



Dow Building Solutions

TILE BOND™

Roof Tile Adhesive

For Concrete & Clay Roof Tile

OPERATING INSTRUCTIONS AND MAINTENANCE BOOKLET

**Florida Building Code
FL717-R1**

**South Florida Building Code
Broward County
1999 Edition**



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**ICC-ES
Legacy Report #2201**

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TILE BOND™ Roof Tile Adhesive

OPERATING INSTRUCTIONS AND MAINTENANCE

Before using TILE BOND™ Roof Tile Adhesive, please read and follow the operating instructions to ensure safety and maximize yield.

PRECAUTIONS

DO NOT STORE IN DIRECT SUNLIGHT.

Always wear gloves, protective clothing, and eye wear when handling. Use only with adequate ventilation. **IMPORTANT:** A self-contained breathing apparatus is needed in areas of insufficient ventilation.

Do not puncture or expose cylinders to temperatures above 120°F (48.9°C).

Do not apply adhesive to areas exposed to flame or excessive heat above 240°F (116°C).

TO USE, REMOVE CYLINDER FROM CARTON.

Shake the cylinder vigorously for at least 15 seconds before attaching the hose or before reusing TILE BOND adhesive.

STORAGE

DO NOT STORE IN DIRECT SUNLIGHT.

Store TILE BOND adhesive between 40°- 80° F (4.4°- 26.7°C) to ensure adhesive quality, maximum yield and shelf life.

Do not exceed 120° F (48.9°C).

Store partially used TILE BOND adhesive upright with the hose attached and pressurized. The cylinder valve must be in the off position.

SURFACE PREPARATION

All roof surfaces must be free of any debris, dirt, grease, oil, and standing water before TILE BOND adhesive is applied.

APPLICATION TEMPERATURES

The recommended product temperature at time of application should be 70°F (21.1°C). The minimum ambient and surface temperatures should be 50°F (10.0°C). Lower temperatures extend cure time.

OPERATING INSTRUCTIONS

1. Shake cylinder vigorously for at least 15 seconds before using.
2. With the cylinder upright, securely attach assembly hose of TILE BOND™ adhesive to cylinder with 9/16" wrench.
3. Open valve counterclockwise 1/2 to 1 full turn to activate the kit.
CAUTION: Do not open or dispense adhesive with the cylinder in an inverted position.
4. Point dispenser in safe direction. Pull trigger

to fill the hose and dispenser with adhesive.

5. Control adhesive flow by adjusting yellow cylinder valve. If flow is insufficient, open valve in quarter turn increments until sufficient flow is achieved.
6. Flow can also be controlled by metering the dispenser trigger.
7. Release the trigger to stop the flow of adhesive.
8. Apply TILE BOND adhesive as indicated on the application pages 3-14.

CLEANING / SHUT DOWN PROCEDURE

1. Turn cylinder valve clockwise to the off position.
2. Do not empty material from the hose. Leave the dispenser and hose pressurized.
3. DO NOT CLEAN DISPENSER OR NOZZLE. DO NOT USE SOLVENT. Cured adhesive in the nozzle protects the dispenser from setting up during storage.

Once activated, the dispenser has a useful life of approximately 72 hours. Adhesive may harden in dispenser over longer periods of time. Dispenser can be reused on another unit of TILE BOND adhesive if the hose is immediately transferred to a new cylinder and activated.

REUSE OF TILE BOND™ ADHESIVE

1. Upon reuse, clear cured adhesive plug from nozzle tip. **DO NOT USE SOLVENT.**
 - a. Turn nozzle counter-clockwise 1/2 turn and remove from dispenser.
 - b. Insert screwdriver or other similar object through nozzle to remove plug.
 - c. Reattach nozzle making sure o-ring remains in place.
2. Shake cylinder vigorously for at least 15 seconds.
3. With cylinder upright, open valve counterclockwise 1/2 to 1 full turn.
4. Reactivate by pulling trigger until adhesive starts flowing from the nozzle.

TROUBLESHOOTING

1. RESTRICTED OR SLOW FLOW RATE:
 - a. Confirm that cylinder valve is open.
 - b. Check the nozzle for adhesive plug.
 - c. If product application temperature is below recommended 70°F (21.1°C), place the cylinder in warm area of approximately 70°F (21.1°C) until cylinder reaches proper application temperature.
2. TRIGGER WILL NOT PULL BACK: Adhesive is cured in dispenser. Replace with new dispenser for TILE BOND adhesive.
3. CONTINUOUS BURST OF PRESSURE: Cylinder valve is pointed down or the cylinder is empty. Turn cylinder upright or replace cylinder.
4. LEAKING DISPENSER: Assure nozzle O-ring is in place.

5. UNABLE TO SOLVE PROBLEM: Call 1(866)583-BLUE (2583) for technical assistance.

FIRST AID

EYE: Flush with water for 15 minutes.
SKIN: First allow adhesive to cure. Then rub repeatedly with a washcloth, while soaking in water. **INHALATION:** Remove to fresh air.
INGESTION: Give large quantities of liquids. DO NOT induce vomiting. **IN ALL CASES, CONSULT PHYSICIAN.**

WARNING

CONTENTS UNDER PRESSURE. Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 120°F (48.9°C). The adhesive produced is combustible and may present a fire hazard if exposed to flame or temperatures above 240°F (116°C). Irritating to the eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact. Do not breathe vapor/gas/fumes/ spray. Use only in well ventilated areas. Wear suitable protective clothing, eye wear and gloves. **KEEP OUT OF THE REACH OF CHILDREN.** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

DISPOSAL

All pressure must be released from cylinder before disposal. Disposal of residue of TILE BOND adhesive must be done with adequate ventilation. **NEVER PUNCTURE OR INCINERATE CYLINDER.** Always wear gloves and goggles when disposing of cylinders.

