
LOXON Application Guide

I Substrate

- A. The substrate must be examined for soundness and to verify that the plane of the wall does not vary more than + or - $\frac{1}{8}$ " within any 4 square foot area. Any discrepancies should be reported to proper authorities and be corrected prior to panel application.
- B. Preparation
 - 1. If the panels are to be continuous over the foundation, it must be in the same plane as the wall being covered.
 - 2. If necessary, the foundation may be furred out plumb with non-moisture sensitive materials.
- C. Approved Substrates
 - 1. Sound Concrete
 - 2. Sound Masonry
 - 3. Sound Stucco
 - 4. Exterior Grade Plywood or OSB
 - 5. Fiber Re-enforced Cement Board
 - 6. Exterior Grade Gypsum Sheathing
 - 7. Glass Matt Sheathing
- D. Substrates other than those listed above must be approved by Universal Brick Systems **PRIOR** to installation of **LOXON** panels.
- E. The use of a permeable moisture barrier is required with any substrate other than #1, 2, or 3 listed above.
 - 1. A moisture barrier similar to Tyvek 'Stucco Wrap' is preferred. (Felt paper is not recommended.)

II LOXON Installation

- A. Flat Panel Installation
 - 1. Prior to the installation of any panels, determine the height location for the bottom row of brick.
 - a. The bottom row of brick must be installed high enough above grade to compensate for any problems that could occur from frost upheaval.
 - b. From that location measure up the wall in 8" increments (or multiples of 8" i.e. 16"- 48", etc.).
 - c. Check at these heights for any areas with window or door heads where it may require cutting of the brick lengthwise.
 - i. If this occurs, you may want to adjust the height of the bottom row to eliminate cutting.
 - ii. When adjusting the height allow enough room for caulk joints and drip edges to be installed.

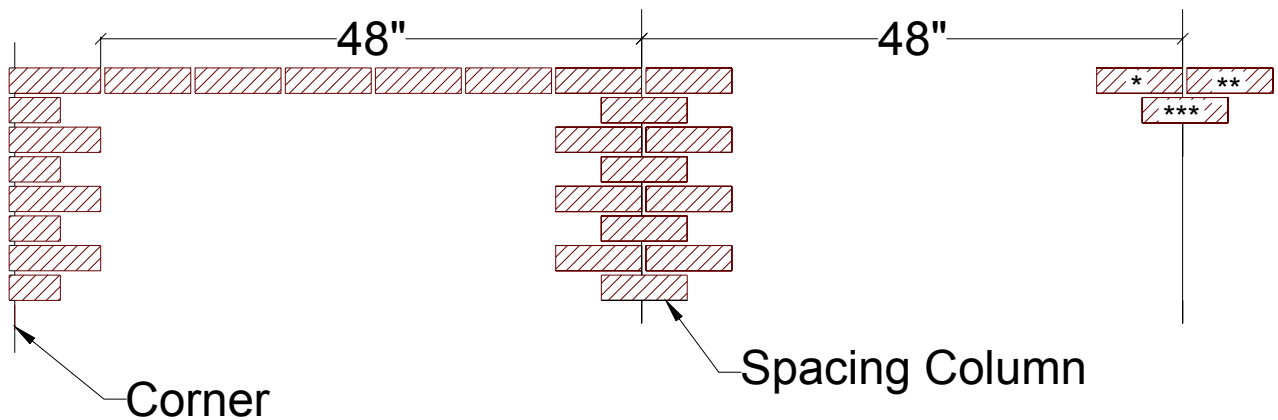
2. Once the height of the bottom row of brick is determined you will have established a 'Benchmark'.
 - a. Transfer this benchmark to all corners/sides of the building
 - i. All future measurements should be taken from this benchmark to ensure that the installation of the panels is consistently level.
 - b. Snap lines around the building from benchmark to benchmark.
 3. Fasten *Starter Ledge* at the benchmark line.
 - a. The first row of panels will be placed on the starter ledge.
 - i. Panels above doors and windows also require a starter ledge.
 4. It is best to begin the panel installation at an outside corner.
 5. **IT IS EXTREMELY IMPORTANT** that the panels be installed flat and tight against the substrate.
 - a. Pressing against the panel in the area of the fastener as it is being installed will help ensure that the panel lays flat.
 - b. A bulging panel will result in an aesthetically undesirable finished wall.
 6. Take care to insure that *Brick Locks* align from panel to panel.
 7. After the first row of panels has been completed and checked for levelness, subsequent rows are then installed.
 - a. Each subsequent panel will fit behind the brick locks of the panel below.
 - b. The vertical joints between the metal panels must be staggered from row to row.
 - c. The panels should be periodically rechecked for levelness during installation
 8. Cutting Metal
 - a. Cutting can be achieved with a pair of tin shears.
 - b. Long horizontal cuts can be done by heavily scoring along the desired cut line and bending the panel back and forth until it breaks.
 - c. For larger jobs a "shear" machine is available.
 9. Leave a gap between the ends of all panels to allow for expansion of the metal.
- B. Corner Panels
1. Corner Panels are required on new framed construction.
 2. Corner Panels should be installed prior to the application of the flat panels.
- C. Fastener Placement
1. Fasteners are to be installed in the recessed area, referred to as the *Stiffening Channels*.
 2. Fasteners are required to be installed an average of one per square foot on all substrates.
 - a. On stud walls, place fastener every 8" vertically and in every stud horizontally.
 - b. Fasteners must penetrate wood studs or masonry by 1".
- D. Fastener Sequence
1. When installing panels from the bottom of the wall up:
 - a. Install *Starter Ledge*.
 - b. Set the first panels on the *Starter Ledge*, and install fasteners in middle bottom edge of panel and through *Starter Ledge*.

