

# ADHERED THIN BRICK WALLS - TABS II

## By United Wall Systems

### Project Material and Labor Estimating Guide

#### **I. SYSTEM MATERIALS: COMPONENTS OF PROJECT SECTION**

##### **A. TABS II Panels:**

<u>Panel Sizes: (w x h)</u>	<u>(mm x mm)</u>
48" x 16"	1200 x 400
48" x 24"	1200 x 600
48" x 48"	1200 x 1200
48" x 72"	1200 x 1800
48" x Custom (By courses or rows, and custom tabs length 5/16" & 1/2")	

##### Support Tab Spacing:

(2 5/8" - 66mm)	(3" - 75mm)	(4" - 100mm)
(6" - 150mm)	(8" - 200mm)	(11 7/8" - 278mm)
(12" - 300mm)		

\*Support tab spacing chart available.

##### Support Tab Lengths:

(5/16" - 66mm) tabs for (1/2" - 13mm) to (9/16" - 14mm) thick material  
(1/2" - 13mm) tabs for (1" - 25mm) to (1 1/4" - 32mm) thick material

##### **B. TABS II Panels with Pre-Applied Veneer:**

##### Panel Size: (w x h)

48" x 16", use in combination with plain panels around openings.

##### **C. Panels Pre-Bent for Corners, Windows and Door Return:**

##### Panel Sizes: (w x h)

48" x 16"                      48" x 24"                      48" x 48"

##### **D. Veneers:**

1. Thin brick meeting ASTM C-1088 along with tile, marble, granite, or

stone are available in various sizes, colors and finishes.

2. Veneer must meet the appropriate code be approved by TABS II Wall Systems.

E. **Mastic:** TABS Brand - for thin brick and tiles only.

1. TABS adhesive in (29oz. – 860ml) tubes.
2. Marble, granite, and other natural materials require a silicone adhesive.

F. **Mortar:**

1. Type S mortar mix required; either pre-blended in a bag, or mortar cement mixed with washed sand, per code standards.

G. **Mortar Additive:**

1. Concentrated water-based TABS II acrylic latex bonding agent.
2. Diluted additive used with S-Grade mortar mix.

H. **Fasteners:**

1. Non-corrosive fasteners with a wafer head (or) flat back design.

I. **Water Infiltration Barrier:**

1. Barrier shall meet building code, project specification requirements, and TABS requirements.

J. **Flashings and Trims:**

1. Materials shall meet building code and project specification requirements.
2. If specification is not called out, project needs to meet BIA tech notes 7 - 7A, 7B, 7C and TABS details.

K. **Cleaning Agent:** Use appropriate type for veneer.

- L. **Caulking:** Material per project specifications and building code.

## **II. RELATED PROJECT MATERIALS**

- 1. Sheathing (if required)
- 2. Fasteners (as required for sheathing)

## **III. SYSTEM MATERIAL PURCHASE GUIDELINES**

- A. **Panels:** Priced per square foot, various panel sizes, including custom, can be ordered using the same spacing.

- 1. Average pallet load ~ approximately 2400 sq. ft.(or) 2000 lbs.
- 2. Order panels using a 2% waste factor, this is based upon wall square footage, with major openings omitted.

- B. **Panels with Pre-Applied Veneer:** Priced per square foot.

- 1. Veneer needs to be shipped to United Wall Systems assembly plant, Gray Court, SC.
- 2. Allow time to assemble panels.
- 3. Average pallet load 350 sq. ft. or 2000 lbs.
- 4. Order pre-applied panels using waste factor of 3%. (plain panels should be used around window and door openings)
- 5. For best results, use where there are minimal wall openings.

- C. **Pre-Bent Panels:** Priced per square foot, with 90 degree bends only.

- 1. Average pallet load, 75 panels.

- D. **Veneer:** can be ordered through local distributor or TABS.  
Thin brick straights, tile, and stone veneer are priced per square foot, brick corners and special shapes are priced per piece.