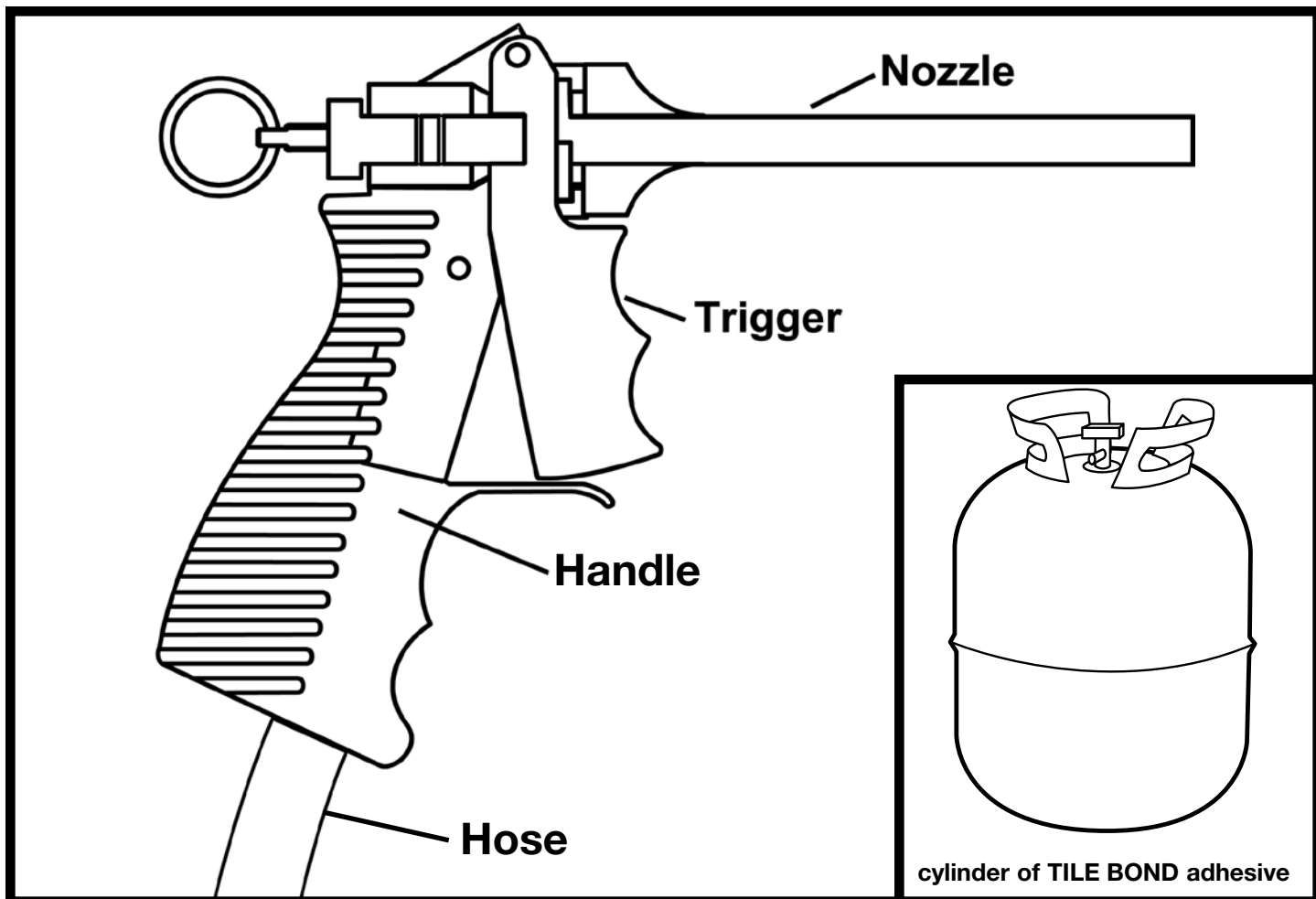
1. Close cylinder valve.
2. Remove dispensing hose from cylinder.
3. Hold tank upside down over waste container with valve facing away from you and any others in the area.
4. Slowly open valve on the cylinder.
5. Set cylinder into waste container and allow residual pressure and chemical to escape.
6. Cover waste container with loosely fitting covers and allow contents to set for several days.
7. Dispose of in accordance with federal, state and local environmental regulations.

NOTE: If no waste container is available, the cylinder of TILE BOND™ adhesive can be inverted in its original carton using the method described above and allowed to empty.

CONTENTS

- Cylinder with 23 pounds of TILE BOND adhesive
- Dispenser for TILE BOND adhesive with 8 1/2" hose
- Operating Instruction and Maintenance Booklet
- 1 1/2" W x 1" H x 4" L adhesive pad sample

Dispenser for TILE BOND™ Roof Tile Adhesive



LIMITATIONS AND RECOMMENDATIONS

TILE BOND™ Roof Tile Adhesive must be applied to an underlayment installed in compliance with application instructions detailed in the following documents:

- FRSA/ROOF TILE INSTITUTE Adhesive Set Tile Specification "System 4" as per the August 2005 edition.
- Chapter 15 of the Standard Building Code
- Chapter 34 of the South Florida Building Code - Broward County 1999 Edition
- Compliance with Metro Dade County **RAS 127**

Note: Glazed Tile - If a ceramic glazed or slate roof tile is going to be installed, please contact The Dow Chemical Company - Technical Dept., or your local representative from The Dow Chemical Company for compatibility. Some glazed roof tiles may not be compatible with TILE BOND.

