Tile Industry in Transition: The Evolution of Standards

BY: RYAN MARINO, TILE COUNCIL OF NORTH AMERICA (TCNA)

The tile industry experienced a massive shift with the recent overhaul of the ANSI A108 installation standards. The Tile Council of North America (TCNA), in collaboration with stakeholders from the A108 Committee, led the effort to revise the standards. The primary objectives of this effort included reorganizing the structure, removing repetitive language, and ensuring consistency between standards, all while updating them to reflect current industry practices.

Initially aimed at revising ANSI A108.01 and ANSI A108.02, the project quickly developed into the largest series of simultaneous revisions in the history of the A108 Committee. This comprehensive effort resulted in the introduction of two new standards and revisions to fourteen existing standards.

In addition, new standards emerged for foam backer board and pre-mixed grout along with the annual updates to the Handbook for Ceramic, Glass, and Stone Tile Installation.

Given that standards are constantly changing and evolving, this collaborative endeavor plays a crucial role in the ongoing refinement and streamlining of industry standards for the benefit of all users.

Updates to A108.01 and A108.02

ANSI A108.01 underwent substantial modifications, particularly a comprehensive review and harmonization of installation requirements for substrates. These revisions also addressed substrate preparation before the tile contractor initiates work, including new language clarifying that if the tile contractor is expected to undertake this preparatory work, such details must be specified in the tile contract documents.

Revisions to ANSI A108.02 were also considerable, with a focus on general installation requirements for tile contractors. Updates were introduced to enhance existing information on crucial aspects such as lippage, grout joints, and modular patterns. Additionally, the revisions included detailed information for inspecting the substrate before the installation process begins.

New Standards A108.M and A108.T

For decades, ANSI A108.02 (and its predecessor A-2) served as a source for a detailed list of reference standards and materials relevant to tile installations. Recognizing that this information extended beyond the domain of tile contractors, it became evident that A108.02 was no longer the ideal location for this information. Consequently, the task group established a stand-alone standard, A108.M, to house this list and incorporate the necessary revisions, ensuring accessibility to a broader audience beyond the tile contractor.

As the tile industry continues to evolve and standards are developed, reviewed, and revised, it is more important than ever to stay informed.

The task group also faced challenges throughout the A108 revision process with terms used interchangeably despite not having clear definitions. To address this, the task group initiated development of a stand-alone document for terms and definitions, A108.T. Knowing the absence of definitions for certain terms within A108, the task group worked toward consensus-based definitions.

This not only contributed to resolving the ambiguity surrounding the terms but also helped in the effort to harmonize standards. By also incorporating existing definitions found in A108, A118, and A137 standards, the committee has created a strong foundation for consistent understanding and application of terms within the tile industry.

Updates to Standards for Adhesive Installation

During the reorganization of A108.01 and A108.02, it was necessary to relocate some information, prompting updates in multiple adhesive installation standards—specifically, A108.1A, A108.4, A108.5, A108.6, A108.9, and A108.12. These revisions aimed to incorporate details removed from A108.01 and A108.02, addressing suitable substrates, substrate preparation, and adhesive-specific information. The November 2021 edition of A108.5 played a crucial role by providing a framework for adhesive installation standards, eliminating repetitive language, and enhancing clarity.

Other ANSI Standards Requiring Updates

As part of the overhaul, several other ANSI standards went through necessary revisions to ensure consistency and coherence.

The titles of A108.1B and A108.1C mortar bed standards were updated to align with the terms for cementitious mortar, unifying terminology across related standards.

The A108.11 cementitious backer units (CBU) standard experienced extensive revisions, integrating information from A108.01 and A108.02 and updated references to reflect the latest industry practices.

Additionally, there were targeted revisions in A118.1, A118.4, and A118.15 terms and definitions to harmonize them with the A108.T document.

Updates to Other Industry Resources

Revisions to so many A108 documents created a ripple-effect across other tile industry resources, requiring updates to crucial standards and references.

To incorporate these updates, the 2024 edition of the Handbook for Ceramic, Glass, and Stone Tile Installation required revisions to 9 guides, 31 tile installation details, and 26 stone installation details.

Likewise, revisions are in progress for the NTCA Reference Manual, where nearly every section will be revised to ensure harmonization with the updated A108 standards.

