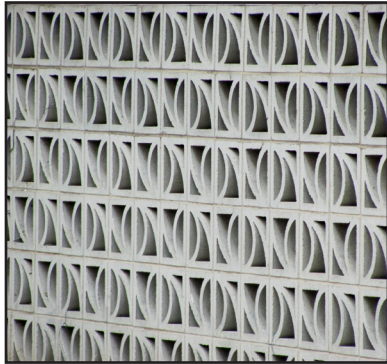


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Concrete Privacy in the *Madmen* Era

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"It was inevitable that such a simple, inexpensive and practical device would immediately become a part of the vocabulary and would have wide and indiscriminate usage."

Edward Durell Stone

There is a connection between pierced decorative concrete screen walls and the Atomic Age that is cemented in the collective vocabulary of mid-century modernism. Screen walls are easily recognizable in many aspects of architecture and design. They were first utilized as exterior building facades and interior dividers, then as privacy fences in the sprawling suburbs of post-World War II America. The initial use of concrete screen walls in high architecture was seen as revolutionary, and the transition from high design to do-it-yourself projects in the suburbs was inevitable as the product was such an economical building material that the style of renowned architects could be emulated in every suburban neighborhood across the country. Although concrete screen walls are most frequently associated with the Populuxe style of Las Vegas and Palm Springs, they can be found in every geographic region in the United States. As Atomic Age materials and structures are just coming of age to be considered for preservation, and there is little research on concrete screen walls, it is unclear whether particular block patterns relate to regional vernaculars.

Concrete Block's Beginnings

Historically, the 19th century ushered in the use of decorative concrete masonry units as an economical alternative building material that had visual qualities similar to stone. As decorative attributes of concrete block evolved, architects began to incorporate them in their designs to express a modern

aesthetic. American architect Frank Lloyd Wright experimented with decorative concrete units in the 1920s, as expressed in La Miniatura, a home commissioned by Alice Millard, in Los Angeles. This is an example of Wright's experimentation with concrete units, not only as a building material, but also as a decorative element that came to be known as textile block.

Architectural innovation came to a halt during World War II, but the Atomic Age of postwar America proved to be the expressive outlet for architects who had been temporarily stifled. Building projects across the country expressed the post-war economic (and baby) boom in the United States. While concrete was used prior to World War II, it proved to be an affordable, malleable material for the quickly constructed environments that still remain symbols of the Atomic Age.

Decorative Concrete in High Architecture

The Madmen Era is responsible for iconic concrete structures such as Eero Saarinen's TWA terminal at John F. Kennedy Airport in New York, James Langheim's Theme Tower at the Los Angeles International Airport in Los Angeles, CA, and Edward Durell Stone's United States Embassy building in New Delhi, India. "A few architects, notably Eero Saarinen and Edward Durell Stone caught the public imagination and contributed to the development of Populuxe design" (Populuxe, 14). Edward Durell Stone is, arguably, single-handedly responsible for bringing the pierced concrete block screen wall into the collective consciousness



Fig. 2: Eero Saarinen's TWA Terminal at JFK in New York. *Design in Concrete*.

of the world. A list of architects who were incorporating concrete screen units into their Madmen architecture "reads like a 'who's-who' of postwar design: Welton Becket; Charles Luckman; Skidmore, Owings, and Merrill; Victor Gruen; and Morris Lapidus," according to Anthony Rubano (2000), of the Illinois Historic Preservation Agency (p. 3-94).

Edward Durell Stone was a prolific postwar architect whose designs can be seen throughout the United States and around the world. It is clear that he found the playfulness of voids and solids an important design element as he employed them, in many other materials, in his earlier designs. His fascination and implementation of voids and solids in his designs anticipates a natural progression to concrete screen in his work. As stated by Rubano (2000), "His 1954 American embassy in New Delhi [is] the building that thrust screen block into the international spotlight" (p. 3-90).

