Choosing a Plaza Deck Assembly

By Kami Farahmandpour, RRC, RWC, PE, CCS, CCCA

A plaza deck is typically designed very differently than a roofing system. The deck surface will often need to accommodate heavy traffic and abuse. For that reason, designers try to separate the waterproofing membrane from the wearing surface. There are currently two types of plaza deck assemblies: I typically refer to them as "open joint systems" and "closed joint systems." The closed joints systems are the most traditional types of plaza assemblies.

In the "closed joint systems," a vast majority of the stormwater drains onto the plaza-wearing surface, necessitating the use of a two-tier deck drain assembly. The wearing surface is typically constructed of cast-in-place concrete or mortar-set pavers. The pavers can be stone, brick, or precast concrete. The joints between the pavers (or the control joints in the cast-in-place concrete wearing slab) will then be sealed with sealant or mortar. These joints will inevitably crack or deteriorate over time. The waterproofing system in a closed joint system is placed below the wearing surface (i.e., the mortar setting bed or concrete wearing slab). In the older days, no drainage composite was typically provided over the waterproofing membrane. However, more recently, closed joint systems typically include a composite layer over the waterproofing membrane to facilitate drainage. Another advantage of placing a drainage composite over the waterproofing membrane is that it reduces the potential for critical saturation of the mortar setting bed or the concrete wearing slab. In cold climates, critical saturation of the mortar setting bed or the concrete wearing slab can lead to freeze-thaw damage and deterioration. For this reason, closed joint systems for cold regions should be selected with caution. Careful attention to the selection of the mortar or concrete mix, and quality control will be needed. Another consideration is that the salts and lime from the concrete or mortar setting bed will tend to be washed out and clog the drainage composite or its filter fabric. Application of deicing salts can also lead to damage to the mortar setting beds and concrete surfaces due to crystallization pressure.

Extensive deterioration of a plaza deck mortar setting bed in a closed joint system. The plaza is located in a cold region.

Recently, "open joint systems" have gained more acceptance, since they offer many advantages. These systems are also commonly referred to as "pedestal paver systems." In open joint systems, the vast majority of the stormwater is drained through the wearing surface open joints, down to the waterproofing membrane level. As such, primary waterproofing is provided by the membrane. In many cases, the use of a drainage composite is not required since the wearing surface pavers are typically supported on pedestals or shims. This creates an open cavity below the pavers that facilitates good drainage. Another advantage offered by open joint systems is that the wearing surface can be constructed level for improved aesthetics. There is typically no need for the use of surface drains. Therefore, deck drains can also be concealed below the pavers. However, like any other alternative, open joint systems have their disadvantages. Without careful installation, the pavers can rock, crack, or become displaced. Typically, the perimeter confinement of the pavers should be carefully designed to minimize the potential for paver shifting.

Shifting and rocking of pedestal supported pavers.

Kami Farahmandpour is the principal of Building Technology Consultants, PC. He has served as the president of the Chicago Area Chapter of RCI, chairman of RCI's Building Envelope Committee, and recently received the Richard M. Horowitz Award. Kami is co-author of *A Practical Guide to Weatherproofing of Exterior Walls*, currently being developed for the Sealant, Waterproofing, and Restoration Institute.

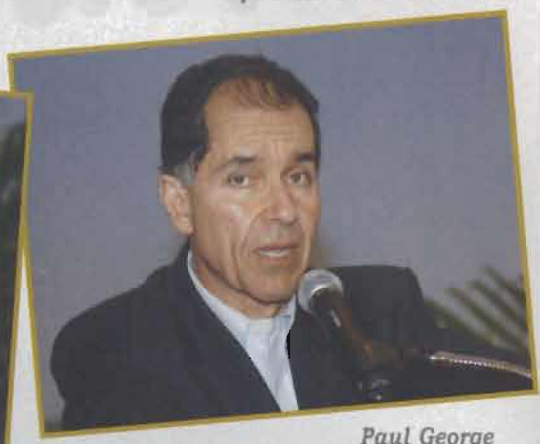
Awards Luncheon

Awards Luncheon

By Kristen Ammerman

Tom Hutchinson

Warren French



Paul George spoke on local history.

The volunteers who make the Roof Consultants Institute run were honored on Sunday, April 3, at an Awards Luncheon at the Fontainebleau. Warren French once again served as moderator of the event.

Presented this year with the Michael DeFrancesco Volunteer of the Year Award was William Cypher, described by President Luther Mock as a "Klingon" who keeps giving, year after year, to the Institute.

Named as Fellows of the Institute (FRCI) by the Board of Fellows this year were outgoing President Luther Mock, RRC; and Helene Hardy Pierce. Helene is the first woman to be so honored by RCI. Albert Duwyn presented plaques to Mock and Pierce on behalf of the Fellows.

Presented with the Richard M. Horowitz Award and an engraved pen set for the best contribution in 2004 to *Interface* journal was Kami Farahmandpour, RRC, RWC, PE, CCS, CCCA, for his article, "Value Engineering of Traditional Clay Tile Dome Roofs," in the January 2004 issue of *Interface*.

Also receiving Outstanding Volunteer Awards from President Mock were Marc Allaire and Pete Nottleson. Certificates of Appreciation were given to the members of the RWC Exam Development Workshop contributors: Karim Allana, Edward Arnold, Paul O. Brawner, Paul Buccellato, Bill Conley, Richard Cook Jr., C. Bruce Cotton, Bruce Darling, Kami Farahmandpour, Bland Harper, Robert Kuhn, Gary Mitchell, Karl Schaack, and Raymond Wetherholt.

Document Competition winners were announced by Committee Chairman Brian Gardiner. (These will be highlighted in an upcoming issue of *Interface*.)

Bill Cypher accepts the Michael DeFrancesco Volunteer of the Year Award from President Mock.

Luther Mock presents Kami Farahmandpour with the Richard M. Horowitz award for his outstanding contribution to Interface *journal.*