



## CERAMIC TILE INSTITUTE OF AMERICA, INC.

12061 Jefferson Blvd., Culver City, CA 90230-6219

Phone (310) 574-7800 \* Fax: (310) 821-4655 \* Email: [ctioa@earthblink.net](mailto:ctioa@earthblink.net)

Fed. I.D. #95-4401962

[www.ctioa.org](http://www.ctioa.org)

[www.thetiledoctor.com](http://www.thetiledoctor.com)

### CTIOA REPORT 2008-3-31

#### SUBJECT: TRANSITIONAL WET AREA PROTECTION

(Submitted by David McCue)

#### INTRODUCTION

Building materials installed at “Transitional Wet Areas” (Limited Water Exposure Area) adjacent to industry defined “Wet Area” tile and dimensional stone installations, are commonly damaged and can be damaged by moisture/water. Waterproof Membranes that qualify as ANSI A118.10. *are*, the implied (water/moisture) protecting component of this report. Flashing materials used at tub/shower receptor flanges other than ANSI A118.10 may be used if approved for such use by individual manufacturers. The recommendations in this report are intended to address protection of vulnerable building materials against damage by moisture/water at these transitional areas. Unprotected wood framing members, gypsum wall board, door jambs and base board moldings (though not limited to these materials) are some of the surface and sub-surface components typically damaged when installed unprotected in Transitional Wet Areas (TWA) adjacent to Wet Areas.

#### DEFINITIONS

**Wet Area:** Tile/stone surfaces that are either soaked, saturated or regularly and frequently subjected to moisture or liquids (usually water), such as gang shower, tub enclosures, showers, laundries, saunas, steam rooms, swimming pools, hot tubs, commercial kitchens and exterior areas.

**Tile:** Ceramic tile, stone tile, glass tile, resin based tile or cement based tiles that are not adversely affected by moisture.

**Transitional Wet Area:** For purposes of this report, Transitional Wet Areas (TWA's) are tile/stone finished surfaces that are subjected to moisture or liquids, but are not intended to become soaked or saturated due to the system design or dwell time (soaking) exposure. TWA's are normally directly adjacent to Wet Areas. (See note at bottom of page 2).

**Limited Water Exposure Area:** Tile surfaces that are subjected to moisture or liquids but do not (intend to) become soaked or saturated due to the system design or the time exposure.

**Backing Material(s):** Building components specified in all applicable and recognized TCNA methods of assembly including Waterproof Membranes and Waterproof flashing.

**Transitional Areas** include but are not limited to:

- Flooring/sub-flooring adjacent to shower receptors and adjacent steps, or landings.
- Flooring/sub-flooring adjacent to tubs, tub showers and adjacent steps, or landings.
- Bathroom floors to foyers.
- Vertical surfaces in bathrooms including tub surrounds without a shower head.

## **Water Intrusion Prevention Recommendations**

Refer to Illustrations # 1 shown below.

### **1. Finish Surface Materials**

All surface areas adjacent to wet areas are recommended to be a finished material that is not affected by water/moisture conditions. Finish surface materials such as ceramic tile and dimensional stone, etc. should be used.

### **2. Distance of Horizontal Finished Surfaces & Waterproof Sub-assemblies from Wet Areas: 24 inches out.**

Finish and backing materials including waterproofing systems that are not affected by water/moisture should be used on horizontal surfaces extending to a minimum of **24 inches out** from the outermost edge of a wet area (tub or receptor face) and 3” up vertical interfacing(walls). In reality, the further distance of horizontal waterproof sub-assemblies protection, the less likelihood for damage to occur. Use discretion to extending waterproofing protection, based on site layout and application.

**Note:** For maximum protection, waterproof the entire floor sheathing/underlayment and framing prior to installing plumbing fixtures, including but not limited to showers, tubs, manufactured receptors, toilets, bidet's, cabinets etc.