- c. Install subsequent fasteners up and out from bottom middle in a fan-like pattern, going up the panel vertically every 8" and horizontally every 16" maximum.
 - d. Maintain at least one fastener per square foot average.
 2. When installing panels from the top of the wall down:
 - a. Install initial row of fasteners horizontally in the top *Stiffening Channel*.
 - b. Install subsequent fasteners down and out from top middle in an upside down fan-like pattern, working down the panel vertically every 8" and horizontally every 16" maximum.
 - c. Maintain at least one fastener per square foot average.
 - d. The bottom of each panel is to be left free of fasteners until the next lower panel is properly seated behind the upper panel.
 - e. Place *Starter Ledge* beneath the bottom panel and fasten.
 - E. Fasteners
 1. All fasteners must have an approved non-corrosive coating.
 2. Types
 - a. For Use with Frame Construction
 - i. Steel Studs
 - (a) Self Tapping Galvanized
 - (b) Stainless Screws
 - ii. Wood Studs
 - (a) #8 Coated Deck Screws
 - (b) Stainless Steel Screws
 - (c) GrabberGuard Screws.
 - b. For Use with Masonry Construction
 - i. Tapcons
 - ii. Power Activated Gun (i.e. Ramset or Hilti)
 - iii. Air Activated Gun (i.e. ET&F or PNUE TEK)
 - F. Foam Installation
 1. When the **LOXON** Panel is used in conjunction with foam insulation, an "L" shaped flashing with a drip edge is to be used as the *Starter Ledge*.
 - a. The flashing needs to extend ¼" past the outer edge of the brick.
 2. Without prior approval, the maximum foam thickness on metal studs is 1".
 3. Without prior approval, the maximum foam thickness on all other substrates is 2".

III Brick Installation

- A. Generally, the length of six brick, with six mortar joints, is 48" and the height of three brick, with three mortar joints, is 8".
- B. Establishing Brick Layout
 1. Install corner brick.
 2. To establish the locations of head joints, and assure they will remain vertically true throughout installation of remaining brick field, create 'spacing columns'. (See drawing on page 4.)

