:	16" x 12" O.C.
Weight per square:	1050 lbs
Weight per piece:	7 lbs
No. of pieces per sq:	150 pcs

METRIC TILE SPECIFICATIONS:

Actual size:	483mm x 222mm (151mm)*
Exposed size:	406mm x 305mm
Weight per M2:	51.27 kg
Weight per piece:	3.18 kg
No. of pieces per M2:	16.15 pcs

Metric conversion of lumber is actual dimensions of lumber; use lumber of the closest dimensions available.
*Dimension of the head of the tile.



Pacific Highlands Ranch Fire Station, San Diego, CA - 75% B301 Old Mission Blend and 25% 2F34 Carmel

LEED QUALIFYING

Club House, Lake Las Vegas, NV - 301 Old Mission Blend® with Turret Tile®

Stone Creek Ranch, La Quinta, CA - 2/3 B317-R Taupe Smoke Blend,
1/3 B340-R Vintage Red Blend

Recreation Center, Turret Tile - F45 Tobacco,
F40 Natural Red, 2F43 Brick Red

Gold Nugget Award Winner – Photo Provided Courtesy of Andrew Pierce Buliders, Palm Desert, CA – Two-Piece Corona Tapered Mission – Custom Blend CB227-R

Color Selection

Navajo Gold
RB46
Solar Reflectance - 0.53
Thermal Emittance - 0.82

White Buff Crown Flash
F44
Solar Reflectance - 0.76
Thermal Emittance - 0.84

Sandstone
RB39
Solar Reflectance - 0.62
Thermal Emittance - 0.82

Adobe Gold Crown Flash
F46
Solar Reflectance - 0.54
Thermal Emittance - 0.83

Adobe Gold
2F46
Solar Reflectance - 0.51
Thermal Emittance - 0.82

Vanilla Buff
CF51
Solar Reflectance - 0.58
Thermal Emittance - 0.82

Peach Buff Crown Flash
F47
Solar Reflectance - 0.52
Thermal Emittance - 0.82

Imperial Peach
RB47
Solar Reflectance - 0.50
Thermal Emittance - 0.82

Peach Buff
2F47
Solar Reflectance - 0.57
Thermal Emittance - 0.83

Apricot Smoke
CF62
Solar Reflectance - 0.46
Thermal Emittance - 0.83

True Buff
RB01
Solar Reflectance - 0.49
Thermal Emittance - 0.83

Apricot Buff
CF50
Solar Reflectance - 0.62
Thermal Emittance - 0.83

Ivory Smoke Blend
B319-R
Light, Medium, and Dark Variations
Solar Reflectance - 0.43
Thermal Emittance - 0.82

Zorro Blend
B331-R
Light, Medium, and Dark Variations
Solar Reflectance - 0.42
Thermal Emittance - 0.83

Pale Gray
CC60

Adobe Gray
2F71

Moss Green
CF25

Light Cactus Green
2F53
Solar Reflectance - 0.50
Thermal Emittance - 0.84

Aloha Green
CC47

Kamehameha Green
2F49

Weathered Green Blend
B305
Light, Medium, and Dark Variations
Solar Reflectance - 0.43
Thermal Emittance - 0.82

Seagreen
2F62

Regency Blue
2F52
Solar Reflectance - 0.36
Thermal Emittance - 0.83

Regal Blue
CC56

NOTE: Some tiles may have slight variations in color due to the inherent nature of clay tile and the limitations of the lithographic printing process.

Designer's Selections

F40 Natural Red
Solar Reflectance Avg. - 0.45
Thermal Emittance Avg. - 0.88

2F43 Brick Red
Solar Reflectance Avg. - 0.42
Thermal Emittance Avg. - 0.84

B307 Mediterranean Blend®
Solar Reflectance Avg. - 0.584
Thermal Emittance Avg. - 0.84

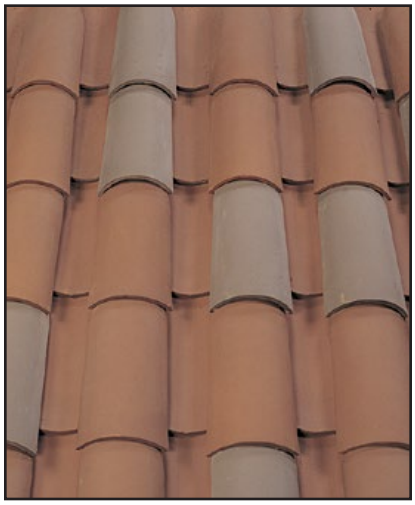
B303 Santiago Blend
Solar Reflectance Avg. - 0.446
Thermal Emittance Avg. - 0.87

