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Deformation requirements

Design methods for concrete slabs



Glulam beam repair and strengthening

Strategies and solutions

ZweigWhite



Migutan system components — retainer legs installed onto structural slab, side flashing sheets and movement gland — before installation of stainless steel retaining caps and before integration into the deck waterproofing membrane.



Mounting rails are lowered into position onto an epoxy leveling bed.



The finished product shows that planters and the roadway surface sit safely over a water-tight plaza deck.

is usually a simple piece of thermoset rubber. It contains no mounting components and does not provide for positive mechanical anchoring of the system. There is no barrier between the sheet and the deck membrane for separation, from the point of adhesion, of tensile stresses caused by joint movement.

The practice of designing wood blocking to elevate the joint system in plaza and roof decks, or similarly the use of concrete curbs in parking decks, is validation of the need for a system that stands above the structural slab. Even pressure or chemically treated wood blocking decays eventually and concrete curbs crack perpendicular to the expansion joint, allowing water to pass. Achieving the design intent of these methods, the Migutan mounting rail legs form an integral part of a multi-layer deck composition, ensuring that the joint is elevated, integrated into the waterproofing membrane, and that water is kept away from structural joint-gaps.

The assertion by some that buried membranes facilitate deck drainage across the joint should be considered because incorporating a structural expansion joint into a drainage plane, while sometimes unavoidable, is generally considered a waterproofing-design compromise. This condition can usually be addressed through attention to drain location.

Using a joint-system designed to integrate into the waterproofing membrane on the structural slab, long-term watertightness is assured. An example of this type of system can be seen at the City of Toronto's CarPark 11

(see photos above and on the previous page). Benefits include the elimination of concrete curbs that are subject to cracking, and the ability to repair or replace sections of the thermoplastic sealing gland, if needed.

Conclusion

Band-aid joint treatments were historically the only choice available to designers, and therefore were widely specified in years past. The existence of a place in the market for a purpose-designed parking-deck joint system like

Migutan is the direct consequence of owners' having to spend a fortune replacing failed, buried, band-aid, and looped membrane materials. ■

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