



GPTP Designed Installation Systems

The background of the slide features a close-up of a silver microphone on the left and a circular logo on the right. The logo contains the text 'CONTINUING EDUCATION' around the top edge and the 'AIA' logo in the center. The 'AIA' logo consists of the letters 'AIA' in a stylized, overlapping font within a square frame.

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Course Overview



This course will discuss new materials standards, new installation standards and use of GPTP / Gauged Porcelain Tile Panels/slabs.



Because gauged porcelain tile panel/slabs require different installation methods, tooling and project logistics, this program will provide valuable insights that can benefit proper project specifications, planning, labor selection and execution.



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Learning Objectives



Participants will be introduced to the new product and installation standards for the safe use of gauged porcelain tile panels/slabs.



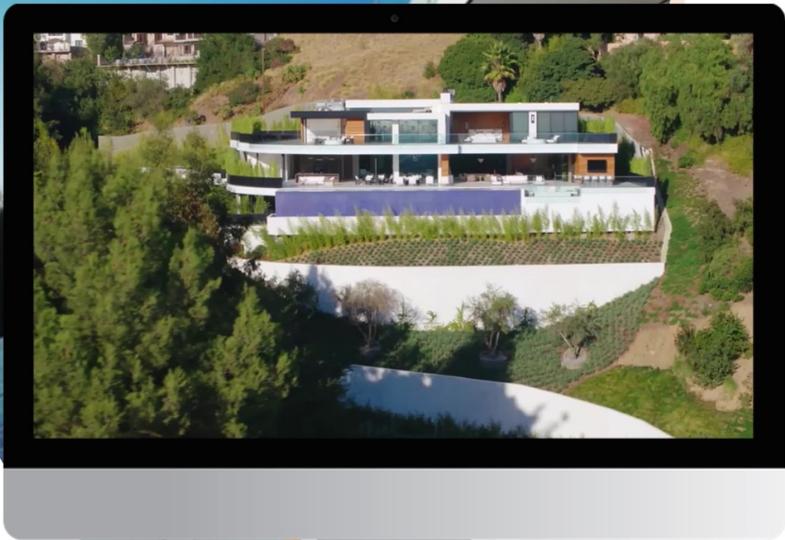
This program will illustrate how to properly install floor applications that will reduce lippage and the risk of slip/fall accidents that sometimes result from excess lippage.



Participants will learn new installation techniques required and design options that offer substantial cost savings over traditional methods.



Explain how gauged porcelain tile panels/slabs can contribute to desirable, sustainable design practices.



GTPP *Possibilities*

The intrinsically sustainable characteristics of porcelain/ ceramic tile are an awe-inspiring part of many LEED projects. With unlimited *Design* possibilities, partnered with all the positive physical attributes of porcelain tile create *human* areas that are environmentally friendly, cost effective, safe and create beautiful spaces assured to *Endure*.



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New Looks

“We are still achieving significant year-over-year growth in the porcelain tile panel category, as we have for the last five years.”

GROWING MATERIAL CATEGORY
TILE MAGAZINE -

“Additionally, GPT is available in a wide range of looks that span from the most coveted marbles and onyxes to classic and modern stones, and also concrete looks and full colors. This combination of physical and mechanical characteristics, great aesthetics and huge format opens a new, virtually limitless world of design possibilities for designers and architects.”
TILE MAGAZINE -

“Gauged Porcelain Tile Panels [GPTP] are something completely different than traditional tile and provide many design options to the owner. For the contractor, these materials offer an opportunity to separate themselves from competitors in their markets and avoid bidding wars.”
TILE MAGAZINE -

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GROWING MATERIAL CATEGORY

TILE MAGAZINE



ANSI A137.3

American National Standard Specifications for Gauged Porcelain Tile Panels / Slabs
(Material Standards).

ansi.org/

Standards Development

In 2017, after more than four years of cross-disciplinary industry collaboration and 4,000 hours of research, the Tile Council of North America (TCNA), which is responsible for devising material and installation standards for the tile industry, unveiled the new standard for the materials — ANSI A137.3, the American National Standard Specifications for Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs.