Note: BROWARD COUNTY INSTALLATIONS

With the exceptions of eave and field tile pad placements as detailed in these instructions, all components of the roofing system shall be installed in accordance with Chapter 34 South Florida Building Code - Broward County 1999 Edition.

TILE BOND adhesive will become tack free (not sticky to touch) in 5 to 15 minutes.

High temperature and humidity will accelerate the curing process. Set tile into adhesive pad within 4 minutes of dispensing adhesive.

Up to: 750 Flat field tiles, High Velocity Wind Zone (HVWZ) - from a 23 lb. cylinder - See ICC-ES Legacy Report #2201.
Do not place TILE BOND adhesive on fresh asphalt plastic roof cement.

TILE BOND adhesive must not be left exposed to sunlight (ultraviolet light) or discoloration will occur. After adhesive cures (approximately 4 hours), point up with mortar or coat with an approved UV protective coating.

Installers shall be trained & certified.
The Dow Chemical Company offers free training & certification.

WARRANTY

The Dow Chemical Company will warrant TILE BOND™ Roof Tile Adhesive to be free of any manufactured defects for a period of one year from the date of manufacture. The Dow Chemical Company will only credit, at our discretion, the purchase price of any defective product.

LOW/FLAT PROFILE TILE APPLICATION

Read Limitations and Recommendations before applying TILE BOND™ Roof Tile Adhesive

For areas and sections of the Roof System not covered by these instructions, please refer to the FRSA/ROOF TILE INSTITUTE CONCRETE AND CLAY ROOF TILE INSTALLATION MANUAL "System 4" August 2005 edition.

Refer to Anchor Sheet Fastening Tables included in the instructions for decking and underlayment requirements.

1. For pitches above 6:12 up to and including 7:12 nail every third (3rd) tile in every fifth (5th) course in addition to the adhesive. Horizontal batten strips may need to be installed, depending upon the roof pitch and other attributes of the roof.
2. For pitches above 7:12, nail every tile in addition to adhesive, or use horizontal batten strips in addition to the adhesive.
3. Check local building code for additional nailing requirements.

EAVE TILE: UP TO HIGH VELOCITY WIND ZONE (HVWZ) WIND UPLIFT RESISTANCE (CHOOSE EITHER A OR B)

OPTION "A"

1. When using this method, you usually have a distance of approximately 1 1/2" from the top of the drip edge deck, to the bottom of the tile. Using a nominal 1" W x 2" H x 6" L or longer wood filler strip, batten strip, cant, or raised fascia board, will bridge the underside portion of the tile to the cap sheet.
2. Fully adhere wood starter or batten strip to cap sheet at butt of the tile, between the center of the tile, and the overlock side. The height of the starter strip should be 1/2" less than the height of the space under the tile at the eave closure.
3. Dispense a 1 1/2" W x 1" H x 6" L adhesive pad directly on to the wood filler strip. Do not block the weep holes with the adhesive. Maximize the contact area to the pan portion of the tile.
4. Apply a second adhesive pad at the head of the tile directly onto the cap sheet, diagonally across from the first pad. The anchor lug should be embedded in the adhesive. Maximize the contact area to the batten lug.
5. Set the tile in both pads of adhesive.
6. Continue to set the eave course of tile in a similar manner.

OPTION "B"

1. Apply an adhesive pad 1 1/2" W x 1" H x 6" L at the head of the tile directly onto the cap sheet, at the head of the tile, making sure the batten lug is embedded in the adhesive.
2. Additionally secure the eave tile with two (2) screws. Said screws shall meet the requirements of the tile screw, as detailed in the FRSA/ROOF TILE INSTITUTE CONCRETE AND CLAY ROOF TILE INSTALLATION MANUAL August 2005 edition, or the local Building Code requirements, which ever apply. Apply approved plastic roof cement at all roof deck penetrations.
3. Continue to install the remaining eave tile in a similar manner.

ABOVE 110 MPH - (HVWZ) WIND UPLIFT RESISTANCE (ASCE 7-98 EXPOSURE B&C) USE A 1" W x 1" H x 8" L ADHESIVE PAD.

Note: Two (2) pads of TILE BOND adhesive are required for each Field Tile.

Note: 110 MPH: An adhesive pad 1 1/2" W x 1" H x 4" L when compressed

should expand to a minimum contact area of 2" x 5". A contact area of approximately 10 square inches per adhesive pad is required. Pad dimensions can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square to confirm contact area.

Note: (HVWZ): An adhesive pad 1" W x 1" H x 8" L when compressed should expand to a minimum contact area of 2" x 11". A contact area of approximately 19 1/2" square inches per adhesive pad is required. Pad dimensions can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square to confirm contact area.

1. Apply the first proper size adhesive pad directly onto the head lap area of the preceding course on the overlock side of the tile.
2. Apply the second proper adhesive pad directly onto the cap sheet or batten strip, diagonally cross from the first adhesive pad.
3. When setting tile, angle the tile forward past the adhesive pad on the headlap and slide the tile into the adhesive before setting it down. This prevents the adhesive from being exposed on the face of the previous course. The batten lug must be embedded in the adhesive. Maximize the contact area to the batten lug.
4. At least one tile per square shall be pulled up to confirm contact area.
5. Continue to install the remaining tile in a similar manner.

OPTIONAL: HIP AND RIDGE TILE INSTALLATION WITH A WOOD RIDGE NAILER BOARD, OR METAL RIDGE BOARD WITH "V" TOP EDGE: UP TO (HVWZ) WIND UPLIFT RESISTANCE.