- a. Measure 48" from the long leg of an installed corner brick and establish a mark.
 - b. Repeat marking along full length of wall in predetermined increments (i.e. 48").
 - i. This distance can be adjusted as needed. (See Adjusting Brick Layout.)
 - c. Using a level at these marks, make vertical lines from the top to the bottom of wall.
 - d. Start initial column of brick making sure that the first brick is on the same row as the corner brick from which the measurement was taken.
 - i. Place the first brick for the spacing column on the 48" mark against the nearest side of the line.*
 - ii. On far side of the line, measure $\frac{3}{8}$ " in from the first brick and set a second brick.**
 - iii. On the row above or below your first 2 bricks, center the brick on the $\frac{3}{8}$ " head joint created.***
 - iv. Continue placing bricks using this process until you have a 'column' of brick laid.
 - e. Proceed to next 48" mark and repeat laying another column of brick.
3. Once spacing columns are installed, fill in between them



C. Adjusting Brick Layout

1. To fill any predetermined distance and to avoid small slugs of brick alongside windows, doors, or other openings, the 48" measurement can be adjusted.
 - a. For example, by changing 48" measurement to 48 $\frac{1}{4}$ " (this will space the brick an additional $\frac{1}{32}$ " further apart), you can gain 1" every 16 feet.
 - b. Conversely, by changing the measurement from 48" to 47 $\frac{3}{4}$ ", you can lose 1" in 16 feet.
2. From corner brick or any 48" mark measure the distance to existing doors, windows, corners, etc. to figure your predetermine distance to fill.
3. Adjust 48" measurements as needed.

- D. Adhesive Placement
 - 1. Adhesive is to be applied in every course along the top *Adhesive Lock* formed in the panel.
 - 2. Apply a bead of adhesive, the size of a pencil, leaving 2" gaps every 12" to 18".
- E. Brick Placement
 - 1. The bricks are set on the *Brick Locks* that are formed in the panel.
 - 2. To ensure adhesion, nestle the brick into the adhesive, breaking any 'skin' that may have developed.
 - 3. Push the brick into the adhesive hard enough to cause the adhesive to spread through the *Adhesive Locks*.
 - 4. During installation watch for any brick that may 'tilt out' and need to be pushed back.
- F. Brick Cutting
 - 1. This can be achieved by a variety of tools and methods.
 - a. Wet or dry tile saw
 - b. Chop saw
 - c. Hand held tile snips
 - d. Hand held tile saw
 - e. Scoring and tapping with a hammer

IV Mortar Installation

- A. If colored mortar is being considered, contact Universal Brick Systems, Inc.
- B. Installation
 - 1. Allow 12 hours for the adhesive to set prior to installing mortar.
 - 2. Install the mortar using a Grout bag (aka Pastry bag) with a #5 tip.
 - 3. Take care to insure that the mortar joint is fully filled so the mortar will lock behind the *Brick Locks*.
 - 4. Weep holes are recommended 24" o.c. at bottom of wall and over doors, windows, and other openings.
- C. Striking Joints
 - 1. Many commercially available striking tools can be used.
 - 2. Prior to striking joints, determine the proper consistency of the mortar.
 - a. When lightly pressed, the mortar should show a light fingerprint.
 - 3. All mortar should be struck when it is at the same consistency. (Moist mortar when struck will have a different appearance than dry mortar when struck.)
 - 4. Run the striking tool down the joint hard enough to compress the mortar.
 - a. The dry, excess mortar will fall away.
- D. Brushing
 - 1. After the mortar has been tooled, brush the wall at a 45° angle with a stiff bristled masonry (deck) brush to remove excess material from the brick.
- E. Cleaning
 - 1. Cleaning should not begin until the wall has completely cured, usually after 24 hours.

2. Use cleaning solution approved by the brick manufacturer.

V See **LOXON specifications as an additional resource.**

VI Manufacturer of the **LOXON System:** UNIVERSAL Brick Systems, Inc.
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