NOTE:
THE AMERICAN NATIONAL STANDARDS INSTITUTE OVERSEES
STANDARDS AND CONFORMITY ASSESSMENT ACTIVITIES IN THE
UNITED STATES.

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Best Practices

What are the best process' for installing any type of finish? Creating and mapping a plan can guide any project to a successful, satisfactory completion. Below are basic step by step process' that can be used for Flooring, Ceramic Tile and Gauged Porcelain Tile Panel/Slab installations.

0 Plan

0-Planning

Groups all phases including specifications, materials and preconstruction communications. The Most important step of GPTP installations.

1 Prep

1-Surface Preparations

Any Finish type installation will require some amount of surface preparation. This phase includes all preparations materials, labor and scheduling steps.

2 Set

2-Installation

Includes all necessary portions of the finish materials, installation systems, labor and scheduling.

3 Grout

3-Grout/Accessories

Final and finishing steps for completing installations, grout for tile and GPTP, Metal trims, other for different types of finish materials.

4 Care

4-Care & Maintenance

Final clean before turn over and any/all preliminary and ongoing maintenance procedures for installed finishes.

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Good Planning

Avoiding undesirable outcomes in change orders and onsite confusion

- Many projects will change finishes during construction.
- A “cut and paste” approach for tile will not work when using GTP.
- Use the ANSI specifications and TCNA Installation guidelines within your project documents to assure a proper installation.
- Before preconstruction meetings for finishes begin, contact the manufactures of the GTP and Installation materials to ensure all agree to the intended design/installation methods.



A solid Specification will guide the site team to success.



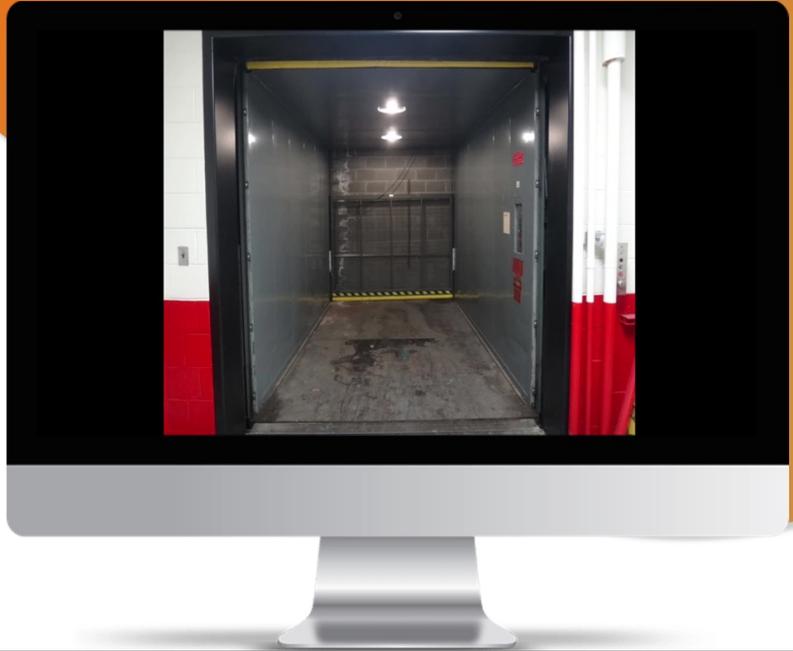
Avoid Undesirable Outcomes with good planning.

Material Handling

Early Stage planning can assist in overcoming unforeseen project challenges...such as material access.