B301 Old Mission Blend®
Solar Reflectance Avg. - 0.42
Thermal Emittance Avg. - 0.86

B322 Santa Maria Blend
Solar Reflectance Avg. - 0.38
Thermal Emittance Avg. - 0.86

B304 Sierra Blend
Solar Reflectance Avg. - 0.40
Thermal Emittance Avg. - 0.88

B308 Canyon Red Blend
Solar Reflectance Avg. - 0.38
Thermal Emittance Avg. - 0.85



B217 Carbon Blend
Solar Reflectance Avg. - 0.37
Thermal Emittance Avg. - 0.85

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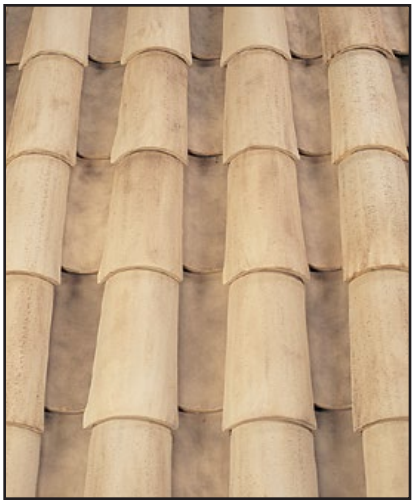
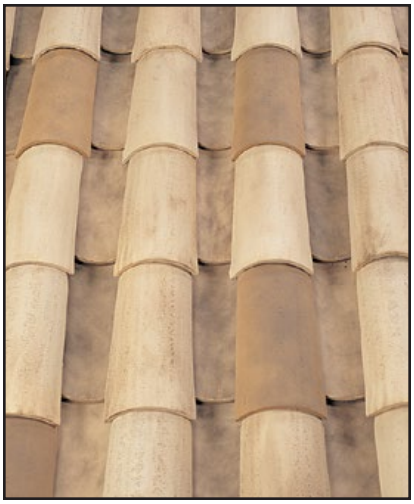
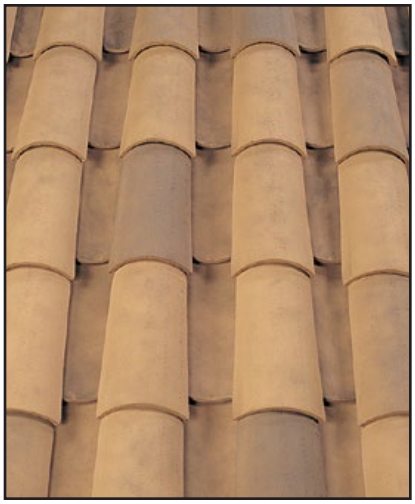


B319-R Ivory Smoke Blend
Solar Reflectance Avg. - 0.43
Thermal Emittance Avg. - 0.82



B334-R Rustic Ivory Blend
Solar Reflectance Avg. - 0.43
Thermal Emittance Avg. - 0.82



B331-R Zorro Blend
Solar Reflectance Avg. - 0.42
Thermal Emittance Avg. - 0.83

B320-R Rustic Red Blend
Solar Reflectance Avg. - 0.38
Thermal Emittance Avg. - 0.84

B332-R Houstonian Blend
Solar Reflectance Avg. - 0.34
Thermal Emittance Avg. - 0.84

B333-R Rustic Smoke Blend
Solar Reflectance Avg. - 0.36
Thermal Emittance Avg. - 0.87

B330-R Old Santa Barbara Blend
Solar Reflectance Avg. - 0.33
Thermal Emittance Avg. - 0.84

B340-R Vintage Red Blend
Solar Reflectance Avg. - 0.29
Thermal Emittance Avg. - 0.84

B317-R Taupe Smoke Blend
Solar Reflectance Avg. - 0.34
Thermal Emittance Avg. - 0.86

NOTE: Some tiles may have slight variations in color due to the inherent nature of clay tile and the limitations of the lithographic printing process.

