

TECHNICAL PUBLICATION

PLAZA DECK WATERPROOFING

A **Plaza Deck** is an open area with occupied space below. Many hotels and condominium buildings have Plaza Decks and are used for pool areas, tennis courts, decorative areas, etc. The occupied space below the deck must be kept in a watertight condition and the products and methods of application of the waterproofing system are of great importance. The waterproofing of the Plaza Deck is located below the overburden (finished tile/concrete) and is not visible. Several key items are essential and must be considered during the design stage of the waterproofing project. Those items are:

- **Structural Integrity of the Plaza Deck**
- **Substrate Slope**
- **Drainage System**
- **Waterproofing System**
- **Inspections**
- **Overburden**
- **Guarantee**

Structural Integrity of the Plaza Deck

The Plaza Deck must be capable to withstand the weight of the waterproofing system and the desired overburden. Following the completion of the waterproofing system and installation of the overburden, some Plaza Decks contain heavy plantings and objects that can add numerous weight to the structure. All items must be considered during the design portion of the project.

Substrate Slope

A sloped substrate is desired for the application of the waterproofing system. This can be accomplished with lightweight structural concrete poured directly over the structural concrete Plaza Deck. Other types of sloping methods are available. A temporary waterproofing system would be required to be installed if the project was an existing Plaza Deck to eliminate water intrusion during the course of the project. The sloped substrate allows water infiltration to properly drain into the drainage system eliminating trapped water.

Drainage System

Deck Drains

Special deck drains are available for interior drainage that properly receives all waterproofing components. The components must be properly integrated into the drain to create a watertight system. The overburden components also terminate at the deck drain and the finished products can be aesthetically pleasing. Plaza Decks that drain to a perimeter edge are detailed to allow water penetration to drain through a specifically designed weep system.

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Drainage Layer

A special drainage layer is required to be installed over the waterproofing system. The drainage mat is designed to withstand a high concentrated weight and is compatible with the waterproofing system. The drainage layer protects the waterproofing system from damage and allows water penetration through the overburden to escape through the drainage mat and exit at the deck drains. The water flows to the deck drains because of the slope created in the substrate.

Waterproofing System

The waterproofing system selected for the Plaza Deck should be products that are designed specifically for the application and be compatible with the deck substrate. Roofing products are not manufactured and designed for Plaza Deck waterproofing. There are several types of waterproofing systems available for use in Plaza Deck waterproofing to include:

- **Coal Tar Products**
- **Asphalt Products**
- **Elastomeric Modified Bitumen Products**
- **Fluid Applied Products**
- **EPDM Products**
- **Butyl Products**
- **Thermoplastics**

The waterproofing system selection by the designer and specifier should include the following:

- **Building Type**
- **Interior**
- **Freeze / Thaw**
- **Expansion**
- **Traffic / Final Construction**
- **Contractor Experience**
- **Guarantee**

Redundancy within the waterproofing system should be considered as opposed to a single ply system. Multiple layers of membrane will deliver a redundant system and perform as intended with the proper design and application.

The specifications should be clear and concise containing all products that will comply with the specified guarantee. Details must be created at all perimeter locations and all penetrations. Detailing is critical for performance. The application must be implemented as specified with integrity of the application as a priority.

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Inspections

On-site inspections during the course of the project confirm contractor compliance to the specifications. Inspections should be conducted by the specifier / designer and contain written documentation and documenting photography. The integrity of the installation is critical for performance.

Overburden

The overburden consists of the actual products that are visible on top of the Plaza Deck and usually consist of the exterior tile and the appropriate mud base. Other decorative items such as potted plants and trees are a common item placed on Plaza Decks.

Guarantees

The track record of the manufacturer for the selected waterproofing system should be thoroughly reviewed prior to specifying the products. A ten (10) year guarantee is standard in the marketplace and excludes removing or replacing the overburden.

A properly specified, designed, inspected and applied waterproofing system will perform for its intended guarantee life. Specifications, design and on-site inspections are recommended.