Screening buildings in hot climates is an ancient building tradition. Intricate screens can be found in India, Asia, the Middle East, etc. Stone modernized the screen by assigning different materials and forms to it. In New Delhi, the exterior screen wall was molded on the building site in a terrazzo of concrete and marble aggregate. The blocks were each hand-polished before being constructed into the screen that they became. The end result was a thoroughly modern structure that was sympathetic to the building traditions of the region. Stone received accolades for his design and implementation of construction of the US embassy in New Delhi and brought concrete screen walls to the forefront of the American (sub) consciousness.

Stone designed several projects across the United States that introduced concrete screen walls to local populations. The reason for the use of concrete screen in the US



Fig. 3: Edward Durell Stone's personal brownstone in New York City. *Concrete Block Screen Wall*

was for shade and privacy as opposed to the shade and ventilation of ancient traditions as it was applied in New Delhi. Stone appreciated concrete screen walls so much that he remodeled his personal brownstone in New York City with a concrete screen façade that extended the full height of the building. Stone (1962) said of his screen wall, "In my opinion, the grille is the perfect solution to the problem of privacy in lower floors of apartments and town houses" (p.141). In a Modernist age in which screen walls were seen as extraneous decoration, Stone (1962) touted the "...architectural problems they solve..." as an important reason to employ them (p. 142).

High Architecture comes to the *Madmen* Suburbs

The DIY movement of postwar American suburbs made concrete screen walls a ubiquitous part of Madmen Era neighborhoods. They became popular because the blocks were inexpensive and the screen walls were relatively easy to assemble, which made them a great weekend project. Pierced concrete screen walls became a quick, cheap, and easy way to modernize and customize the exterior appearance of the cookie cutter ranches of the Atomic Age. They were most frequently built as privacy fencing around yards, pools, and carports however the screens sometimes found their way into interiors as well. In interior spaces, concrete screens were used as low-wall room dividers, and blocks became anchors for do-it-yourself bookshelves, supporting planks of wood between them. As Stone (1962) expressed, "It was inevitable that such a simple, inexpensive and practical device would immediately become a part of the vocabulary and would have wide and indiscriminate usage" (p. 142). It is estimated by some concrete companies that between eighty and ninety percent of all pierced concrete block was used in fencing. Of that, approximately half was purchased by do-it-yourselfers (Rubano, 2000, p. 3-95).



Fig. 4: Typical Usage of Concrete Screen in Postwar Neighborhood. Carport, Statesville, NC.

Concrete Block South of the Mason Dixon Line

Edward Durell Stone designed and constructed award-winning buildings throughout the southeastern United States. Some of these structures utilized the pierced concrete block, others employed design elements that implied pierced concrete block. Stone's designs in North Carolina and South Carolina firmly planted the Madmen aesthetic south of the Mason Dixon Line.

For example, pierced concrete screen walls and the Myrtle Beach strip was a match made in heaven. In 1954, Hurricane Hazel cleared land which presented an opportunity for the Populuxe building wave to hit the Myrtle Beach strip. Hurricane Hazel leveled homes and small vacation rentals, making room for the quickly built motor courts that maximized the numbers of visitors to Myrtle Beach, making it one of the most popular vacation destinations in the southeast. Almost all of the newly constructed, mom-and-pop motor courts made use of concrete screens in some form. They could be found around pools and parking lots, on patios and balconies, and as screens for exterior stairwells. The appearance of concrete screen walls, industry claims regarding their virtual indestructibility, and their cost effectiveness made them an extremely popular choice in Myrtle Beach. As stated by Katherine Fuller (2003), a good portion of the concrete block used in construction in Myrtle Beach came from the Adams Concrete Company in Kinston, North Carolina (p. 160). Interestingly, concrete screen walls remained popular in Myrtle Beach long after they lost popularity in other parts of the country.