Full Format GTP

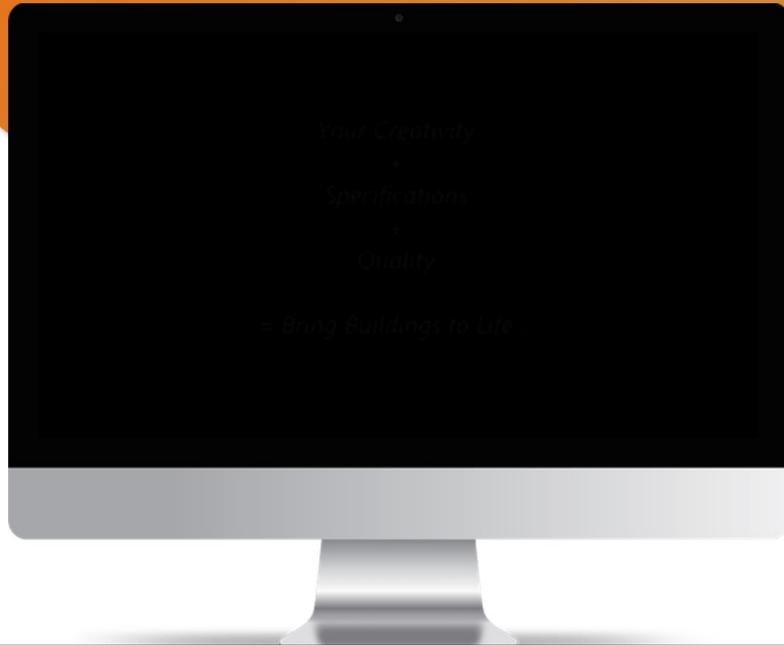
The term 'material handling' refers to the delivery, movement, storage and control of materials and other products. This forms part of the logistics management of a project. Unnecessary handling or movement should be reduced or eliminated.



Early Stage planning can assist in overcoming unforeseen project challenges...such as material access.

Quality

From a solid foundation, the building can be built. QA throughout the design concept through the construction process will determine the outcome.





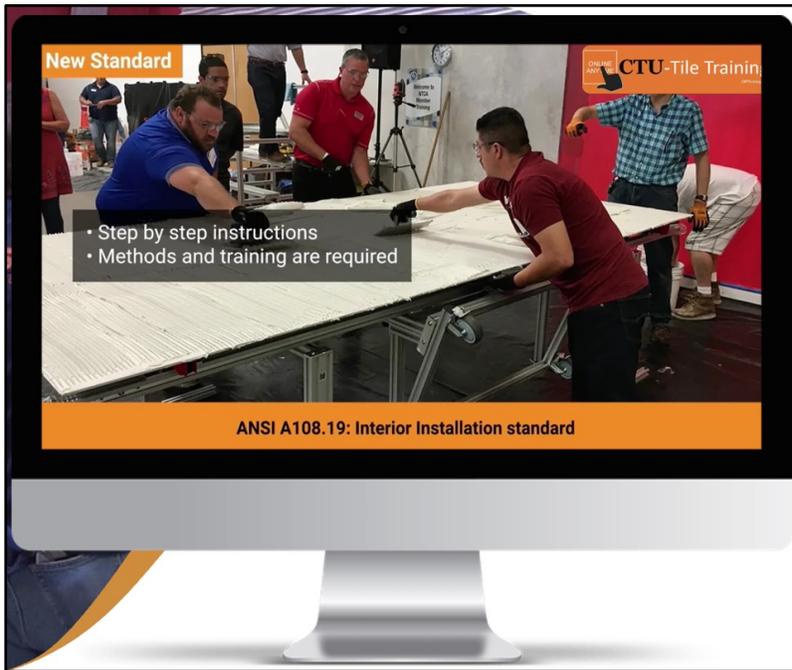
**All on the same
PAGE.....**

Final pieces of the planning puzzle is the agreement of specified materials and methods from the Architect/Designer, Panel manufacture, the Installation Systems manufacture and the Installation Contractor.

Warranties
All companies are required to provide standardized warranties, but most will provide enhanced programs and even project specific warranty programs.

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New Standard

- Step by step instructions
- Methods and training are required

ANSI A108.19: Interior Installation standard

Installation Standard

ANSI A108.19
- Interior Installations

American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar.

A118.15 Improved Dry-Set Cement Mortars are "Required" in most cases to achieve proper bond strengths.

Video –

GPTP ANSI Standards Sorted



A137.3 describes the minimum *physical properties and grading procedures* for gauged porcelain tiles and gauged porcelain tile panels/slabs. It provides quality criteria for buyers, specifiers, installers, manufacturers, and the public in general.



A108.19 provides procedures and requirements for *interior installation of gauged porcelain tiles and gauged porcelain tile panels/slabs*. These products require unique installation and workmanship considerations, and some of the key issues addressed by this standard.



A108.20 provides procedures and requirements for *exterior installation of gauged porcelain tiles and gauged porcelain tile panels/slabs*. These products require unique installation and workmanship considerations, and some of the key issues addressed by this standard.