1. Install wood, or metal ridge board according to Local Building Code Requirements.
2. Apply a 1" W x 1" H x a minimum 10" L bead of adhesive on top of the nailer board (s) and set the ridge tile into the adhesive. Make sure the bottom of the ridge tile makes contact with the foam adhesive. When set in the adhesive, the ridge tile will push excess foam down the sides of the ridge board.
3. Apply a bead of TILE BOND adhesive across the top of the ridge tile, in the head lap area. This bead of adhesive should be approximately 1" W x 1" H x 4" L. Set the next ridge tile, making sure the tile overlaps the first tile with the proper head lap and the bead of adhesive is between both tiles in the head lap area, and the bottom of the ridge tile makes contact with the adhesive bead on top of the ridge board, as described in #2.
4. Proceed to install the remaining ridge tile in a similar manner.
5. Point-up with mortar to the open space between the top of the field tile and the bottom of the edge of the ridge tile. Point up to a proper finish.
6. Check local building codes regarding the use of screws or nails in hip and ridge installation.

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square before adhesive cures to confirm contact area. To make any adjustments to tiles after tack free time, you must have old adhesive pads removed and new adhesive pads applied. Walking on the tile before adhesive has cured may cause a slipping hazard.

LOW/FLAT PROFILE (WITH BATTENS)

Drawing not to scale

Apply a bead of TILE BOND™ Adhesive across the top of the ridge tile in the head lap area

Hip and ridge:
A 1" W x 1" H x 10" L pad of TILE BOND Adhesive placed on top of ridge board to the tile contact point to adhere ridge tile

Field tile:
Apply adhesive pad directly on the cap sheet or batten strip

Apply adhesive pad directly onto the headlap area of the preceding course on the over-lock side of the tile

Eave tile:
Dispense a 1-1/2" W x 1" H x 6" L adhesive pad onto the wood fillers strip, cant or raised fascia in either direction to maximize contact area

**Optional eave tile mechanical attachment:
see option B on corresponding page**

Field Tile Legend

Proper adhesive pad size for up to 110 mph - 1-1/2" W x 1" H x 4" L

Proper adhesive pad size for up to (HVWZ) - 1" W x 1" H x 8" L

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced.

LOW/FLAT PROFILE (NO BATTENS)

Drawing not to scale

Apply a bead of TILE BOND™ Adhesive across the top of the ridge tile in the head lap area

Hip and ridge:
A 1" W x 1" H x 10" L pad of TILE BOND Adhesive placed on top of ridge board to the tile contact point to adhere ridge tile

Field tile:
Apply adhesive pad directly on the cap sheet

Apply adhesive pad directly onto the headlap area of the preceding course on the over-lock side of the tile

Eave tile:
Dispense a 1-1/2" W x 1" H x 6" L adhesive pad onto the wood fillers strip, cant or raised fascia in either direction to maximize contact area

**Optional eave tile mechanical attachment:
see option B on corresponding page**

Field Tile Legend

Proper adhesive pad size for up to 110 mph - 1-1/2" W x 1" H x 4" L

Proper adhesive pad size for up to (HVWZ) - 1" W x 1" H x 8" L

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced.

MEDIUM PROFILE TILE APPLICATION

Read limitations and Recommendations before applying TILE BOND™ Roof Tile Adhesive

For areas and sections of the Roof System not covered by these instructions, please refer to the FRSA/ROOF TILE INSTITUTE CONCRETE AND CLAY ROOF TILE INSTALLATION MANUAL "System 4" August 2005 edition.

Refer to Anchor Sheet Fastening Tables included in the instructions for decking and underlayment requirements.

1. For pitches above 6:12 up to and including 7:12 nail every third (3rd) tile in every fifth (5th) course in addition to the adhesive. Horizontal batten strips may need to be installed, depending upon the roof pitch and other attributes of the roof.
2. For pitches above 7:12, nail every tile in addition to adhesive, or use horizontal batten strips in addition to the adhesive.
3. Check local building code for additional nailing requirements.

EAVE TILE: UP TO HIGH VELOCITY WIND ZONE (HVWZ) WIND UPLIFT RESISTANCE (CHOOSE EITHER A OR B)

OPTION "A"

1. When using this method, you usually have a distance of approximately 1 1/2" from the top of the drip edge deck, to the bottom of the tile. Using a nominal 1" W x 2" H x 6" L or longer wood filler strip, batten strip, cant, or raised fascia board, will bridge the underside portion of the tile to the cap sheet.
2. Fully adhere wood starter or batten strip to cap sheet at butt of the tile, between the center of the tile, and the over-lock side. The height of the starter strip should be 1/2" less than the height of the space under the tile at the eave closure.
3. Dispense a 1 1/2" W x 1" H x 6" L adhesive pad directly on to the wood filler strip. Do not block the weep holes with the adhesive. Maximize the contact area to the pan portion of the tile.
4. Apply a second adhesive pad at the head of the tile directly onto the cap sheet, diagonally across from the first pad. The batten lug must be embedded in the adhesive. Maximize the contact area to the batten lug.
5. Set the tile in both pads of adhesive.
6. Continue to set the eave course of tile in a similar manner.

OPTION "B"

1. Apply an adhesive pad directly on the cap sheet, at the head of the tile, making sure the batten lug is embedded in the adhesive.
2. Additionally secure the eave tile with two (2) screws. Said screws shall meet the requirements of the tile screw, as detailed in the FRSA/ROOF TILE INSTITUTE CONCRETE AND CLAY ROOF TILE INSTALLATION MANUAL June 2001 edition, or the local Building Code requirements, which ever apply. Apply approved plastic roof cement at all roof deck penetrations.
3. Continue to install the remaining eave tile in a similar manner.

