



2009 'TCA Handbook' addresses current hot topics in building design

Changes and additions to industry-accepted tile installation methods are determined and published every other year in the *TCA Handbook*, produced by the Tile Council of North America (TCNA). Since the *Handbook's* inception in the 1960s, it has swelled from its original 15 pages to more than 80. Each year, new methods are flagged with the "New" symbol, and changes to existing language and methods are indicated with the change year (in this case "09") in the margin next to the change. Compared to previous revision years, this year's *Handbook* changes are few. However, they are not without impact and relate to budding specification issues that will spur additional *Handbook* changes in coming years.

Q: Are there new requirements in the "Accessibility" section that has been added?

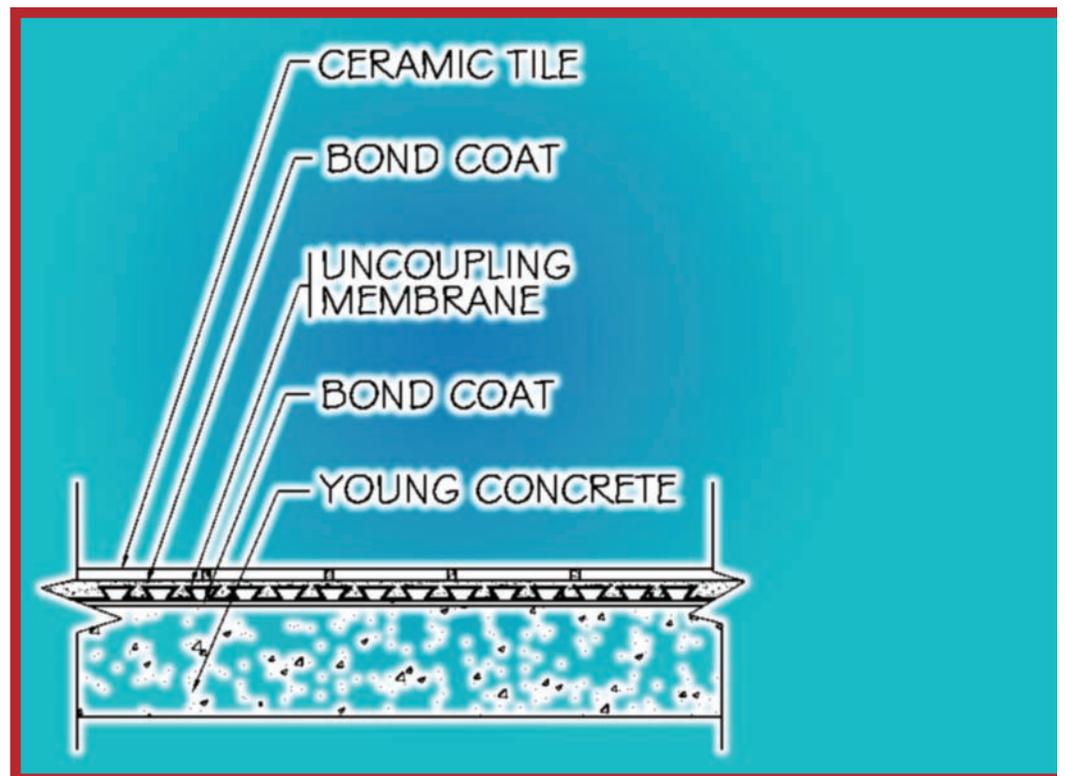
A: No. The Accessibility section was added to the Notes/Definitions in the front of the *Handbook* to provide

Handbook users, especially design professionals, with a quick-reference summary of the existing tile industry standards and tolerances scattered throughout ANSI A108.01 and A108.02 relating to allowable lippage, deviation from perfect flatness, and changes in level (slope). Accessibility language was added in response to a request by the U.S. Access Board, an independent feder-

al agency whose primary mission is addressing accessibility issues on behalf of the disabled.

In addition to summarizing the existing installation standards, the *Handbook's* new Accessibility section provides guidance and context. It reads: "with regard to flatness, the amount of substrate variation generally is reflected in the finished tile installation... Additionally, the effect from irregularities in the substrate increases as tile size increases. A subsurface tolerance of 1/8" in 10' may be required."