Consolidated into one
publication



GPTP ANSI Standards

A137.3 describes the minimum *physical properties and grading procedures* for gauged porcelain tiles and gauged porcelain tile panels/slabs.

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A108.20 provides procedures and requirements for *exterior installation of gauged porcelain tiles and gauged porcelain tile panels/slabs*.



GPTP Slabs

Fabrication of Porcelain Slabs is similar to quarried stone materials, but typically requires slight modifications to equipment.

01. Currently no specific definition to what a Porcelain "Slab" versus panel is, but generally decerned as a thicker porcelain panel than what is covered in ANSI A137.3 (>6.5MM).
02. 12mm and 20mm are generally used for countertop installations.
03. Porcelain slabs offer tremendous benefits versus stone or resin materials as they are unaffected by uv and have superior stain resistance.
04. If specified to be installed in a direct-bond, Thin-Bed method with Improved Dry-Set cement mortar, use ANSI A108.19 or ANSI A108.20 respectively.
05. Caution-Be aware of the weight load of these thicker materials, especially in vertical and/or overhead applications.

GPTP Slabs

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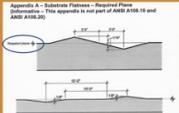
If specified to be installed in a direct-bond, Thin-Bed method with Improved Dry-Set cement mortar, use ANSI A108.19 or ANSI A108.20 respectively.

GPTP Flatness - ANSI

Flatness of Substrates

Floors, Walls, Ceilings, Millwork, existing tile surfaces, wherever you intend to install GPTP requires a solid, stable and flat surface.

Preparations by Other trades will determine the amount of surface prep performed by Tile trades.



GPTP Flatness -
No more than 1/8" in 10 ft and no more than 1/16" in 2ft.

NOTE: Unlike plumbing, electrical, and structural masonry trades, tile installers and the tile contractors that employ them are not generally required to meet minimum trade craft criteria to be in business.



Quality Assurance

The difference between trained, experienced installers and inexperienced installers is noticeably reflected in their work, and the difference between a quality contractor and a deficient one is reflected in their service and business operations. Together, contractor and installer transform your concept into reality.



Architects and specifiers are strongly encouraged to include language in job specifications requiring qualified labor and enforce this with the general contractor.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer is [a Five-Star member of the National Tile Contractors Association] [or] [a Trowel of Excellence member of the Tile Contractors' Association of America].
2. Installer's supervisor for Project holds the International Masonry Institute's Foreman Certification.
3. Installer employs only [Ceramic Tile Education Foundation Certified Installers] [or] [installers recognized by the U.S. Department of Labor as Journeyman Tile Layers] for Project.
4. Installer employs at least one installer for Project that has completed the Advanced Certification for Tile Installers (ACT) certification for installation of [mud floors] [mud walls] [membranes] [shower receptors] [gauged porcelain tile/gauged porcelain tile panels and slabs] [and] [large format tile].

Quality Assurance

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Qualified Contractor

Unique materials and methods

ANSI A108.19 and ANSI A108.20

Due to the unique characteristics and "unconventional" installation techniques required for GPTP/Gauged Porcelain Tile Panels/Slabs, this work requires installers who are equipped with the proper tools and have "acquired" sufficient product knowledge and installation experience through the completion of an Installer Qualification Program. See ANSI for details.

GPTP - Walls

GPTP installation methods and techniques are much different than standard tile.

ANSI A108.19

- Interior Installations

A successful installation will entail the installing contractor follows the project specifications using the standards and guidelines.



GPTP installation methods and techniques are much different than standard tile.



\$ Saving Designs

01. Sound and stable existing tile is ideal for thinner GTP applications.
02. Speeds return to service with reduced downtime for ownership's construction schedules.
03. Green value in substantial reduction of waste to landfills with none to minimal demolition necessary.
04. Elevations are easily managed with thinner materials at finished edges, transitions and jamps.
05. Downtown Metropolitan areas can be challenging for construction projects, especially large dumpsters needed for demolition projects.
06. Overall - Major cost and time saving contribution.



