



TRANSIT SURFACE APPLIED TACTILE INSTALLATION INSTRUCTIONS

PART 1 – PROJECT SITE & ENVIRONMENTAL CONDITIONS

1) Tactile Warning Surface (TWS) Tile Installation

A. Precipitation:

The substrate shall be clean and dry or damp (but no standing water) prior to the installation of the Tactile Warning Surface Tile. The Tactile Warning Surface Tile installation shall not commence or continue when rain is expected to continue for a substantial part of the day.

B. Cold Weather Conditions:

Continuation of TWS Tile installation operations is not encouraged when ambient and/or substrate temperatures are at or below 40 degrees – although permissible if temperatures are heading towards the 40 degree range. The temperature should exceed 40 degrees for at least 6 hours each day to facilitate faster cure of adhesive and sealants. These restrictions are recommended solely for improved workability and application of the adhesive. At temperatures below 32 degrees, adhesive will still cure – but very slowly. The adhesive will become increasingly thick (dropping yield rates) UNLESS the adhesive is heated until time of application (Heater blanket, storage in a heated enclosure). Other than for safety and comfort, there are no temperature restrictions on the installation operation.

PART 2 – EXECUTION

1) Substrate Condition

A. New Concrete Substrate

For any new concrete substrate, concrete shall be allowed to cure for a minimum of 7 days prior to commencing any form of surface preparation or installation operation.

B. Existing Concrete Substrate

Concrete substrate must be in clean, reasonably level, and sound condition.

- (a) General Contractor shall repair any damaged concrete substrate as needed in order to insure that the TWS Tile is installed over a sound substrate.

2) Profile of Substrate

- A. Horizontal Platform Surface: Ideally, the substrate must be level and uniform to within 1/8" to 3/16" over a span of 8.' The substrate should have a broom type or equivalent finish.
- B. Vertical Platform Edge Surface: Ideally, the vertical face of the platform edge must be straight and true to a tolerance of 1/8" to 1/4" over a span of 12.'
- C. The recess and sawcuts created to receive the TWS Tile for a flush mount installation will closely follow the contour of the platform. The TWS Tile should follow the contour of the platform for the best possible finish.

Notes: This means that the top of the body of the TWS Tile will rest, on average, level with, slightly above (1/16"-1/8"), or slightly below (1/16"-1/8") the adjacent substrate.

PART 3 – SURFACE PREPARATION

1) Sawcut

- A. Sawcuts (to receive TWS Tile flanges) shall measure 3/8" wide by 3/4" deep and shall remain parallel to the platform edges.

2) Creation of a Recess for the TWS Tile

- A. A recess measuring a uniform 1/4" deep shall be formed/milled so that the TWS Tile on average sits relatively flush versus the adjacent substrate.

PART4 – TWS TILE INSTALLATION

1) Installation operations may commence and continue when environmental conditions described in Part 1 are satisfied.

2) Application of Adhesive

- A. Adhesive shall be applied to the backside of the TWS Tile using a 1/4" x 1/4" square notch trowel. The adhesive shall be applied in a pattern of 12-15 "dabs" spread out over the backside of the TWS Tile. A number of the "dabs" are applied at fastener locations, thus serving to "seal" the fastener locations. The approximate application rate for the adhesive is 50 sq. ft /gallon. Once the TWS Tile has been placed on the platform, it will generally take 24-48 hours for the Adhesive underneath the TWS Tile to fully cure.