1. To figure the amount of outside veneer corners, for modular size veneer, use total lineal footage and multiply by 4 ½ pieces per running foot. For other sizes contact distributor.
2. Straight brick waste should be calculated at 3%, and corner brick waste at 5%.
3. Stone veneer waste should be calculated at 3%.
4. Veneer is packaged in boxes or bundles, and will be shipped as such.

E. **Mastic:** sold by the case, 12 - (29 oz. – 860 ml) tubes per case.

1. Each 29 oz. tube of TABS II mastic will supply enough mastic for approximately 112 bricks with a flat back, or approximately (6) tubes per 100 sq. ft.
2. For stone veneers use silicone mastic, figuring approximately (6) – 29oz. tubes per 100 sq. ft.
3. Corner, sill bricks, and bricks of 1” thickness will use 50% more mastic than straight bricks.
4. Extra tubes are recommended for first run projects.

F. **Mortar:** Available through distributor or locally.

1. (50) lbs. of S-grade pre-blended mortar mix will cover approximately 30 ~ 35 sq. ft., and (80) lbs. will cover approximately 45 ~ 50 sq. ft.
2. For tile and stone veneers, use an industry accepted grout or silicone sealant.
3. Pre-blended colored mortar available in 50 lb. bags, 7 colors available.

G. **Mortar Colorant:** If needed.

1. Iron oxide colors are recommended which can be mixed with S-grade mortar.

2. Pre-colored mortar available through distributor.

H. **Mortar Additive:** Sold by (gallons – liters) 4 gallons/15 liters per box, or (5 gallon – 19 liter) buckets.

1. A gallon of TABS II concentrated mortar additive diluted to a 1:5 ratio (or 1:6 ratio in summer) will cover approximately 200 ~ 240 sq. ft.

I. **Fasteners:**

1. TABS panel requires (1) fastener per square foot, fasteners applied 12" on field and 10" apart along edge.

2. #8 or larger corrosive resistant annular ring nails or staples, masonry anchors or wafer head screws depending on substrate.

3. Additional fasteners needed for trims and flashing.

4. Fasteners shall be approved by fastener manufacturer with regards to project condition.

J. **Water Resistive Barrier:**

1. Install per manufacturer and project specifications, TABS details, and code.

K. **Flashings and Trims:**

1. Figure lineal footage of flashings, trims, and starter strip if required.

2. Install and fasten per project specifications, TABS details, and code.

L. **Cleaning Agents:**

1. Detergent type recommended, or per veneer manufacturer requirements.

**\*Material Storage:** All materials shall be kept clean and dry.

Mastic and mortar additive are stored above freezing temperatures.

**\*Shipping:** All materials are shipped freight, collect from shipping point.

#### **IV. TOOLS AND EQUIPMENT FOR INSTALLATION**

##### **A. Recommended:**

1. Safety glasses, extension cords
2. 4' Level and/or laser level
3. Hammer, drill and/or screw gun
4. Chalk line, utility knife
5. Flat screwdriver, needle nose pliers
6. Tin snips and/or power shears for panel
7. Sawhorse and support planks, and/or work table
8. Ladders, jacks, picks, scaffolding and/or lifts
9. Quart size caulking gun, offset tile nippers
10. Circular saw/masonry blade (or) tile saw
11. Template for cutting and holding brick (if needed)
12. Clean wheel barrel and hoe, or mortar mixer, or (5) gal. bucket & whip
13. Mortar scoop, plastic mortar tub, dishpan, or kitty litter tub
14. Screen box with 1/4" opening, approximately 2' x 1 1/2' dimensions
15. Mortar bag and tip, mortar gun, mortar hopper with drill motor (or) pumping system
16. Striker, jointer rounded 1/2" x 5/8"
17. Two gallon water pail with quart measurements
18. Water buckets, (3) – 5 gallon pails
19. Flat, stiff Tampico bristle brush to clean brick surface
20. Acid brush and handle (if needed)
21. Cleaning brush (plastic bristle to clean tools and equipment only)
22. Tampico bristle water brush

