

Five new installation methods added to the 2013 TCNA Handbook, 50th Anniversary Edition

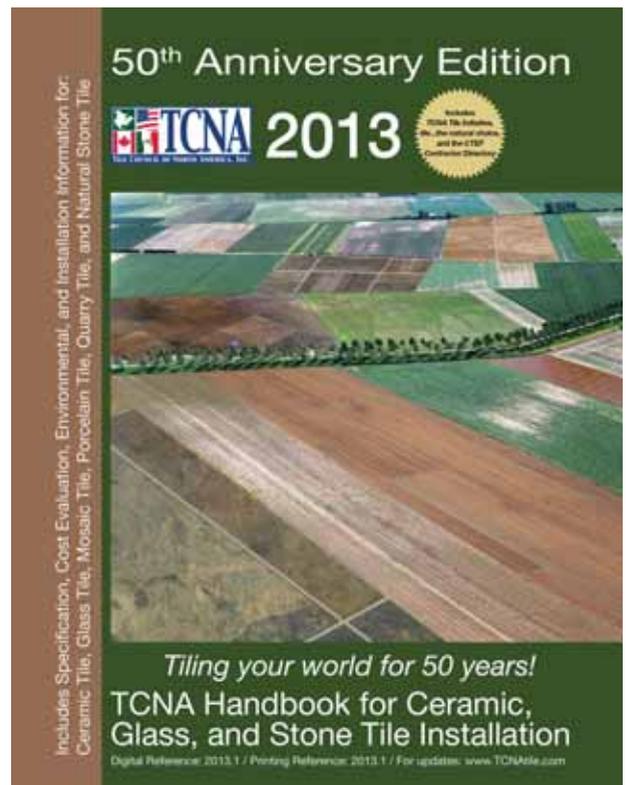
The Tile Council of North America (TCNA) is proudly celebrating 50 years of continuous publication of the *TCNA Handbook*, a compilation of generic (non-proprietary) guidelines for specifying and installing ceramic, glass and stone tile

by Stephanie Samulski

The 1963 *Handbook* was about 20 pages and provided guidelines for mostly thick-bed installations of tile on walls and floors. Over time it grew to include more and more information including product requirements, field requirements, tasks the tile contractor and other trades must perform, and new ways to install tile, most notably a plethora of thin-bed installation methods. Today the *Handbook* is more than 350 pages. The changes and additions over the years have been made by the TCNA Handbook Committee, a consensus body of experts from manufacturing, installation, distribution and other segments of the industry. TCNA manages the administrative process of revising the *Handbook* by collecting proposals for *Handbook* changes, putting them before the Committee, overseeing discussions and debate over whether or not to make a proposed change, and finally, putting the proposed change to a vote. For the 2013 *Handbook*, the Committee approved five new installation methods.

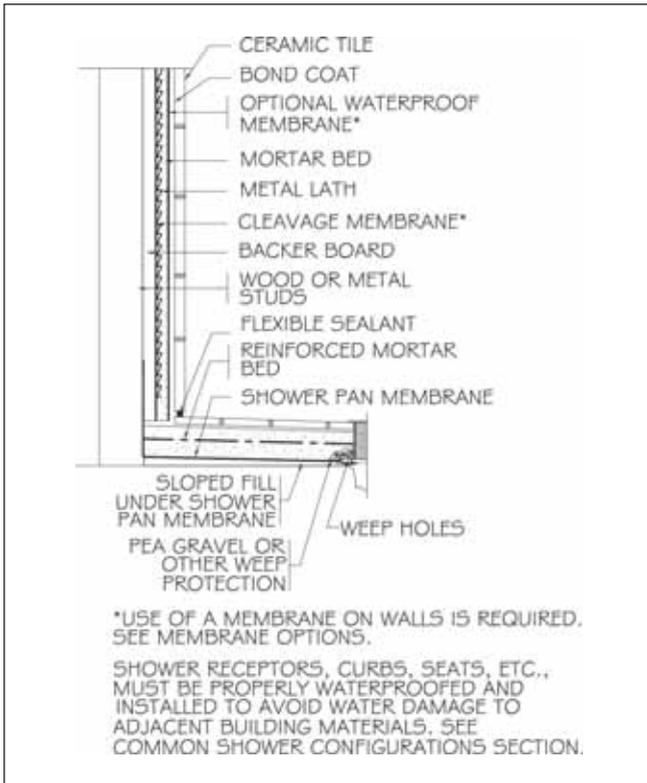
Four of the five new methods are methods for specifying and installing tubs and showers with “one coat” mortar bed walls. These methods are similar to the tub and shower methods already in the *Handbook*, in which the walls are thicker, traditional mortar bed walls. The main difference is that one coat mortar bed walls need a rigid substrate behind them for support. The new methods (B440 and B441, tile and stone versions) require that the rigid backing used be one of the several backer boards already prescribed by the *Handbook* for use in wet areas. Other backer materials not specified in the *Handbook* for wet areas, including gypsum wall board, fall outside the new methods but are accepted in some localities. In such cases however, it is important to check if the manufacturers warrant use of their products in the specific applications being considered.