### **3. Transition Joint.**

Interfacing of Moisture Sensitive Material(s) and the Finish Material(s) tile assemblies not affected by moisture should have a Transition Joint sealed and routinely maintained to prevent water migration. An example of a Transitional Joint is where the tile backing material and tile/stone interfaces with gypsum wallboard installed outside of a Wet Area).

Note: Edge of gypsum board should be water proofed. Transition Joints should be designed per current TCNA EJ171, caulked with a sealant that meets ASTM C920, installed per sealant manufacturers explicit instructions and be routinely maintained for best performance.

### **4. Distance of Vertical Finished Surfaces from Wet Areas: 6 inches out.**

Finish and backing material(s) not affected by water/moisture should be used on continuous vertical surfaces to a distance of not less than **6 inches out** from the outermost portion of a Wet Area fixture, (tub, receptor, etc.) interfacing with and matching full height of any adjacent Wet Area assembly or other recommendations in this report. A waterproof transition joint shall interface between tile assembly/substrate and all moisture sensitive materials and be routinely maintained to prevent water migration.

**5. Sub-Surface Protection Distance from Wet area i.e. waterproofing and flashing: 3 inches up.**

Wet areas should have sub-surface flashing extending a minimum of not less than **3 inches up** from both sides of all transition joints and/or changes in plane.

This includes but not limited to vertical shower walls at inside corners, shower dam/curbs, tiled pan/receptor to floor interfacing, tiled bath tub deck facing to bathroom floor interfacing, shower dam/curb to wall threshold, shower dam/curb to wall legs, shower pan/receptor liner to tiled wall assembly moisture barrier. For non-tiled tub facing or prefabricated receptors place and maintain (soft) sealant joint as described in Transition Joints section above.

Some TWA's may require more flashing, such as the bathtub to wall or prefabricated pan/receptor to wall transition. Blocking is required behind the flashing as designated by specific Manufacturers' Recommendations. Flashing should be weather lapped (lapped shingle-fashion) to itself and to the moisture barrier. For backer board applications, studs should be furred to allow backer board to overlap tub flange as per TCA B412. Flashing should be made of materials not adversely affected by moisture.

**6. Sub-Surface Protection Distance from Wet area i.e. Continuous Membrane: 3 inches up.**

Floor installations that have plumbing fixtures in areas adjacent to wet areas should use a waterproof membrane extending **3 inches up** the wall meeting ANSI A118.10 for added moisture protection. All or any interfacing of waterproof membranes must meet Manufactures Installation Specifications.

**7. Showers without dams/curbs** should be built as a handicap shower to include a continuous waterproof membrane throughout the bathroom floor area that extends up the wall a minimum of **3 inches**. The finished floor and the waterproof membrane substrate should be properly sloped to the drain to prevent standing water at both surface of waterproof membrane and surface of finished materials. Installation of additional drains outside of the receptor area may be needed to satisfy ¼ inch minimum slope to drain criteria necessary at both surface of finished floor and surface of continuous waterproof membrane.

**8. Always follow manufactures' explicit instructions for the installation of building materials. This is critical where water/moisture is present or may be present. Request from and follow Manufacturer's Specifications for material(s) installation instructions where dissimilar materials and/or dissimilar manufacturers' material(s) are intended to interface. The use of *One Source* products is commonly recommended, if not required by most manufacturers.**

**Note:** TWA's are areas without drains or are areas without provisions to allow slope to a drain. The recommendations given within this report, do not substitute Best Practices, Industry Standards, Building Codes or Common Sense for end use or end user when protecting vulnerable building materials from moisture/water. This report does not address tile assemblies that incorporate kitchen sinks, wet bars, service sink installations or extended tub decks. A separate report for these specific assemblies is intended. Where not specifically detailed in this report, use current ANSI 108.01 and

TCNA Handbook for Ceramic Tile Installation for Movement Joints, Expansion Joints and installation language guidelines therein.