In North Carolina and South Carolina, concrete screen walls can be found in a variety of buildings. They are frequently found as elements on multi-family residential/commercial buildings, such as apartments, motels, and college dormitories, commercial buildings, and in

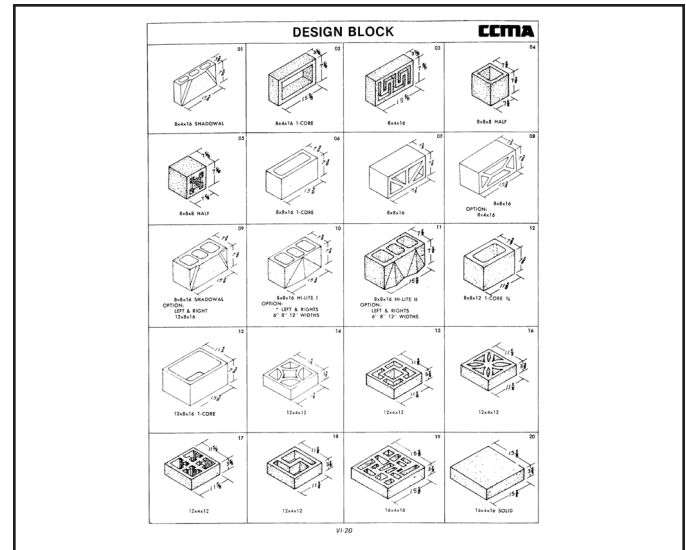


Fig. 5: Pierced Concrete Block Patterns. CCMA 1993.

pockets of postwar suburban neighborhoods.

Concrete Facts

Concrete blocks are manufactured with Portland cement, aggregate, sand, and water (Gesimondo & Postell, 2011). Decorative concrete block is most frequently cast in a mold, although some are made by hand. The newly molded blocks are then cured which is most commonly achieved using “steam at atmospheric pressure, a procedure that gives high early strength and maturity” (Rubano, 2000, p. 3-96). Most blocks that are manufactured using this method exploit full voids that establish a unique pattern for the block; however, some blocks are created using molds that fabricate a decorative terrain within the block. When these blocks were built as a screen wall, the individual pattern of each block gave way to the blanket of pattern that was created, yielding uniquely patterned walls that had visual interest and depth from the playful shadows that were cast.

The typical size of decorative block is 12”x 12”x 4” (or 6”), however some patterns are produced as 12”x 18”x 4” (or 6”) block. Concrete screen walls are most commonly constructed with a stack bond, making the patterning in the block the focal point. While stack bond is subordinate in an expanse of screen masonry wall, it contributes to the inability of the screen wall to bear loads. According to Rubano (2000), the load-bearing capability of pierced concrete block is “only their own weight up to twenty feet” (p. 3-89). “Likewise, the non-bearing screen used to fill an opening in a load-bearing masonry wall is designed in the same manner as a window” (NCMA TEK, 1970).

Standard concrete masonry units (CMUs) are required to have a compressive strength of approximately 1000 psi, screen block units only have a compressive strength of around 300psi (NCMA TEK, 1970). The psi of decorative

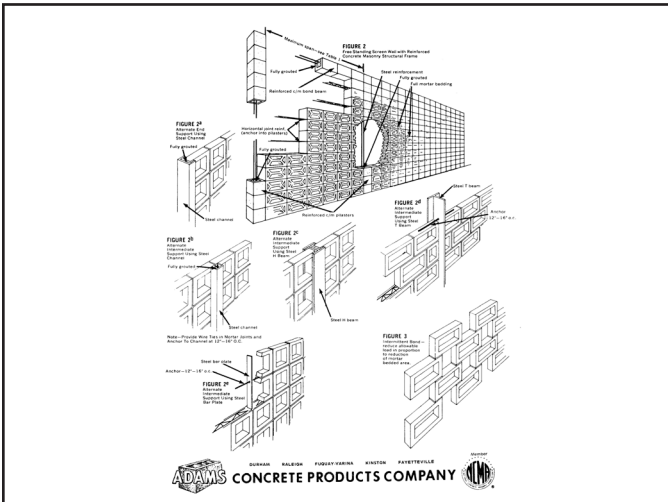


Fig. 6: Methods of Reinforcement. Adams Concrete Products Company.

