

Technical Bulletin - Thin Brick Floors

Thin brick has become a popular interior option, not just for an accent wall or backsplash, but for use as flooring. The Tile Council of North America, Inc. (TCNA) publishes the Handbook for Ceramic, Glass, and Stone Tile Installation. Physical Requirements for tile are established by the American National Standards Institute (ANSI) and the American Society for Testing and Materials (ASTM). Installation methods published by TCNA should be used for thin brick floors. TCNA has tested General Shale Thin Brick on behalf of the National Brick Research Center, and Table 2 is a summary of the results. Additionally, documents from NBRC and TCNA are attached to the end of this document for reference.

General Shale recommends the use of three generalized methods of setting thin brick floors for interior applications only: Mud Set/Dry Pack, Thin Set, and Mastic Set. **Reference should still be made to TCNA Installation Methods**

- **Mud Set/Dry Pack:** typically used to create a thick bed for tile and brick placement. It is commonly used to create a bed for shower installation. Dry Pack is still mortar containing cement, sand, and water. The main difference is the water content. Enough water is added to the mixture to create cohesion. The mixture should contain enough moisture that it does not crumble after being balled up and should not slump from too much water.
- **Thin Set:** mortar bed spread over substrate to desired thickness for placement of brick. Higher water content than Dry Pack and can be spread with a trowel. This is probably the most commonly recommended application for thin brick residential flooring.
- **Mastic Set:** adhesive designed for masonry installation. Can be used in multiple ways. One method of application is similar to Thin Set mortar, spread a thin bed in which to lay brick. Typically better for wall applications, but it is approved for thin brick floors. Try to avoid in areas frequently exposed to moisture.

Joints: For a more realistic brick appearance it is recommended that joints be filled with pointing mortar. The pointing mortar should be applied with a grout bag and tooled with a jointing tool. The use of tile grout and floating joints is not recommended.

Sealing- Proprietary sealers may be used on thin brick interior floors. Verify that any sealer used is made for use with brick. Adequate drying time must be allocated for the floors before application of any sealers or water repellents. The time it takes for the masonry to dry completely can take weeks. Coatings applied too soon can trap moisture and lead to later issues with the floor system. Application methods should be determined by the product manufacturer, and the published application instructions should be followed.

Cleaning- Cleaning brick floors does not take as much continual upkeep as more traditional interior flooring materials. Depending on the finish multiple cleaning methods can be used. Primary methods of cleaning include sweeping and vacuuming. Mopping can prove difficult due to the coarse nature of brick. Acidic cleaning chemicals should not be used.

Floating Joints: Although we recommend the use of a grout bag and pointing mortar, some prefer the rustic appearance given by floating joints with tile grout. If you choose this method, please be aware that tile grout contains very fine aggregate, is often polymer modified, and may be difficult to remove from the pores of brick. Also note that floating joints will produce a much more rustic appearance.

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Sample Description	ASTM C650 Chemical Resistance								
	Acetic Acid	Ammonium Chloride	Citric Acid	Lactic Acid	Phosphoric Acid	Sulfamic Acid	Sodium Hypochlorite	Hydrochloric Acid	Potassium Hydroxide
Carbon Pro 17014	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected
Still Water Pro 17015	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected
Alberta Pro 17016	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected
Trainstation 17087	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected	Not Affected

Table 1: General Shale Thin Brick Test Results - 2017

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Sample Description	ASTM C648 Breaking Strength (Average)	ASTM C1378 Stain Resistance	ANSI A137.1 Coefficient of Friction	ASTM C1026 Freeze-Thaw Cycling
Carbon Pro 17014	440 lbf	Meets ANSI Class E	Avg. DCOF= .71 > .42	No Visible Damage
Still Water Pro 17015	458 lbf	Meets ANSI Class E	Avg. DCOF= .77 > .42	No Visible Damage
Alberta Pro 17016	440 lbf	Meets ANSI Class E	Avg. DCOF= .71 > .42	No Visible Damage
Trainstation 17087	407 lbf	Meets ANSI Class E	Avg. DCOF = .62 > .42	No Visible Damage

Table 2: General Shale Thin Brick Test Results - 2017