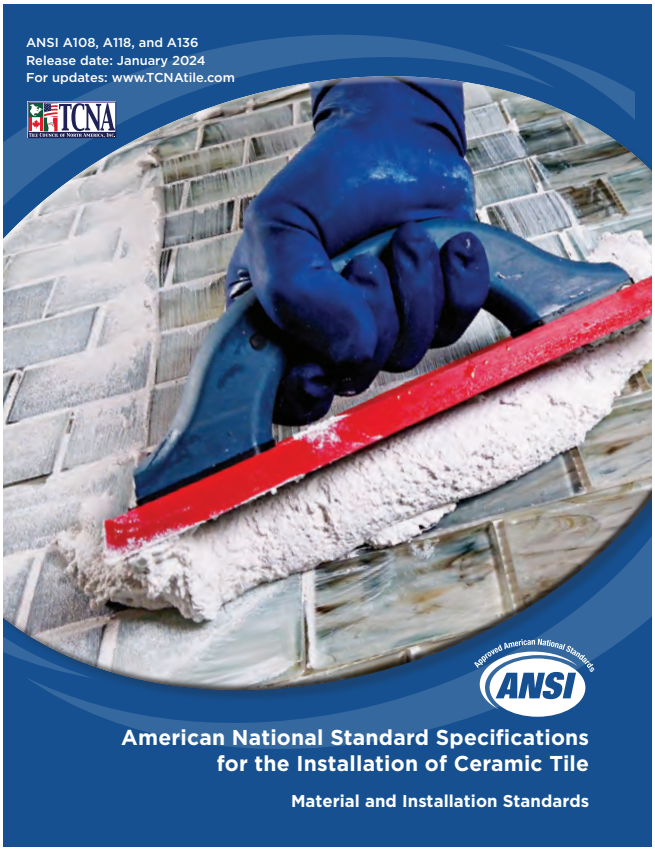
Additional Innovations and Improvements within the A108, A118, and A136 ANSI Publication

Beyond the overhaul efforts, exciting new developments can be found in the recently published A108, A118, and A136 compilation book. These encompass revisions to existing standards and introductions of new standards.

Improvements to Existing Standards

Regarding revisions to existing standards, ANSI A118.9 – Specification for Cementitious Backer Units, was updated. The updates aimed to harmonize the standard with ASTM C1325 – Specification for Fiber-Mat Reinforced Cementitious Backer Units and included modifications to test methods for nail pull strength and flexural strength.

Another significant revision is present in ANSI A118.10 – Specification for Waterproof Membranes, featuring an expanded definitions section. This expansion introduced new definitions describing waterproof membranes, liquid applied waterproof membranes, and sheet applied waterproof membranes. Additionally, an optional criterion for water vapor permeance was added, especially relevant for applications like steam showers.



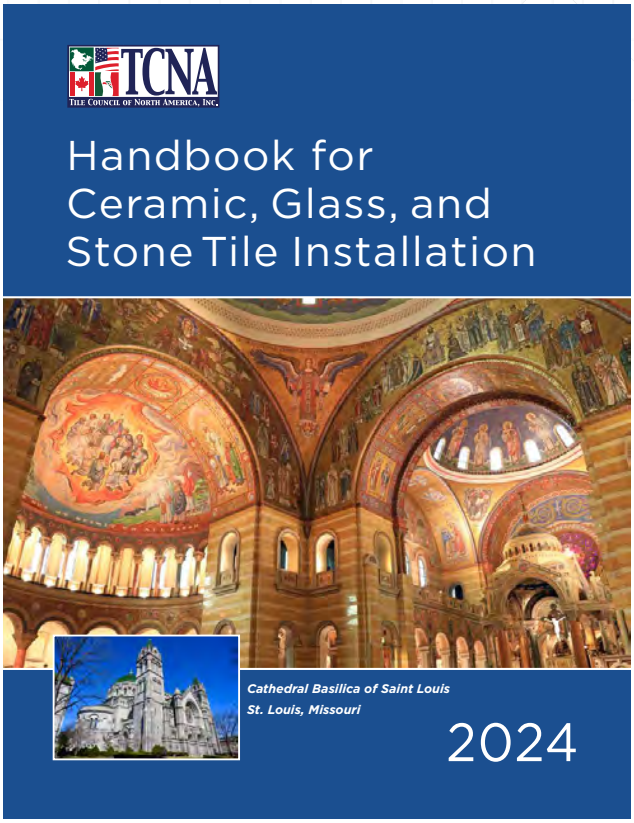
American National Standard Specifcations (ANSI) for the Installation of Ceramic Tile