screen blocks is increased to >1000 psi when the pierced cells are “parallel to the direction of the load” (NCMA TEK, 1970). The combination of stack bond, hollow cells, and the compressive strength of screen walls require that vertical supports are added to screen wall structures. However, because the blocks have little surface area and few places into which reinforcing bar can be hidden, supporting screen walls must be executed differently from that of standard CMUs. “Screen block panels must be supported at their vertical extremities by steel columns, block columns, a combination of both set on a footing, or other structural members” (ACI Committee 531 Report, as cited in Rubano, 2000, p. 3-90).

Concrete Deficiencies

While concrete is virtually indestructible, concrete block screen walls are not! Most damage to screen walls is from impact; however, structural issues can arise as well. According to an NCMA TEK dated 1970, “due to [the] fragile nature of screen walls, the use of steel reinforcement is recommended wherever it can be embedded in mortar joints, in bond beam courses, or grouted into continuous vertical or horizontal cells” (NCMA TEK, 1970). By 1970, if not before, the fragility of screen block was realized and acknowledged. However by 1970, the popularity of concrete screen block had plummeted in almost every region of the country. Many of the screens erected during the rush of DIY projects in post War suburban neighborhoods were showing signs of deterioration by the end of the 1960s.

The fragility of concrete screens is a product of their inability to bear loads, causing them to lack the compressive pressure that would otherwise help to keep them in place. That coupled with their one-block depth of four to six inches, makes them susceptible to movement. As Rubano (2000) states, movement of the wall from “moisture, uneven foundation settlement, deflection, thermal



Fig. 7: Concrete Block Replacement. Alex Haley Dorm, NC A&T.

expansion and contraction,” can cause cosmetic stress cracks, but less frequently cause structural shear cracks (p. 3-96). Cosmetic cracks and other general mortar deterioration can be easily repointed. Block that has sustained shearing damage or other structural deterioration has to be replaced. Walls that have come out of plane must be reinforced or in some cases, taken apart and rebuilt with proper reinforcement.

Preservation Questions

So how do we, as preservationists, determine the value of an architectural detail in which individual components were mass produced, but, as a whole detail, is so concretely linked to a specific era that to lose the detail would be a catastrophic loss to the overall architectural fabric of that era? How do we assign a historic value to an architectural detail that was not necessarily valued at the time of its construction or use? In places like Myrtle Beach, where real estate is at a premium, how do we justify preserving a cheap material over economic development?

Many of the concrete companies that manufactured pierced concrete block during the Atomic Age have been continually doing so ever since; some companies have been manufacturing them even longer. As suggested by Rubano (2000), if the age of the block is the only difference between a new version and the original version, replacing it with new block, “seems logical” (p. 3-97). When possible, replacing damaged block with vintage block is preferred; this may mean removing an original block from a less conspicuous place within the screen to use as a replacement, and replacing the one from a less conspicuous place with a new one. While these options may not be the most typically preservation-friendly methods, they are the most cost effective. General repair of concrete screen can be costly and time consuming. Adding the task of tracking down vintage pierced



Fig. 8: Painted Concrete Screen Wall. Greensboro Inn, Greensboro, NC

concrete block can unnecessarily add to the amount of money and time spent on the repair, especially when identical new block can easily be obtained and is a much more cost-effective alternative.

The Importance of the *Madmen* Era

Because of the relative newness of Madmen Era architecture and materials, and the mass production elements associated with them, it can be difficult to realize the importance of their preservation. But postwar architectural details and domestic artifacts are extremely important in telling the story of Modernism in the United States, as Atomic Age architecture and materials embody a very specific zeitgeist in American culture. They represent recovery, ingenuity, and the do-it-yourself spirit.

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Fig. 9: Concrete Screen Carport. Painted to Match Brick, Huntersville, NC.

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Image Credits

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Industry Advertising for Adams Concrete Products Company. NCMA TEK. 1970.

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