Embedding GPTP

CTU-Tile Training

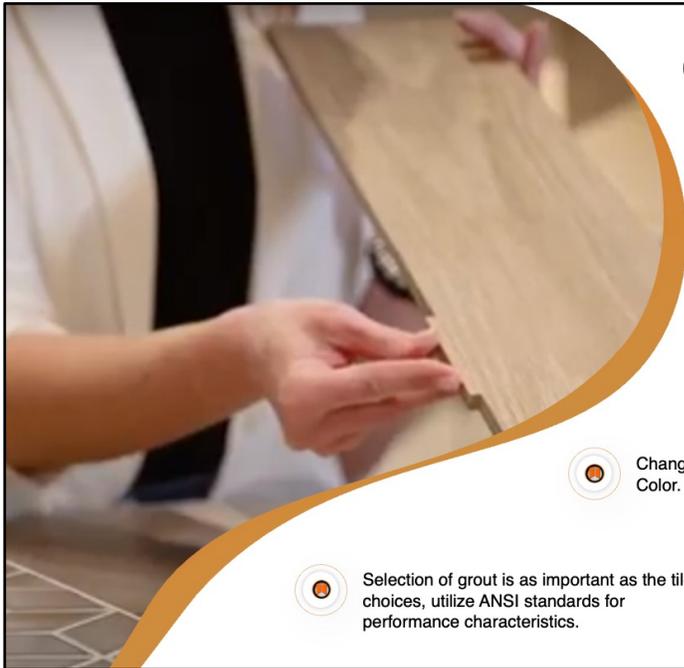
Methods must be demonstrated and practiced

GPTP - Floor

Installation methods and techniques are different for Floors versus Walls.

ANSI A108.19
- Interior Installations

Specialized tooling and additional personnel are required to properly install Gauged Porcelain Tile Panels, especially in full format.



GPTP – Grouting Materials

Selecting an appropriate grout often gets lost in color selection, rather than the actual chemistry or performance capabilities of the grouting materials themselves.

Grout types should be recommended by the Grout manufacturer and the GPTP manufacturer.



Change the look of the space with the Grout Color.



Selection of grout is as important as the tile choices, utilize ANSI standards for performance characteristics.

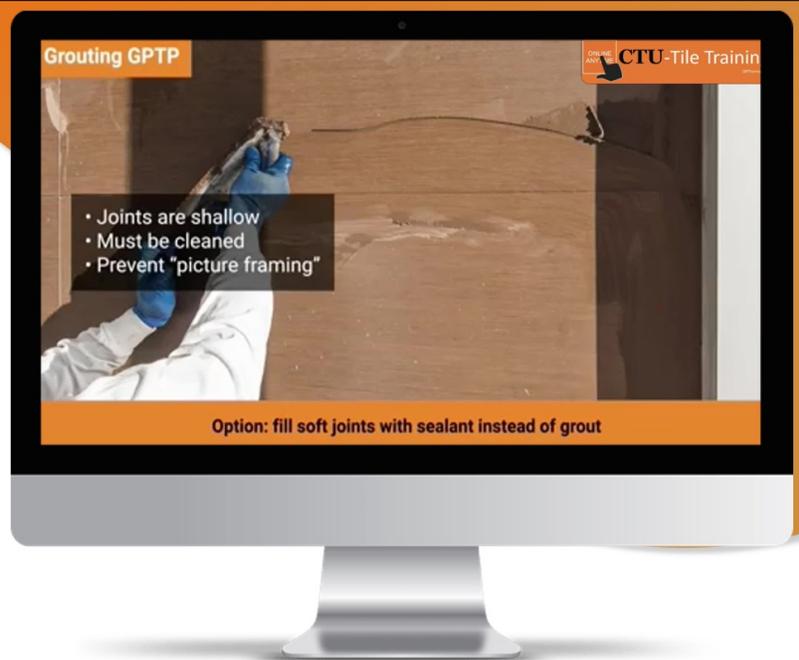


Service demands of the overall assembly should be a key factor in selecting proper grouting materials that will perform and last.

GPTP – Grouting Materials

What are the best choices?

Grout selection should be based on service demands and maintenance procedures for all tile assemblies. For exterior applications of GPTP, 100 % Silicone (ASTM C920) provides movement capabilities at each panel joint location.