FIELD TILE INSTALLATION - FOR UP TO 110 MPH WIND UPLIFT RESISTANCE USE A 1 1/2" W x 1" H x 4" L ADHESIVE PAD.

ABOVE 110 MPH - (HVWZ) WIND UPLIFT RESISTANCE (ASCE 7-98 EXPOSURE B&C) USE A 1" W x 1" H x 8" L ADHESIVE PAD.

Note: Two (2) pads of TILE BOND adhesive are required for each Field Tile.

Note: 110 MPH: An adhesive pad 1 1/2" W x 1" H x 4" L when compressed should expand to a minimum contact area of 2" x 5". A contact area of approximately 10 square inches per adhesive pad is required. Pad dimensions can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square to confirm contact area.

Note: (HVWZ): An adhesive pad 1" W x 1" H x 8" L when compressed should expand to a minimum contact area of 2" x 11". A contact area of approximately 19 1/2" square inches per adhesive pad is required. Pad dimensions can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square to confirm contact area.

1. Apply the first proper size adhesive pad directly onto the head lap area of the preceding course on the over-lock side of the tile.
2. Apply the second proper adhesive pad directly onto the cap sheet or batten strip, diagonally cross from the first adhesive pad.
3. When setting tile, angle the tile forward past the adhesive pad on the headlap and slide the tile into the adhesive before setting it down. This prevents the adhesive from being exposed on the face of the previous course. The batten lug must be embedded in the adhesive. Maximize the contact area to the batten lug.
4. At least one tile per square shall be pulled up to confirm contact area.
5. Continue to install the remaining tile in a similar manner.

OPTIONAL: HIP AND RIDGE TILE INSTALLATION WITH A WOOD RIDGE NAILER BOARD, OR METAL RIDGE BOARD WITH "V" TOP EDGE: UP TO (HVWZ) WIND UPLIFT RESISTANCE.

1. Install wood, or metal ridge board according to Local Building Code Requirements.
2. Apply a 1" W x 1" H x a minimum 10" L bead of adhesive on top of the nailer board(s) and set the ridge tile into the adhesive. Make sure the bottom of the ridge tile makes contact with the foam adhesive. When set in the adhesive, the ridge tile will push excess foam down the sides of the ridge board.
3. Apply a bead of TILE BOND adhesive across the top of the ridge tile, in the head lap area. This bead of adhesive should be approximately 1" W x 1" H x 4" L. Set the next ridge tile, making sure the tile overlaps the first tile with the proper head lap and the bead of adhesive is between both tiles in the head lap area, and the bottom of the ridge tile makes contact with the adhesive bead on top of the ridge board, as described in #2
4. Proceed to install the remaining ridge tile in a similar manner.
5. Point-up with mortar to the open space between the top of the field tile and the bottom of the edge of the ridge tile. Point up to a proper finish.

Do not leave TILE BOND adhesive exposed to sunlight (ultraviolet light). After adhesive cures (approximately 4 hours), point up with mortar or coat exposed adhesive pad with an approved UV protective coating.

6. Check local building codes regarding the use of screws or nails in hip and ridge installation.

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square before adhesive cures to confirm contact area. To make any adjustments to tiles after tack free time, you must have old adhesive pads removed and new adhesive pads applied. Walking on the tile before adhesive has cured may cause a slipping hazard.

MEDIUM PROFILE (WITH BATTENS)

Drawing not to scale

Apply a bead of TILE BOND™ Adhesive across the top of the ridge tile in the head lap area

Hip and ridge:
A 1" W x 1" H x 10" L pad of TILE BOND Adhesive placed on top of ridge board to the tile contact point to adhere ridge tile

Field tile:
Apply adhesive pad directly on the cap sheet or batten strip

Apply adhesive pad directly onto the headlap area of the preceding course on the over-lock side of the tile

Eave tile:
Dispense a 1-1/2" W x 1" H x 6" L adhesive pad onto the wood fillers strip, cant or raised fascia in either direction to maximize contact area

**Optional eave tile mechanical attachment:
see option B on corresponding page**

Field Tile Legend

Proper adhesive pad size for up to 110 mph - 1-1/2" W x 1" H x 4" L

Proper adhesive pad size for up to (HVWZ) - 1" W x 1" H x 8" L

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced.

MEDIUM PROFILE (NO BATTENS)

Drawing not to scale

Apply a bead of TILE BOND™ Adhesive across the top of the ridge tile in the head lap area

Hip and ridge:
A 1" W x 1" H x 10" L pad of TILE BOND Adhesive placed on top of ridge board to the tile contact point to adhere ridge tile

Field tile:
Apply adhesive pad directly on the cap sheet

Apply adhesive pad directly onto the headlap area of the preceding course on the over-lock side of the tile

Eave tile:
Dispense a 1-1/2" W x 1" H x 6" L adhesive pad onto the wood fillers strip, cant or raised fascia in either direction to maximize contact area

**Optional eave tile mechanical attachment:
see option B on corresponding page**

Field Tile Legend

Proper adhesive pad size for up to 110 mph - 1-1/2" W x 1" H x 4" L

Proper adhesive pad size for up to (HVWZ) - 1" W x 1" H x 8" L

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced.

HIGH PROFILE TILE APPLICATION

Read limitations and Recommendations before applying TILE BOND™ Roof Tile Adhesive

For areas and sections of the Roof System not covered by these instructions, please refer to the FRSA/ROOF TILE INSTITUTE CONCRETE AND CLAY ROOF TILE INSTALLATION MANUAL "System 4" August 2005 edition.