3) Placement of TWS Tiles

- A. Orientation of TWS Tiles Relative to Platform Edge –
The TWS Tiles shall, at all times and to the maximum degree feasible remain fully seated (both the body and flange of the TWS Tile) on a sound and secure substrate. It is not advisable to have the TWS Tile cantilever over a platform edge by more than a 3/16.”
- B. Separation of Successive TWS Tiles
Successive TWS Tiles must be separated by a uniform joint of 1/8” minimum. The joint line is necessary to allow for any expansion/contraction of the TWS Tile relative to the underlying substrate.
- C. A succession of no more than 25 TWS Tiles may be placed and fastened in the corners without installing all of the fasteners; however, all fasteners must be installed within 4 hours of the TWS Tiles initially being placed on the platform substrate.
- D. Whole, uncut TWS Tiles shall be used as much as possible. Under no circumstances shall TWS Tiles measuring less than 12” in length be installed. When a TWS Tile is cut, and when it is necessary to cut through a truncated dome, the truncated dome shall be ground off if less than half of the truncated dome remains and beveled when over half of the truncated dome remains.
- E. Whenever reasonably possible, the truncated dome alignment shall be maintained between successive TWS Tiles.
- F. TWS Tiles may only be cut and the flanges ground or removed only as absolutely necessary to accommodate any unusual field conditions.

4) Setting of Fasteners/Additional Fasteners

- A. The TWS Tiles are manufactured with 15 countersunk holes. Please see ADA’s standard shop drawing for the fastener pattern.
- B. Fastener holes shall be drilled straight and true to a minimum depth of 1/4” x 2^{1/2}”. Ensure that the fasteners are set to full depth, as straight and true as possible so as to be flush or nearly flush with the top of the truncated dome. Use a hammer and punch pin (as needed) to set the fastener. Care should be taken when setting the fastener to minimize any inadvertent blows with hammer to the TWS Tile.
- C. So long as new holes are countersunk through the center of the desired truncated domes, additional fasteners may be added as necessary to insure a sound installation and compensate

for any substrate irregularities. A 5 point 1/2" 82 degree countersink bit may be used for this purpose. The fastener must be flush, or nearly flush with the top of the truncated dome.

- D. Dust Resulting from Drilling of Fastener Holes: ADA shall use a leaf blower to disperse dust accumulated as a result of the drilling operation

5) Expansion Joints

Generally, the TWS Tiles are initially installed directly over the expansion joints. Where geometry so dictates, TWS Tiles may also be precut and installed without going directly over the expansion joint. The intent of this process is to minimize the number of short or cut TWS Tiles present on the platform edge.

- A. Within 4 hours of initial placement of the TWS Tile, a minimum of 4 fasteners shall be installed across the width of the Tile and on both sides of the expansion joint. Installation of these fasteners will eliminate any possibility of the TWS Tile delaminating at the expansion joints and will securely bond the TWS Tile to the underlying substrate.
- B. Once the fasteners have been installed, a 1/4" to 5/16" wide sawcut shall be made across the TWS Tile and filled with sealant. The sawcut shall be made as closely as possible to the centerline of the expansion joint AND must be made between 2 successive rows of truncated domes.
- C. In situations where the gap created between successive TWS Tiles exceeds 1/2" in the expansion joint zone, please be advised that there will almost certainly be foot prints in, or tracking of, the sealant at the expansion joints.

6) Application of Sealant (BASF NP1 or Sikaflex 1A)

- A. Longitudinal joints shall be caulked as well as transverse joints.
- B. Application: Apply sealant on a clean dry sawcut when the environmental conditions specified in Part 1 prevail. Fill the joint(s) with sealant so that the sealant is almost flush with the bevel of the TWS Tile.
- C. Tooling of Sealant: where tooling is necessary, dish washing liquid may be used for this purpose. Dish washing liquid is used in the interest of protecting the health of the applicator.
- D. Clean-up of Excess Sealant: a damp cloth and acetone may be used to remove any excess sealant.

- E. Protection of Sealant Where Platform Must Remain in Service – Baby powder may be applied to the surface of the sealant to minimize any tracking of the sealant. This will eliminate 80-90% of any potential tracking problem. However, foot prints may appear and remain on the sealant surface after it has cured. This can't be avoided. The baby powder will wash away during a rain storm or cleaning of the station.
- a) Where the transit platform must remain or immediately be brought into service, the Contractor may wish to exercise the "Accelerated Cure" Sealant (BASF 150) option to minimize the window for possible tracking of sealant.

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