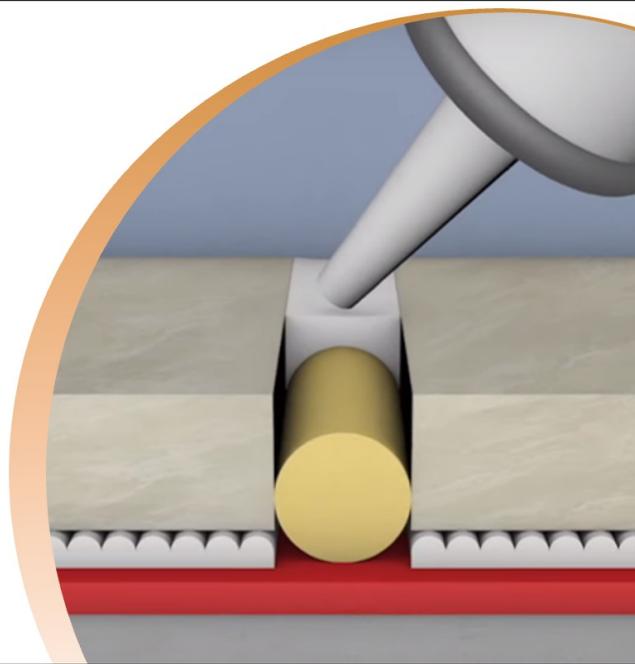


GPTP grout -

GPTP - Movement Joints

Essential and Required.....

- Buildings move – Design finish assemblies to move with them.
- Frequency and width of movement joints to be as detailed on the project drawings by the design professional or engineer.. ANSI A108.19.
- Use TCNA / EJ 171 Movement Joint Guidelines for Ceramic, Glass, and Stone for proper design within the GPTP assembly.
- Refer to ASTM C1193 Standard Guide for Use of Joint Sealants and ASTM C1472 Standard Guide for Calculating Movement and Other Effects when Establishing Sealant Joint Width.



Movement Joints are essential and required for tile assemblies.
Refer to TCNA, ANSI and ASTM for guidance.



GPTP – Movement Joints

- ANSI A108.19**
 - Interior Installations
- ANSI A108.20**
 - Exterior Installations

Refer to ANSI A108.01 and ANSI A108.02 as part of the ANSI A108.19 and/or ANSI A108.20 standards for your project details.

Use ANSI and TCNA / EJ 171 Movement Joint Guidelines for Ceramic, Glass, and Stone for proper design within the GPTP assembly.

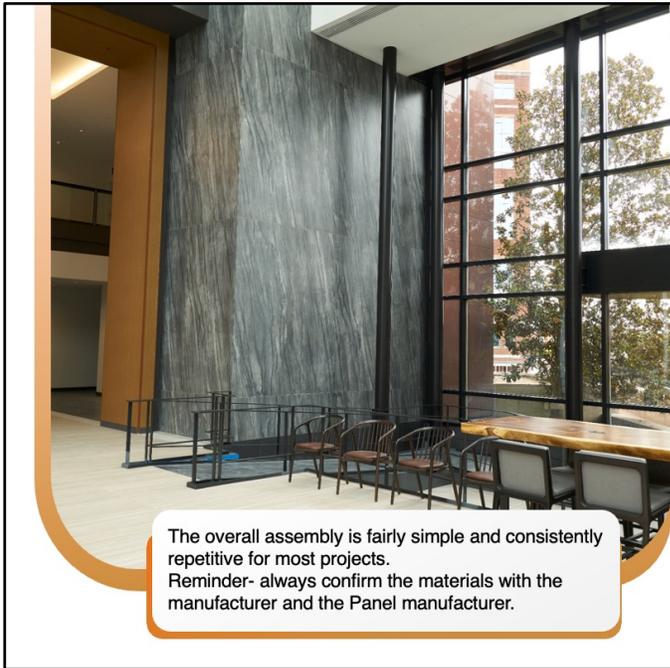


Because Panels can involve 50 s.f. or more at a time, absorptive substrates can present challenges in keeping the bonding mortar from losing internal moisture to excessive absorption of the substrate, which can create low bond values once cured.