The language takes the importance of substrate flatness a step further to say that "project specifications should make clear which trade is responsible for the required alterations if the subfloor is found not to be in compliance with the flatness requirements. Alternately, the designer may choose to incorporate a mortar



Right: This year, the 14-day requirement was removed, allowing young concrete to be tiled once the concrete is "cured sufficiently to support tile installation traffic as determined by the project design professional, construction manager, or general contractor."

bed method or a pourable underlayment installed by the tile contractor to ensure substrate flatness sufficient to facilitate a flat tile installation.” The section also lists specific ways design professionals can minimize lippage and its effects:

1. Specify tile with little or no warpage, especially rectified tile, which is allowed the least warpage per the recently revised ANSI A137.1 standard.

In fast track construction, contractors often ignore the long-standing guideline calling for concrete to be cured a minimum of 28 days before tile is installed.

2. Avoid narrow grout joints as wider grout joints provide a more gradual transition minimizing the effects of any lippage.
3. If there is any warpage in the tile, avoid specifying patterns where one tile is 50% off-set from another (brick-joint patterns), to avoid the center of one tile lining up with the edge of another.

Q: How soon can freshly poured concrete be tiled when an uncoupling membrane is used?

A: As soon as it can support tile installation traffic. In fast track construction,

contractors often ignore the long-standing guideline calling for concrete to be cured a minimum of 28 days before tile is installed. Cracked and debonded tile sometimes results due to relatively large dimensional changes that take place in new concrete. When method F128 was added to the *Handbook* in 2007, it provided a solution to fast-track construction schedules. However, the new method required that the concrete be cured at least 14 days, a provision the Handbook Committee placed on the new method due to a lack of data showing that an uncoupling membrane could mitigate the dimensional changes and the moisture migration that take place in the first two weeks after concrete is poured.

This year, the 14-day requirement was removed, allowing young concrete to be tiled once the concrete is “cured sufficiently to support tile installation traffic as determined by the project design professional, construction manager, or

general contractor.” Howard Kenare, a concrete expert from the Portland Cement Association and Construction Technology Laboratories, spoke at the Handbook Conference on behalf of removing the 14-day cure requirement. His presentation illustrated how placement of an uncoupling membrane over fresh concrete causes a redistribution of moisture within a slab that, in turn, relaxes its curling. Kenare also successfully refuted the concern over possible moisture migration issues.

Q: What’s new with the life cycle analysis in the Handbook center insert?

A: In addition to presenting life cycle data, many other aspects of tile and the environment are presented, including how using tile can contribute LEED points on a project. Since it was commissioned in 2005, the Floor Coverings Comparison of life cycle costs for floor fin-

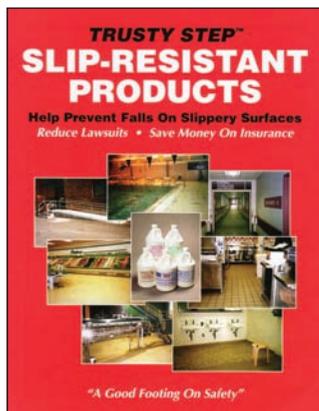
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ishes has been included as an insert in the *Handbook* to help consumers understand that ceramic tile installations actually cost drastically less than other floor finishes over the long haul, due to lower maintenance costs and considerably longer useful life. The ever-increasing importance of green building design and sustainability bolsters the pertinence of the analysis, now that using materials with a longer life cycle has become one of the most highly recognized methods of building green. In addition to the life cycle content, the insert now highlights five other important environmentally friendly aspects of ceramic tile and four ways using tile can contribute LEED points to a project.

Together, some of this year's *Handbook* changes illustrate how progressive social issues can be addressed in the construction arena. And, sustainability and accessibility are sure to stay on the radar, as their consideration in specifications and building design has been on the rise as priorities. At the same time, solutions to these challenges will be most useful if they can also accommodate the fast-tracking of projects and accelerated construction schedules that have become the norm. **TILE**



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About the Author

Stephanie Samulski is an instructor at the Ceramic Tile Education Foundation (CTEF) and a project manager for the Tile Council of North America (TCNA). She entered the tile trade in 1999 as an apprentice with the Bricklayers and Allied Craftworkers (BAC) Local 32 in Detroit, and she went on to install tile as an independent contractor. Ms. Samulski received her BA in Journalism from Wayne State University.