

Technical Bulletin – Brick Sample Boards

The expectation that the constructed brickwork will look exactly like the brick sample boards can be misleading. The following factors must be considered when brick sample boards are involved in brick selection:

Purpose

A brick sample board's purpose is to display the brick units and give a broad, general idea of how they will appear in the finished brickwork. However, using a brick sample board for ensuring the quality of the finished brickwork is beyond the scope of its intended use.

Comparing the brick sample board side-by-side with the finished brickwork is using it to dictate quality assurance and is not appropriate. Most brick manufacturers will include a purpose statement on the frame or back of the board, which explains its intended purpose. Regardless of whether a statement is included on the board, it should be understood that the purpose of a brick sample board is limited to selecting a representative brick for a given job.

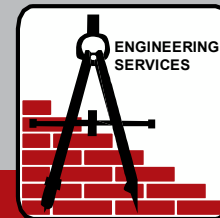
Brickwork, which is erected for the purpose of quality assurance, is defined as a sample or mockup panel. Sample and mockup panels are constructed using the same materials and procedures used on the job. They use full-size brick units with full depth mortar joints. They generally include all pertinent details used in the brickwork and are constructed by a mason employed by the masonry subcontractor who will perform the work. Panels are required to be constructed to a minimum dimension of 4 feet square (16 square feet of brickwork). A typical sample panel constructed of a modular brick will contain 108 full-size brick units. Once approved by the owner's representative, it becomes the accepted standard for the brickwork throughout the job. Sample and mockup panels are required to remain on the job site until the entire brickwork is complete and accepted by the owner's representatives.

Brick Units

There are 6 to 15 brick units represented in a brick sample board. While these units are usually genuine brick, they are not the full width unit but generally only about 1/2" thick showing the face of the brick only. While every attempt is made to have the brick units in the board adequately represent the brickwork in a wall, there may be instances where it is not possible to do so. As a product made from a natural material which undergoes a firing process, a certain amount of variation and range of size, color, texture, and natural inclusions is inherently present in brick. These qualities are accepted and acknowledged in brick standards and are generally deemed desirable in achieving the overall appearance of the final brickwork. Viewing a brick sample board with 6 to 15 brick units and expecting it to consistently match brickwork extending around the entire house, or even the front of a house which may contain thousands of brick units, is not reasonable.

Digital Samples

Digital product photos are a good reference for general appearance. While digital samples can be high quality photos, there are many factors that can influence the appearance of a digital image. A few of the factors that can impact digital photos are lighting for the product and the viewer, presence of mortar and mortar color, and difference in graphic displays. It is recommended to view a physical sample of the product to have the best understanding of product appearance before purchasing.



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Construction

A brick sample board is thinner than the brickwork it represents. Boards are constructed in this manner to allow easier handling by salespeople and customers. Because brick sample boards are so thin, they must be constructed by laying the brick sample board frame on a horizontal surface such as a table. The representative brick units are then glued to the board backing while spacing the units to allow joints between them. The representative mortar is then placed in-between the brick and the finished joint is fashioned. All this is done while the brick sample board is in the horizontal position. The brickwork erected on the jobsite is constructed in a vertical fashion with each course of brickwork completed before installing the course above it. The downward gravity-load of the brick above a given course must be supported by that course of brick. This difference in construction sequence can influence the appearance of the brickwork.

Mortar

The representative mortar used in a brick sample board is not necessarily the same mortar used in the construction of brickwork. Since a brick sample board is thin, the mortar joints of the panel will not be as deep as the brickwork it represents. A brick sample board will also likely be subject to different, and in most cases higher stresses than most brickwork since it must endure the abuse as it is carried from job to job. Consequently, the mortar used in a brick sample board must be selected to withstand these higher stresses. It is not uncommon to include additives in the representative mortar to strengthen and add resilience. Such additives may include glue, latex, or other ingredients, which are not present in the mortar used on the brickwork. While these additives are used in brick sample boards, they may not be appropriate for mortar used in the brickwork, which is exposed to harsher environmental conditions than a brick sample board.

Mortar Joints

The representative mortar joints in brick sample boards are meant to simulate the mortar joints in the brickwork. The joints in a brick sample board may be only $\frac{3}{8}$ to $\frac{1}{2}$ inch deep while joints in the actual brickwork are 3 to $3\frac{5}{8}$ inches deep. Tooling a shallow joint can result in a markedly different appearance resulting in a higher density joint where the aggregate and cement particles are more consolidated than in a deeper joint. This can yield a darker mortar joint color in the panel even though the same mortar is used.

Environmental Conditions

Brick sample boards are not subjected to the same environmental conditions as the brickwork in a wall. Boards are typically stored in a conditioned space free of drastic thermal changes, freeze/thaw conditions, rain, moisture, hail, and wind. Brickwork is typically installed as the finished exterior surface of a wall and is subjected to the varied array of environmental conditions of nature. These environmental factors will affect the appearance of the brickwork.

Note: It should also be understood that the brick manufacturer is obligated to replace older brick sample boards with newer boards as necessary. Brick sample boards are updated and replaced as dictated by many factors such as changing raw materials and manufacturing techniques.