Rather than recommending a "SSD" Surface Saturated Dry method that can create more problems than it solves, It is strongly recommended to specify a suitable **waterproofing / crack isolation membrane** to essentially "close off" the absorption of the substrate before installation of the GFTP. Liquid applied membranes in a single coat application are highly effective.

Rather than recommending a "SSD" Surface Saturated Dry method that can create more problems than it solves, It is strongly recommended to specify a suitable **waterproofing / crack isolation membrane** to essentially "close off" the absorption of the substrate before installation of the GFTP. Liquid applied membranes in a single coat application are highly effective.



The overall assembly is fairly simple and consistently repetitive for most projects.
 Reminder- always confirm the materials with the manufacturer and the Panel manufacturer.

What to Specify?

- 01. Surface Preparation / Flatness = Engineered patching compounds for small horizontal areas and vertical/overhead applications.
- 02. Surface Preparation / Flatness = Larger areas is more efficient to use Primers and SLU/Self-Leveling Underlayments.
- 03. Waterproofing / Crack Isolation Membrane = manages substrate absorption and contributes other benefits to the assembly.
- 04. ANSI A118.15 Improved Modified Dry-Set Cement Mortar = Provide extended open times and best bond strengths available for the porcelain panels.
- 05. High Performance Grouts = whether it's a cement base, single component, silicone or epoxy grout, whichever is suitable for the application.
- 06. Lastly = Don't forget your Movement joints = These can be pre-manufactured or site manufactured using 100% Silicone.

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 Reminder- always confirm the materials with the manufacturer and the Panel manufacturer.

General Requirements

(ANSI A108.19 and ANSI A108.20)

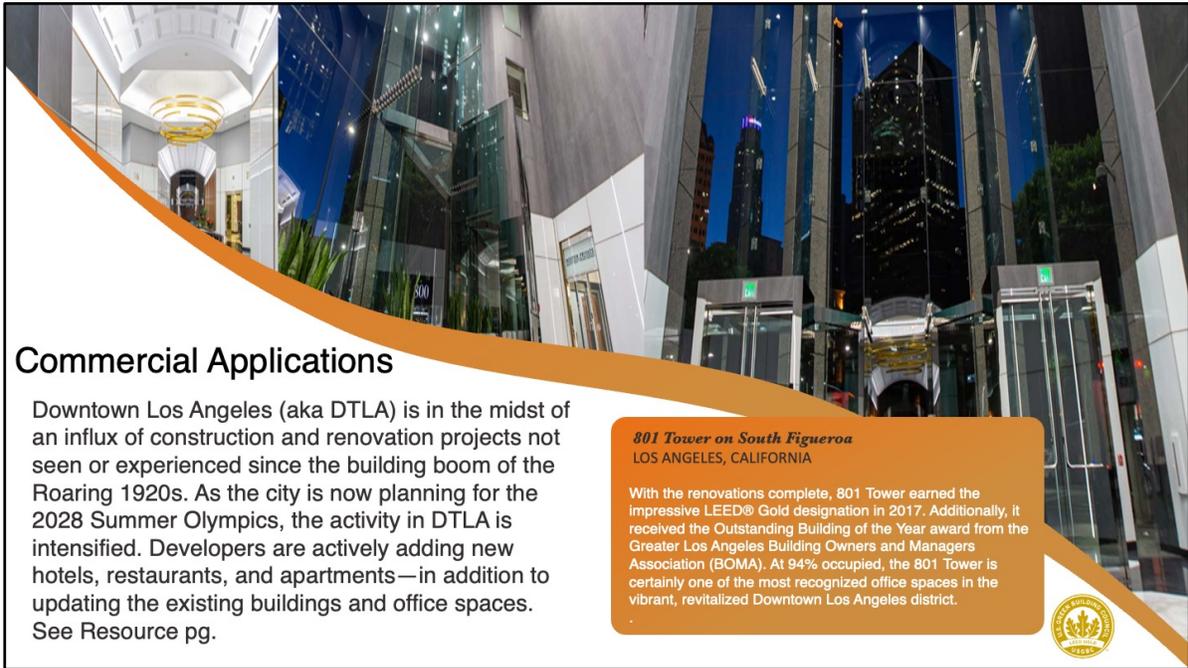
Tiles meeting ANSI A137.3, intended for installation under the ANSI A108.19 and/or ANSI A108.20 Installation standards, must be suitable for the area of use and intended application and must be specified by the party responsible for their selection, commonly the design professional or building owner.