##### **B. Tools available through UWS:**

1. Mortar bags and tips
2. 1/4" screen cloth
3. 1/2" x 5/8" jointer

## V. ESTIMATING INSTALLATION LABOR

### A. Estimation Tables - Labor Force: 3-Man Seasoned Crew:

#### **Time to Install 100 Sq. Ft. of Material on Nail Base**

<i>Material</i>	<i>Time Frame</i>	<i>Man Hours</i>
Apply Panel	3-Man Crew, 20 Minutes	1.00
Adhere Veneer	3-Man Crew, 90 Minutes	4.50
Tuck Point Mortar	3-Man Crew, 90 Minutes	4.50
Clean Brick	3-Man Crew, 20 Minutes	1.00

\*Total man hours per 100 square feet = 11.00 man hours to apply panel, veneer, tuck point, and clean brick finish.

#### **Installation on Multi-Story Projects Man Hours per 100 Sq. Ft. of TABS System**

<i>Wall Height</i>	<i>w/ Nail Base</i>	<i>w/ Screws</i>	<i>w/ Masonry Anchors</i>
1st Floor 0-10'	13	14	15
2nd Floor 11-20'	14	15	16
3rd Floor 21-30'	15	16	17

\* Wall heights 30' and above, add man hours for system material movement.

### B. Supplemental Labor Guideline:

1. For screw fasteners, allow additional (1) man hour per 100 sq. ft.
2. For masonry fasteners, allow additional (2) man hours per 100 sq. ft.

- 3 Cutting, add (1) man hour for each 10 linear feet of possible cutting.

## **VI. PROJECT PARAMETERS**

- A. The following are not included in estimating materials and labor for installing the TABS II system.**
1. Scaffolding or support mechanism and the placement of such.
  2. Wall preparation; wall shall be flat and meet the design requirement of L/360 & code standards.
  3. Control or expansion joints are to be called out on the prints and placed accordingly.
  4. All sheathing materials and/or water infiltration barriers are in place.
  5. All flashings and/or trims are in place (check project specs and/or code for details).
  6. The finished system follows the surface of the supplied wall, if in doubt as to meeting finished surface requirements, notify owner or owner's representative.

## **INSTALLATION INSTRUCTIONS**

### **WALL PREPARATION/CONDITIONING:**

- A. Structurally sound wall; if in doubt, get owner or engineer's approval prior to installation.
  - 1. Framing for control or expansion joints are in place.
- B. Substrate will have a recommended deflection design of no greater than L/360 unless consent is given by TABS WALL SYSTEMS.
- C. Corners are to be braced to meet code and design requirements in order to alleviate shrinkage, raking, settling and movement. Wall is to be flat within 1/4" per 10 lineal feet. The TABS wall system follows the contour of the wall. If it is not flat, notify the owner or project manager prior to starting. Walls can be shimmed with felt or foam to obtain desired results.
- D. Sheathing will be of approved type for installation and code equal and installed to sheathing manufacturers recommendations and specifications.
- E. Water or air infiltration barrier in place, if needed, with any openings or tears repaired.
- F. Starter angles, flashings, and trims in place as per detail drawings and/or BIA Technical Note 7A on flashing of brick walls.
- G. Location of expansion joints should be within 2' - 4' of outside corners. At inside corners, where unlike materials contact system components and if needed. Where by stress caused by heat, cold, moisture or building Movements needs to be relieved. Control joints should be to regional standards but not to exceed 30' spacing in walls with out openings.

## **LAYOUT:**

### **A. Control Areas**

1. Stop panel and veneer at building control joints.
2. Install control or expansion joints at least every 30'.
3. Stop panel and veneer  $\frac{1}{4}$ " to  $\frac{3}{8}$ " away from doors, windows, and overhead door openings. (See Details)
4. Stop panel and veneer  $\frac{1}{4}$ " to  $\frac{3}{8}$ " from inside corners.
5. Control joints should be  $\frac{3}{8}$ " wide to accommodate movement of veneer and panel. Larger joints may be needed to accommodate building movement. These should be specified by the designer or engineer.