New Standard for Foam Core Backer Board

A significant addition to the standards for installation materials was ANSI A118.18–Specification for Foam Core Backer Boards. This established the first specification for foam core backer boards in the tile industry. Developed over the past three years, this specification outlines test methods and minimum requirements tailored for foam core boards designed to receive tile or similar surface finish materials in both dry and wet areas. This represents a significant step forward for the quality and performance evaluation of foam core backer boards.

Installation and Product Specifications for Pre-mixed Grout

New for 2024 were two standards focusing on pre-mixed grout, ANSI A108.22–Installation of Pre-mixed Grout in Tilework and ANSI A118.19–Specifications for Organic Pre-mixed Grout for Installation of Ceramic Tile. In development for over a decade, this project involved adapting existing standards, formulating new test procedures, and conducting extensive testing specific to pre-mixed grout, requiring several round robins and thousands of data points.



TCNA Handbook for Ceramic, Glass, and Stone Tile Installation

Annual Updates to The Handbook for Ceramic, Glass, and Stone Tile

In June 2023, experts and stakeholders convened in Washington D.C. to contribute to the ongoing improvement and expansion of the Handbook. With more than 50 participants present, the Handbook Committee approved 11 submissions, impacting 40 details and 5 guides within the Handbook.

Update for Gypsum Boards and Panels

Revisions to the Backer Board Selection Guide included the incorporation of a new section describing gypsum boards. Additionally, several backer board details were updated to align with ASTM and GA-216 standards, with a specific focus on coated glass mat water-resistant gypsum backing panels, glass mat gypsum panels, and fiber-reinforced gypsum panels.

Revisions to Green Building Guide

The Green Building Guide has incorporated two new sections: “Using Industry-Wide Guidance for Ceramic Tile, Mortar, and Grout Ingredient Transparency” and “Choosing Products with the Lowest Cradle-to-Grave Embodied Carbon.” These additions offer users valuable resources for sustainability information and considerations in flooring, facilitating informed choices and alignment with evolving standards.

New Life Cycle Cost Analysis Guide

A new guide was added to the Handbook, offering a summary of the 2023 Life Cycle Cost Analysis (LCCA) study authored by independent consultant Emily Lorenz. Covering 18 flooring types, Lorenz’s study provides insights into installed costs, lifetime costs, reference service life information, and average costs per year, serving as an essential tool for comparing and specifying flooring. The guide also includes sources for users to download the full study.

Membrane Exposure for Exterior Installations

Exterior methods involving membranes were updated to address challenges in bonding when exposed to the elements, UV, and contamination. Users are directed to consult membrane manufacturers for specific limitations before tiling, emphasizing the importance of understanding UV and weather exposure conditions.

Spot Bonding Updates

Spot bonding methods, recommended solely for dry, interior wall applications using suitable epoxy adhesive in W215 and W260, were updated with expanded limitations. These now encompass consideration of traditional coverage methods in lower courses, particularly where impacts are expected.

Steam Showers

Methods SR613 and SR614 for steam rooms and steam showers were revised, incorporating an added drawing that provides a close-up depiction of the slip joint. The language updates specifically address waterproof membranes in continuous use applications, now requiring a vapor permeance rating of <0.5 perms.

Staying Informed: Navigating the Evolving Tile Industry Standards

These revisions reveal the dedication and commitment of tile industry professionals to refine industry practices, foster clarity, and elevate the overall quality of tile installations. As the tile industry continues to evolve and standards are developed, reviewed, and revised, it is more important than ever to stay informed. Access the latest publications, news, and subscribe to receive the latest updates from TCNA at www.tcnatile.com.

About the Author: *Ryan Marino is the Standards Development and Research Manager at the Tile Council of North America. He is involved in the research, development, and revision of ASTM, ANSI, and ISO standards, and serves as the technical content manager for the TCNA Handbook. Ryan earned his Bachelor of Science degree in Ceramic and Materials Engineering from Clemson University in 2007 and has been with TCNA since 2011.*