Designer's Selections

B339 Suncoast Blend
Solar Reflectance Avg. - 0.56
Thermal Emittance Avg. - 0.83

B309 Eclipse Blend
Solar Reflectance Avg. - 0.48
Thermal Emittance Avg. - 0.82

B338 Palace Blend
Solar Reflectance Avg. - 0.48
Thermal Emittance Avg. - 0.83

B329 San Antonio Blend
Solar Reflectance Avg. - 0.46
Thermal Emittance Avg. - 0.85

B220 Madrid Blend

B318-R Cafe Rustic Blend
Solar Reflectance Avg. - 0.37
Thermal Emittance Avg. - 0.89

B341 Carmel Blend
Solar Reflectance Avg. - 0.37
Thermal Emittance Avg. - 0.88

B350 Old Barcelona Blend
Solar Reflectance Avg. - 0.35
Thermal Emittance Avg. - 0.84

B323 Ironwood Blend
Solar Reflectance Avg. - 0.36
Thermal Emittance Avg. - 0.85

NOTE: Some tiles may have slight variations in color due to the inherent nature of clay tile and the limitations of the lithographic printing process.

2F53 Lt. Cactus Green

CF25 Moss Green Blend

2F52 Regency Blue

B336 St. Thomas Blend

B326 Manele Bay Blend

B337 Coronado Blend

B335 Aloha Blend

B305 Weathered Green Blend®
Solar Reflectance Avg. - 0.43
Thermal Emittance Avg. - 0.82

B327 Old Saguaro Blend

NOTE: Some tiles may have slight variations in color due to the inherent nature of clay tile and the limitations of the lithographic printing process.

Color Selection

Santa Fe Brown
RB45
Solar Reflectance - 0.41
Thermal Emittance - 0.82

Desert Sand
2F99
Solar Reflectance - 0.41
Thermal Emittance - 0.82

Carmel
2F34
Solar Reflectance - 0.35
Thermal Emittance - 0.82

Rustic Red Blend
B320-R
Light, Medium, and Dark Variations
Solar Reflectance - 0.38
Thermal Emittance - 0.84

Natural Red
F40
Solar Reflectance - 0.45
Thermal Emittance - 0.88

Cinnamon
2F18
Solar Reflectance - 0.35
Thermal Emittance - 0.97

Brick Red
2F43
Solar Reflectance - 0.42
Thermal Emittance - 0.84

Tobacco Crown Flash
F45
Solar Reflectance - 0.38
Thermal Emittance - 0.85

Tobacco
2F45
Solar Reflectance - 0.42
Thermal Emittance - 0.86

Canyon Red
2F23
Solar Reflectance - 0.36
Thermal Emittance - 0.88

Traditional Crown Flash
F41
Solar Reflectance - 0.32
Thermal Emittance - 0.88

Mahogany
2F72
Solar Reflectance - 0.27
Thermal Emittance - 0.85

Vintage Red
CC139
Solar Reflectance - 0.30
Thermal Emittance - 0.82

Cafe Rustic Blend
B318-R
Light, Medium, and Dark Variations
Solar Reflectance - 0.37
Thermal Emittance - 0.89

Wineberry
2F25

Burnt Sienna
2F22
Solar Reflectance - 0.31
Thermal Emittance - 0.84

Ironwood
2F19
Solar Reflectance - 0.28
Thermal Emittance - 0.83

Old Santa Barbara Blend
B330-R
Light, Medium, and Dark Variations
Solar Reflectance - 0.33
Thermal Emittance - 0.84

Taupe Smoke Blend
B317-R
Light, Medium, and Dark Variations
Solar Reflectance - 0.34
Thermal Emittance - 0.86

Carbon Crown Flash
F28
Solar Reflectance - 0.33
Thermal Emittance - 0.83

Carbon
2F28
Solar Reflectance - 0.29
Thermal Emittance - 0.83

Adobe Black
2F51

NOTE: Some tiles may have slight variations in color due to the inherent nature of clay tile and the limitations of the lithographic printing process.

Suggested Architectural Specifications

(Edit as required. Delete non-applicable statements.)

1. GENERAL
(use the standard Part1 of your office)

2. PRODUCTS

2.1. ROOFING TILE:

A. Where indicated on the Drawings, provide Corona Tapered Mission™ roofing tile manufactured by M.C.A. Clay Roof Tile, Inc., 1985 Sampson Avenue, Corona, CA 92879, phone 800-736-6221, FAX (951) 736-6052, in color "_____", and with birdstop at eaves.

B. Comply with pertinent provisions of ASTM C1167 (Grade 1) , and IAPMO UES ER-0356, and with the Tile Roofing Institute Manual.

2.2. Other materials:

A. Membrane:

1. Under all Corona Tapered Mission™ Style roofing tile on roof pitches greater than 3:12, except where heavier membrane is required by governmental agencies having jurisdiction, provide not less than two layers of 30 lb (14 kg) asphalt-saturated felt placed at right angles to roof pitch, mopped solidly between layers with 25 lbs (10 kg) of hot asphalt and mopped solidly on top of layers with hot asphalt.
2. At roof pitches of 3:12 and steeper, provide a minimum of one layer of membrane complying with ASTM D26, Type II, or one layer of membrane complying with ASTM D4869, Type IV or upgrade material placed with minimum 2" (51 mm) headlap and 6" (152 mm) sidelap.
3. Provide in strict accordance with pertinent requirements of governmental and/or other agencies having jurisdiction.