Refer to Anchor Sheet Fastening Tables included in the instructions for decking and underlayment requirements.

1. For pitches above 6:12 up to and including 7:12 nail every third (3rd) tile in every fifth (5th) course in addition to the adhesive. Horizontal batten strips may need to be installed, depending upon the roof pitch and other attributes of the roof.
2. For pitches above 7:12, nail every tile in addition to adhesive, or use horizontal batten strips in addition to the adhesive.
3. Check local building code for additional nailing requirements.

EAVE TILE: UP TO HIGH VELOCITY WIND ZONE (HVWZ) WIND UPLIFT RESISTANCE (CHOOSE EITHER A OR B)

OPTION "A"

1. When using this method, you usually have a distance of approximately 1 1/2" from the top of the drip edge deck, to the bottom of the tile. Using a nominal 1" W x 2" H x 6" L or longer wood filler strip, batten strip, cant, or raised fascia board, will bridge the underside portion of the tile to the cap sheet.
2. Fully adhere wood starter or batten strip to cap sheet at butt of the tile under the pan portion of the tile. The height of the starter strip should be 1/2" less than the height of the space under the tile at the eave closure.
3. Dispense a 1 1/2" W x 1" H x 6" L adhesive pad directly on to the wood filler strip. Do not block the weep holes with the adhesive. Maximize the contact area to the pan portion of the tile.
4. Apply a second adhesive pad a minimum 1 1/2" W x 1" H x 4" L at the head of the tile directly onto the cap sheet, diagonally across from the first pad. The anchor lug should be embedded in the adhesive. Maximize the contact area to the batten lug.
5. Set the tile in both pads of adhesive.
6. Continue to set the eave course of tile in a similar manner.

OPTION "B"

1. Apply an adhesive pad a minimum of 1 1/2" W x 1" H x 4" L directly on the cap sheet, at the head of the tile, making sure the batten lug is embedded in the adhesive.
2. Additionally secure the eave tile with two (2) screws. Said screws shall meet the requirements of the tile screw, as detailed in the FRSA/ROOF TILE INSTITUTE CONCRETE AND CLAY ROOF TILE INSTALLATION MANUAL August 2005 edition, or the local Building Code requirements, which ever apply. Apply approved plastic roof cement at all roof deck penetrations.
3. Continue to install the remaining eave tile in a similar manner.

FIELD TILE INSTALLATION - FOR UP TO 110 MPH WIND UPLIFT RESISTANCE USE A 1" W x 1" H x 6" L ADHESIVE PAD AT THE HEAD LAP AND USE A 1 1/2" W x 1 1/2" H x 6" L ADHESIVE PAD AT THE ANCHOR LUG UNDER THE PAN PORTION OF THE TILE. ABOVE 110 MPH - (HVWZ) WIND UPLIFT RESISTANCE (ASCE 7-98 EXPOSURE B&C) USE A 1" W x 1" H x 8" L ADHESIVE PAD

AT THE HEAD LAP AND USE A 4" W x 2" H x 4" L ADHESIVE PAD AT THE ANCHOR LUG UNDER THE PAN PORTION OF THE TILE.

Note: Two (2) pads of TILE BOND adhesive are required for each Field Tile

Use adhesive pad sample as a guide for proper pad size for up to 110 MPH wind uplift resistance.

1. For 110 MPH, apply the first proper size adhesive pad a minimum of 1" W x 1" H x 6" L (**above 110 MPH**, use a 1" W x 1" H x 8" L) directly onto the head lap area of the preceding course on the overlock side of the tile.
2. For 110 MPH, apply the second proper adhesive pad 1 1/2" W x 1 1/2" H x 6" L (**above 110 MPH**, use a 4" W x 2" H x 4" L) directly onto the cap sheet or batten strip under the pan portion of the tile.
3. When setting tile, angle the tile forward past the adhesive pad on the headlap and slide the tile into the adhesive before setting it down. This prevents the adhesive from being exposed on the face of the previous course. The batten lug must be embedded in the adhesive. Maximize the contact area to the batten lug.
4. At least one tile per square shall be pulled up before adhesive cures to confirm contact area.
5. Continue to install the remaining tile in a similar manner.

OPTIONAL: HIP AND RIDGE TILE INSTALLATION WITH A WOOD RIDGE NAILER BOARD, OR METAL RIDGE BOARD WITH "V" TOP EDGE: UP TO (HVWZ) WIND UPLIFT RESISTANCE.

1. Install wood, or metal ridge board according to Local Building Code Requirements.
2. Apply a 1" W x 1" H x a minimum 10" L bead of adhesive on top of the nailer board(s) and set the ridge tile into the adhesive. Make sure the bottom of the ridge tile makes contact with the foam adhesive. When set in the adhesive, the ridge tile will push excess foam down the sides of the ridge board.
3. Apply a bead of TILE BOND adhesive across the top of the ridge tile, in the head lap area. This bead of adhesive should be approximately 1" W x 1" H x 4" L. Set the next ridge tile, making sure the tile overlaps the first tile with the proper head lap and the bead of adhesive is between both tiles in the head lap area, and the bottom of the ridge tile makes contact with the adhesive bead on top of the ridge board, as described in #2.
4. Proceed to install the remaining ridge tile in a similar manner.
5. Point-up with mortar to the open space between the top of the field tile and the bottom of the edge of the ridge tile. Point up to a proper finish.