B. For ease of installation, window or door frames should be within 3" of surface, for veneer returns using outside corners pieces.

C. If window sill is to be angled by using outside corner piece, frame should be within 2  $\frac{1}{2}$ " of outside surface. (See Details)

D. Lowest common corner of building is starting point. Then level corner to corner.

E. Align tabs at corners and all joints.

F. Adjust panel, if possible, so full course fits under or over windows, doors, or openings (cut as little as possible).

G. If a full course is not possible, use soldier coursing or trims.

## **STANDARD PANELS:**

- A. Clean panel, if necessary, with non-oil base cleaner of any dirt or film or residue that interferes with adhesion of mastic or mortar.
- B. Install panel in upright position, with control date on bottom center of panel or punched openings above tab.
- C. Panel edges to end or begin on stud or girt.
- D. Start at outside corner; 1) panel may be custom bent or wrapped around corner for additional bracing; 2) stagger panel joints over joints in sheathing; 3) stagger panel joints if possible (this will help brace the wall) 4) panels are butted at edges; for optimal stress relief, a 1/16" gap between panels is recommended.
- E. Panel should be fastened as flat as possible; fasten down center then work out to edges. Apply adhesive to areas behind panel that may flex too much or install additional fasteners to pull panel flat to wall.
- F. Panel may be cut with tin snips or power shears.

## **Pre-glued Panel:**

- A. Install panel with Tabs under the Brick.
- B. Panel edges to begin and end on stud or girt.
- C. Place pre-glued panels so as to stagger joints.
- D. Panels are butted at top and bottom edges.
- E. Panels have a gap of 1/16" at sides.

- F. Panels should be fastened from bottom center continuing to top.
- G. Cut pre-glued panels metal side up with metal blade, turn over then cut through brick with masonry blade or use blank filler panels.

### **FASTENER:**

- A. Shall be a non-corrosive type with a flat wafer-head design.
- B. Fasteners will extend into the substrate 1" if wood or masonry, 1/4" if metal, Use nails, screws or masonry anchors, #8 or larger.
- C. Fastening schedule of 1/4" from edge and every 10" on studs into 16" on center studs. 8" on stud into 24 on center studs, or 8" down x 24" across schedule for masonry gives you 1 fastener per square foot.
- D. If in doubt as to correct fastener, contact fastener manufacturer or Distributor for correct product application.

### **VENEER:**

#### **A. COLOR RANGE:**

- 1. Veneer colors vary in shades and textures from veneer to veneer and process to process.
- 2. Order full veneer range (*min 5* pieces) before placing order, if in doubt as to color range or texture.
- 3. Bricks, tile, or stone should be applied to wall out of several boxes at one time, so that a blend of color ranges may be achieved.

#### **B. STARTING POINT (INSTALL MASTER ROW):**

- 1. Start at outside corner of wall.
- 2. Apply corner bricks to wall, alternating long and short leg, for running bond pattern. Apply stone veneers with corner edge protruding the thickness of the return veneer.
- 3. Run one row of veneer the length of wall to next outside or inside corner under or over window or door line, with a 3/8" joint opening between veneers.
- 4. The position of the veneer on the panel to the double tabs will be the

- same on every other course.
5. Adjust tabs, if necessary, to keep course level.
  
  6. For brick walls not using outside corner pieces, wall will be started with a Full brick for die master row; the next course is started with a half brick.
  7. To install brick vertically, creating a soldier course flatten 2 rows of tabs into their openings. Rest bricks vertically on tabs.
  8. Veneers should be stopped 1/4" to 3/8" from door and window trims.

### **C. CUTTING:**

1. Score brick or to 1/4" depth with masonry blade, circular or cut off saw on face of brick. Break scored pieces with offset tile nippers.
  2. Tile, Marble and granite must be cut all the way through with a tile saw.
- D. Install factory edge toward window and door moldings - when edge is concealed by trim, place factory edge so as to be seen. Apply full pieces first, and then cut pieces.
- E. Window and door head openings should be finished as shown in details.
- F. If possible, grout joints should not be placed directly over panel seams or joints.