System Approach

Always a good idea to specify a *single source* installation system that has been designed, formulated and tested to work with all the components within the assembly. A "piecemeal" of different manufactures components, layered within the assembly always introduces unnecessary Risk.



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Commercial Applications

Downtown Los Angeles (aka DTLA) is in the midst of an influx of construction and renovation projects not seen or experienced since the building boom of the Roaring 1920s. As the city is now planning for the 2028 Summer Olympics, the activity in DTLA is intensified. Developers are actively adding new hotels, restaurants, and apartments—in addition to updating the existing buildings and office spaces. See Resource pg.

801 Tower on South Figueroa LOS ANGELES, CALIFORNIA

With the renovations complete, 801 Tower earned the impressive LEED® Gold designation in 2017. Additionally, it received the Outstanding Building of the Year award from the Greater Los Angeles Building Owners and Managers Association (BOMA). At 94% occupied, the 801 Tower is certainly one of the most recognized office spaces in the vibrant, revitalized Downtown Los Angeles district.



End of Presentation - Thanks for Joining Us.

Please contact us if you have additional questions regarding content of this presentation.

Most manufactures will be happy to provide TCNA and ANSI publications to help support your projects.

Contact your Manufactures Representative today....



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About



For more than 50 years, CUSTOM continues to be a leading and trusted name in tile and stone installation systems for commercial, industrial and residential applications. And today, even though the demands of the industry have changed over time, our commitment to quality, service and value — the hallmarks of our company — have remained constant. Today, those commitments are even stronger as a member of the Quikrete family of Companies.

Custom Building Products has committed to aiding architects, specifiers, engineers, tile contractors and owners fulfill this growing responsibility with our environmentally-responsible tile and stone installation products. CUSTOM has over 100 Build Green products and the Emerald System, which contribute to U.S. Green Building Council LEED certification and are compliant with other green building industry standards.

Sustainability Efforts

-  Environmental Product Declarations (EPD)
-  Health Product Declarations (HPD)
-  LEED® Contribution Data
-  Green Label Plus / FloorScore®

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RESOURCES

- CTU / CBPTraining.com
- Continuing Education Seminars / <https://www.custombuildingproducts.com/architects/seminars.aspx>
- Custom Building Products Case Studies / <https://www.custombuildingproducts.com/reference-library/case-studies.aspx>
- 1300 Beverly Estate Drive | Beverly Hills | Ralston Development / <https://www.youtube.com/watch?v=piW51MnGVDs>
- At USGBC we're committed to transforming buildings, because we believe that every person deserves a better, more sustainable life. <https://www.usgbc.org/leed>
- Tile Magazine / <https://www.tile-magazine.com/articles/89703-gauged-porcelain-tiles-gauged-porcelain-tile-panels>
- TCNA / Tile Council of North America ANSI A137.3-108.19-20 / <https://www.tcnatile.com/products-and-services/publications/218-english-publications/227-ansi-a137-3-and-a108-19/971-ansi-a137-3-a108-19-and-a108-20-gauged-porcelain-tiles-and-tile-panels-slabs-specifications.html>
- 801 Tower on South Figueroa / <https://www.crossvilleinc.com/Design-Inspiration/Project-Gallery/801-Tower-on-South-Figueroa>
- NTCA Specifying Qualified Installers / <https://www.tile-assn.com/page/specifyqualifiedinstaller?&terms=%22qualified+and+labor+and+language%22>
- ANSI Webstore https://webstore.ansi.org/Search/Find?in=1&st=ansi&gclid=CjwKCAjw49qKBhAoEiwAHQVTo8m01EdgQa4hjs_LCBAMzT6BoCuQZW4G4s5iBog2FpJ-YTdOPlpZuBoCTPIQAvD_BwE
- TCNA EJ 171 / <https://www.tcnatile.com/faqs/52-ej171.html>
- UW Engineering Education and Research Building / <https://www.youtube.com/watch?v=NaHUEVxlkqg>