Do not leave TILE BOND adhesive exposed to sunlight (ultra violet light). After adhesive cures (approximately 4 hours), point up with mortar or coat exposed adhesive pad with an approved UV protective coating.

6. Check local building codes regarding the use of screws or nails in hip and ridge installation.

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square before adhesive cures to confirm contact area. To make any adjustments to tiles after tack free time, you must have old adhesive pads removed and new adhesive pads applied. Walking on the tile before adhesive has cured may cause a slipping hazard.

HIGH PROFILE (WITH BATTENS)

Drawing not to scale

Apply a bead of TILE BOND™ Adhesive across the top of the ridge tile in the head lap area

Hip and ridge:
A 1" W x 1" H x 10" L pad of TILE BOND Adhesive on top of ridge board to the tile contact point to adhere ridge tile

Field tile:
Apply adhesive pad directly on the cap sheet or batten strip

Apply adhesive pad directly onto the headlap area of the preceding course starting from the pan side of the tile

Eave tile:
Dispense a 1-1/2" W x 1" H x 6" L adhesive pad onto the wood fillers strip, cant or raised fascia in either direction to maximize contact area

**Optional eave tile mechanical attachment:
see option B on corresponding page**

Field Tile Legend

Proper adhesive pad size for up to 110 mph
Anchor lug = 1" W x 1" H x 6" L
Head lap = 1-1/2" W x 1-1/2" H x 6" L

Proper adhesive pad size for up to (HVWZ)
Anchor lug = 4" W x 2" H x 4" L
Head lap = 1" W x 1" H x 8" L

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced.

HIGH PROFILE (NO BATTENS)

Drawing not to scale

Apply a bead of TILE BOND™ Adhesive across the top of the ridge tile in the head lap area

Hip and ridge:
A 1" W x 1" H x 10" L pad of TILE BOND Adhesive on top of ridge board to the tile contact point to adhere ridge tile

Field tile:
Apply adhesive pad directly on the cap sheet

Apply adhesive pad directly onto the headlap area of the preceding course starting from the pan side of the tile

Eave tile:
Dispense a 1-1/2" W x 1" H x 6" L adhesive pad onto the wood fillers strip, cant or raised fascia in either direction to maximize contact area

**Optional eave tile mechanical attachment:
see option B on corresponding page**

Field Tile Legend

Proper adhesive pad size for up to 110 mph
Anchor lug = 1" W x 1" H x 6" L
Head lap = 1-1/2" W x 1-1/2" H x 6" L

Proper adhesive pad size for up to (HVWZ)
Anchor lug = 4" W x 2" H x 4" L
Head lap = 1" W x 1" H x 8" L

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced.

TWO PIECE BARREL PROFILE TILE APPLICATION

Read Limitations and Recommendations before applying TILE BOND™ Roof Tile Adhesive

For areas and sections of the Roof System not covered by these instructions, please refer to the FRSA/ROOF TILE INSTITUTE CONCRETE AND CLAY ROOF TILE INSTALLATION MANUAL "System 4" August 2005 edition.

Refer to Anchor Sheet Fastening Tables included in the instructions for decking and underlayment requirements.

1. For pitches above 6:12 up to and including 7:12 nail every third (3rd) tile in every fifth (5th) course in addition to the adhesive. Horizontal batten strips may need to be installed, depending upon the roof pitch and other attributes of the roof.
2. For Pitches above 7:12, nail every tile in addition to adhesive, or use horizontal batten strips in addition to the adhesive.
3. Check local building code for additional nailing requirements.

EAVE TILE: EAVE CLOSURE OR MORTAR CLOSURE

1. Apply a minimum 1 1/2" W x 1 1/2" H x 8" L adhesive strip to the cap sheet at the butt of the pan tile, in the middle of the "roll". This adhesive pad should run vertically up the tile. Place the pan tile directly into the adhesive.
2. Set the second pan tile in the same fashion, allowing for the proper spacing.
3. Apply the cover tile by applying a 1" W x 1" H x 8" L adhesive pad to the underside of the cover, on each side of the inside of the tile. These pads should be behind the headlap of the cover. Set the cover over the two (2) pan tiles already laid. Assure that the adhesive pads on the cover make contact with the inside edge of the pan tiles.

FIELD TILE INSTALLATION

1. Apply an adhesive pad, a minimum size of 1 1/2" W x 1 1/2" H x 8" L, directly onto the underlayment in the middle of where the pan tile will be installed, beginning at the head lap of the preceding course and running vertically up the tile. Set the pan tile directly into the adhesive pad.
2. Set the adjacent pan tile in a similar manner. Make sure of the proper spacing.
3. Apply the cover tile by applying a 1" W x 1" H x 8" L adhesive pad to the underside of the cover, on each side of the inside of the tile. These pads should be behind the headlap of

the cover. Set the cover over the two (2) pan tiles already laid. Assure that the adhesive pads on the cover make contact with the inside edge of the pan tiles.

OPTIONAL: HIP AND RIDGE TILE INSTALLATION WITH A WOOD RIDGE NAILER BOARD, OR METAL RIDGE BOARD WITH "V" TOP EDGE: UP TO 110 MPH WIND UPLIFT RESISTANCE.