B. Nailers:

1. Where indicated on the Drawings or otherwise required for proper nailing, provide:
   a. 2" x 6" (36 mm x 152 mm) nailing board at all hips and ridges;
   b. 2" x 3" (36 mm x 60 mm) nailing board under first row of cover tile after gable roll, with adjacent 2" x 2" (36 mm x 36 mm) nailing board along rake side;
   c. 2" x 4" (36mm x 102mm) nailing board full length from ridge to eave for all top tile where architect specifies 2" x 4" nailing system.

C. Flashing:

1. Flash at roof valleys in strict accordance with IBC or required by local governmental agencies having jurisdiction:
   a. For valley flashing use not less than 0.019" (G90) (No. 26 gage) (.48 mm thick) corrosion resistant metal, extending at least 11" (279 mm) away from the centerline of the valley each way;
   b. Provide a splash diverter rib not less than 1" (25 mm) high at the flow line, formed as part of the flashing;
   c. Provide flashing overlap of not less than 4" (102 mm).
2. For other flashing use not less than 0.019" (G90) (No. 26 gage) (.48 mm thick) corrosion resistant metal; at sides of dormers, chimneys, and other walls, extend flashing at least 6" (152 mm) up the vertical surface.
   a. Thoroughly counterflash.
   b. Extend flashing under tile at least 4" (102 mm), and turn the edge up 1-1/2" (38 mm).
3. At lower side of dormers, chimneys, and other walls, extend flashing at least 3" (76 mm) up the wall and 4" (102 mm) over the tile, and then thoroughly counterflash.
4. At wood saddles and returns, line with not less than0.019" (G90) (No. 26 gage) (.48mm thick) corrosion resistant metal or 16 oz (454 g) copper extending up sloping roofs not less than 12" (305 mm), and more where necessary, and up vertical walls not less than 6" (152 mm), thoroughly counterflashed.
5. Make all counterflashing plugged, pointed, and secure.
6. Extend gutter metal up the roof to a point higher than the outer edge of the gutter.

D. Mortar, plastic cement, and sealant:

1. Provide Type M cement mortar complying with ASTM C-270 at all ridges and hips to completely seal the area under the ridge and hip tiles.
2. At gable, hip, ridges, and other conditions, provide a non-running, heavy body, plastic cement composed of asphalt and other mineral ingredients complying with ASTM D4586 and Fed Spec SSC-153 Type 1.
3. When using sealant in lieu of the plastic cement, provide a silicone sealant complying with ASTM D1002 or ASTM E42.

E. Fasteners:

1. Fasteners shall comply with IRC section R905.3.6 and IBC section 1507.3.6 and UBC Section 1507.3. Corrosion resistant meeting ASTM A641 Class I or approved equal, number 11 gauge diameter and of sufficient length to properly penetrate 3/4" into or through the thickness of the deck or batten, whichever is less. The head of the nail used for tile fastening shall not be less than 5/16 inches and shall comply with ASTM F1667 for dimensinal tolerances. Other fastening systems such as screws, wire, or adhesive based systems as approved by code, or local building officials will be allowed.
2. In areas designated by the building official as being subject to high winds that exceed 80 mph, or where roof height exceeds 40 ft (12m) above grade, attach all tiles in strict accordance with Chapter 15 of IBC, Table 15-D-1, Footnote 2 or as required by local governmental agencies having jurisdiction.
   a. Nail the heads of all tiles;
   b. Fasten the noses of all eave course tiles with approved clips;
   c. Nail rake tiles with two nails;
   d. Set the noses of all ridge, hip, and rake tiles in a bead of approved mastic.
3. On slopes over 24:12, securely fasten the nose end of all tiles.
4. Provide "Wind Locks" where directed by the Architect.
5. Tile tie systems of stainless steel or galvanized wire may be used where approved by governmental agencies having jurisdiction:
6. At snow areas use "Wind Locks" with straw nails. In lieu of straw nails, install vertical 2x4 nailer boards full length from ridge to eave for all top tiles.

F. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

2.3 FOR METAL OR POURED CONCRETE ROOF DECKS:

A. Where design indicates concrete roof deck or metal roof deck, Twisted Tile-Tie system or Polypro AH160 roof tile adhesive may be used where approved by the governmental agencies having jurisdiction.