### **MASTIC:**

- A. Apply mastic in dabs about the size of a quarter to the back of the brick on either end or on the panel so that each brick receives two dabs of mastic. You may also apply vertical strips of mastic at each end of the brick.
- B. Apply mastic to corner bricks with 2 dabs or strips on the long leg and 1 dab or strip on the short leg.
- C. Do not run a continuous horizontal bead of mastic on the panel, you will use more than what is needed and will hinder moisture movement on the face of the panel.
- D. Mastic, if kept warm, can be applied to brick or panel at 0 degrees F, facilitating year around installation.

- E. Too much mastic will tend to push bricks forward, away from the wall, Air mastic, by pulling brick away from panel for a few seconds; then push back into place. This allows solvent to escape faster and the mastic to become stickier.
- F. Mastic in hot weather can hasten a film. Slide brick on panel to break surface film and achieve a good bond. In direct summer heat, mastic will most likely have to be aired to release solvent faster to allow mastic to have a tackier set.
- G. For tile and stone veneers, appropriate mastic should be applied in three 3” vertical lines: to panel or back of veneer. **CAUTION:** Mastic should **Not be used on stone**. Contact distributor or manufacturer for adhesive recommendations.

## **FIELD MIX FORMULAS:**

Formulas – Brick Grout

Mix #1: 1 part Portland Type 1, 1 part hydroatic lime, 2 to 3 parts sand or

Mix #2: 1 part pre-mixed masonry mix Type S or

Mix #3: 1 80 lb. Bag of mortar mix type S, 2 to 3 parts sand

- A. Screen mortar mix, dry, through ¼” screen cloth. This will stop lumps or stones from plugging the tip of the grout bag or applicator.
- B. Add colorant, if required, to dry mix, then mix well dry.
- C. Add 1 quart TABS latex to 5 quarts water. Add this liquid mixture to the dry mortar ingredients. In summer add 1 qt latex to 6 qt, retemper as needed
- D. Screen part of the wet mortar mix through a ¼” screen cloth into a mortar tub to screen out any lumps.
- E. Add additional water to screened mortar mixture, if needed, so the consistency is that of (a milkshake), or so it just drips through the tip of the grout bag. NOTE: You can always add more water, but you can’t take it back out.
- F. Fill 4 feet of horizontal courses first. After every 4<sup>th</sup> row, fill vertical joints; this will allow wall to dry evenly. Fill in all voids with damp mortar

previously struck from wall.

- G. Over-fill joint with mortar, as mortar dries; it shrinks due to water volume loss. Note: normal slicker may penetrate too far, use modified slicker or a 6-9" piece of 1 ½" to 2" ID pipe.
- H. When mortar is thumb print dry to the touch (like wet beach sand), strike joint with slicker or jointer tool to pack mortar into the joint.
- I. Struck mortar should be dry enough to fall away clean and tooled to a dull gritty finish, not wet and shiny.
- J. Upon initial set, brush excess mortar off of brick face, if necessary, with a flat natural bristle brush. Be careful not to drag mortar out of joint, or smear wet mortar onto brick surface.
- K. Setting time will depend on drying conditions. In very hot weather, dampen brick to prevent rapid absorbency of moisture from mortar.
- L. For stone veneer, use an industry accepted grout, and follow manufacturers specifications and recommendations.

**CAUTION: Do not use mortar mix with stone veneers.**

### **CLEANING:**

- A. If it is necessary, it is best to clean brick within 48 hours, but no longer than 5 days or shorter than a full 24 hours.
- B. Follow guidelines of BIA Bulletin #20, revised, or the Association of Tile, Terrazzo and Marble Contractors and Affiliates bulletin entitled "Grouting and Cleaning Ceramic Floors with Latex Grout".
- C. **CAUTION:** Before using an acid base cleaner, try a detergent product; acid may burn the brick.