1. Install wood, or metal ridge board according to Local Building Code Requirements.
2. Apply a 1" W x 1" H x a minimum 10" L bead of adhesive on top of the nailer board (s) and set the ridge tile into the adhesive. Make sure the bottom of the ridge tile makes contact with the foam adhesive. When set in the adhesive, the ridge tile will push excess foam down the sides of the ridge board.
3. Apply a bead of TILE BOND adhesive across the top of the ridge tile, in the head lap area. This bead of adhesive should be approximately 1" W x 1" H x 4" L. Set the next ridge tile, making sure the tile overlaps the first tile with the proper head lap and the bead of adhesive is between both tiles in the head lap area, and the bottom of the ridge tile makes contact with the adhesive bead on top of the ridge board, as described in #2.
4. Proceed to install the remaining ridge tile in a similar manner.
5. Point-up with mortar to the open space between the top of the field tile and the bottom of the edge of the ridge tile. Point up to a proper finish.

Do not leave TILE BOND adhesive exposed to sunlight (ultra violet light). After adhesive cures (approximately 4 hours), point up with mortar or coat exposed adhesive pad with an approved UV protective coating.

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced. Check at least one tile per square before adhesive cures to confirm contact area. To make any adjustments to tiles after tack free time, you must have old adhesive pads removed and new adhesive pads applied. Walking on the tile before adhesive has cured may cause a slipping hazard.

TWO PIECE BARREL PROFILE

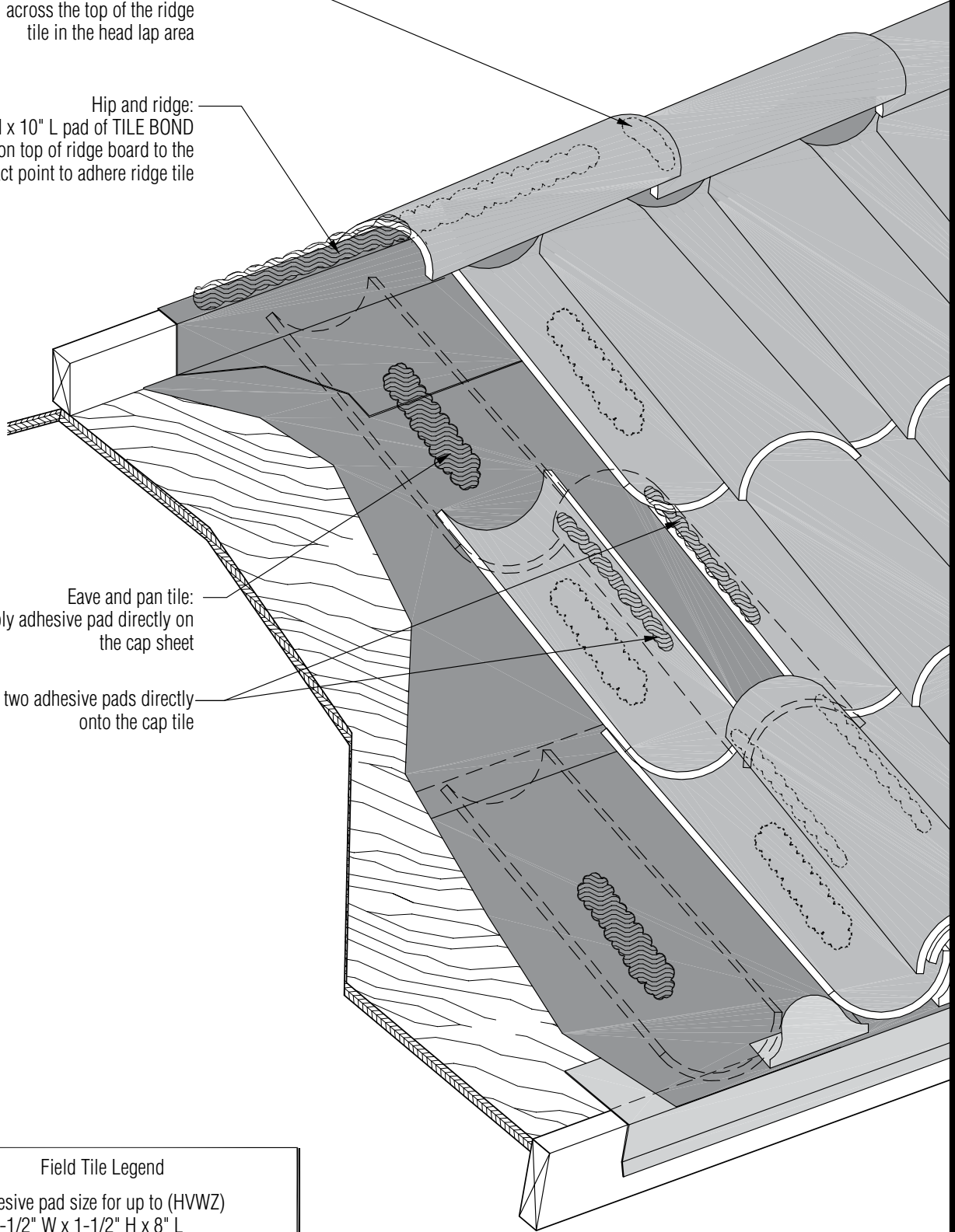
Drawing not to scale

Apply a bead of TILE BOND™ Adhesive across the top of the ridge tile in the head lap area

Hip and ridge:
A 1" W x 1" H x 10" L pad of TILE BOND Adhesive placed on top of ridge board to the tile contact point to adhere ridge tile

Eave and pan tile:
Apply adhesive pad directly on the cap sheet

Apply two adhesive pads directly onto the cap tile



Field Tile Legend

Proper adhesive pad size for up to (HVWZ)
Pan tile = 1-1/2" W x 1-1/2" H x 8" L
cap tile = 2 pads at 1" W x 1" H x 8" L

Note: Pad dimensions and placement can be modified to accommodate differences in tile configurations as long as the adhesive contact area is not reduced.



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