1. If Twisted Tile-Tie system is used, follow MCA Tile-Tie system detail.
   a. At coastal areas use only stainless steel;
   b. At high wind and snow areas use "Wind Locks";
   c. Twisted Wire anchor span is no more than 4 feet
2. If Polyset AH160 roof tile adhesive is used, apply large paddy placement (see Polyset application detail)

3. EXECUTION

3.1 SURFACE CONDITIONS:

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION GENERAL:

A. Membrane:

1. Verify that deck surfaces are clean and dry prior to installation of membrane.
2. Remove all foreign particles from substrate to assure proper seating and to prevent water damage.
3. Install the specified membrane in strict accordance with pertinent requirements of governmental agencies having jurisdiction.

B. On vertical applications, and on extremely steep pitches where wind currents may cause lift, set the butt of each tile in a bead of the specified plastic cement or sealant, or provide stainless steel "Wind Locks" at intervals. Use plastic cement and sealant carefully, and avoid smearing the exposed tile surface.

C. Chalk lines:

1. Chalk horizontal and vertical guide lines on the membrane to assure water tightness and proper appearance.
2. Space the chalk lines by measuring the delivered tiles for average length and width exposures.
3. Do not exceed an exposure length 1/4" (6 mm) beyond the average.

3.3 INSTALLING CORONA TAPERED MISSION™ STYLE ROOFING TILES:

1. Birdstops and booster starters:
   a. Install the specified clay birdstops full length of all eaves.
   b. Install first row of pans 13" (330 mm) from the eave, leaving a 3" (76 mm) overhang. If rain gutter is involved, use 1 1/2" (38mm) overhang.
   c. Install booster above birdstops.
   d. Install starter tiles directly above booster tiles; length exposure shall not exceed 13" (330 mm) centers, and width exposure shall not exceed 12" (305 mm) centers.
   e. Install the specified nailers at ridges, rakes, and gables.
2. Install the tile in rows from left or right, beginning at the lowest portion of the roof.
   a. Install each tile successively, fastening each tile with the specified fasteners.
   b. Length of exposure on field tile shall not exceed 16" (406 mm) on centers, and width exposure on field tiles shall not exceed 12" (305 mm) on centers.
   c. Install ridge, hip, and valley tiles in accordance with pertinent requirements of governmental agencies having jurisdiction.
      (1) Provide cement mortar Type M complying with ASTM C270 at all ridges and hips to completely seal the area under ridge and hip tiles.
      (2) Install a thin coat of rich cement mortar (1 part Type I portland cement complying with ASTM C150 to 3 parts sand complying with ASTM C144) along exposed edges of all ridge and hip tiles.
      (3) Completely and neatly fill and point up all voids.
3. To avoid color patterning, checker boarding, spotting, and stair stepping:
   a. After the installation of each 80 roofing tiles, make a visual inspection from the ground level and at a distance from the building of about 40 feet (12m);
   b. Verify that tile courses follow straight and true lines;
   c. Verify that color range is smooth with no abrupt changes.
   d. Make necessary corrections before proceeding with further installation.

3.4 CLEANING UP:

A. Upon completion of the work of this Section, and as a condition of its acceptance, completely remove from the job site all tools, equipment, debris, and surplus materials pertaining to this portion of the work.

OM/OPERATION, MAINTENANCE

Over 100 years of product knowledge has enabled us to create a roof tile that is highly resistant to chipping, wearing and fading. We stand behind our product 100%. To install M.C.A. Tile, use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work. M.C.A. Clay Roofing Tile may have color variations due to the inherent natural characteristics of the material used. To avoid color patterning, checkerboarding, spotting and stairstepping, the installer should periodically (after installing 80 pieces of roof tile) check the roof color from the ground level at approximately 40 feet (12m) from the building for a color "range." By following this procedure, patterning or spotting should be avoided by blending the tiles over the entire deck. If this procedure is not followed, M.C.A. can not be held liable or responsible in any way once the tiles have been installed. All claims should be made in writing before installation of the tiles. No claims will be recognized after the tiles have been installed. Once M.C.A. Roof Tiles are installed, no maintenance is required.

MARUHACHI CERAMICS OF AMERICA, INC.
1985 Sampson Ave., Corona, CA 92879, U.S.A.
1-800-736-6221 FAX: (951) 736-6052
www.mca-tile.com Email: sales@mca-tile.com

Metric conversion of lumber is actual dimensions of lumber; use lumber of the closest dimensions available.