Whether the one coat or traditional variety, mortar bed walls are a good option when an exceptionally flat substrate is needed, for example to meet the tighter substrate tolerance for larger tiles.



The 2013 *TCNA Handbook* is the 50th Anniversary Edition.

A very flat substrate may also be desired for mosaics, particularly light-reflecting polished stones and porcelain tiles, because mosaics conform to the substrate, potentially highlighting highs and lows. Unique to mortar bed methods is their ability to accommodate variations in tile thickness, as is characteristic of ungauged stone. Despite variations in thickness, an installer can

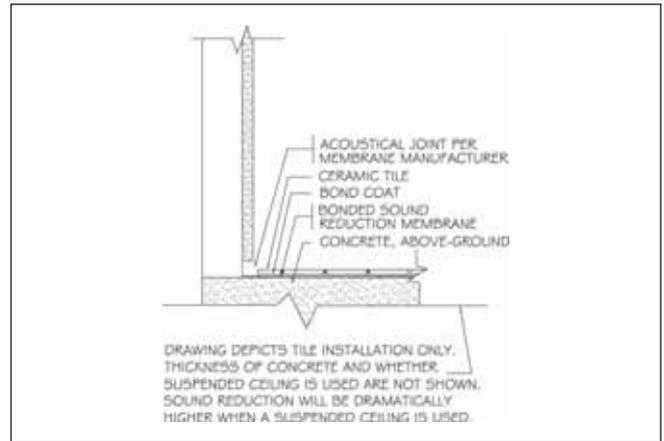


Method B441 is a new *Handbook* method for installing a tiled shower with “one coat” mortar bed walls.

produce a flat installation by pressing thicker pieces into fresh mortar. This is called wet-setting or fresh-setting and typically requires an experienced installer. Mortar beds also enable installers to build out walls to specific elevations and, if needed, varying elevations within the same installation. The thickness of mortar required to do so determines if the one coat method can be used ($\frac{3}{8}$ - to $\frac{3}{4}$ -inch thick) or if a traditional mortar bed is required ($\frac{3}{4}$ - to $1\frac{1}{2}$ -inch thick).

The fifth new method added to the *2013 Handbook* is a method for specifying and installing tile over a concrete substrate, incorporating a bonded sound reduction membrane to reduce noise transmission to the space below the tile installation. Sound reduction membranes have been used under tile for years, most commonly in high rises and other multifamily buildings. An ANSI standard completed in 2010 for sound reduction membranes (A118.13) established required membrane performance — both as a substrate for tile and in the reduction of sound transmission — and paved the way for a *Handbook* method to specify their use.

The membrane standard requires a minimum laboratory Δ IIC rating of 10 when tested per ASTM E2179. The new *Handbook* method (F136) additionally highlights the significantly greater sound reduction that can be achieved by specifying a suspended ceiling below the tile installation, and it requires the use of acoustical joints at the floor/wall interface and at any penetrations. The method also cautions the user that different sound reduction membranes can produce different service ratings. Accordingly, the user should consult the membrane manufacturer to make sure the specific components



Method F136 is a new *Handbook* method for tile floors over concrete where sound reduction is desired.

being considered deliver the service rating needed in addition to the needed sound attenuation.

Importantly, the method also lists many of the design details that affect sound transmission such as slab thickness, slab density, ceiling height and assembly, and framing member type and arrangement, in addition to tile-related installation variables. A design professional knowledgeable in the reduction of sound transmission is required to ensure the necessary system components are specified to achieve the desired in situ results. Depending on the system components chosen and actual construction, a membrane Δ IIC rating higher than 10 may be required to produce a code compliant installation or to meet specific condominium, apartment or homeowner association rules. The new method also refers the user to the Sound Rated Floors Guide. This is a separate, informational section in the *Handbook* with helpful general information on sound control rating systems, laboratory and field methods for measuring sound transmission, interpretation of test results, variables that affect sound transmission, building code requirements and suggestions for improving the sound reduction performance of a floor/ceiling assembly.

The *2013 Handbook* with these five new methods is available in print and electronic formats through TCNA. Starting last year, individual methods and sections can be purchased separately and downloaded immediately from the TCNA Web site: www.TCNAtile.com. Stay tuned to the “TCNA Spotlight” for more articles on *2013 Handbook* changes, and visit the TCNA article archive on our Web site. **TILE**

ABOUT THE AUTHOR



Stephanie Samulski is a project manager for the Tile Council of North America (TCNA) and the Ceramic Tile Education Foundation (CTEF). Her tile career began in 1999 as a tile layer apprentice with BAC Local 32 in Detroit, where she worked mainly on commercial installations for Shores Tile Co. Now with TCNA and CTEF,

Stephanie works on industry standards as well as knowledge and installation curricula for training and certification programs.