



REINFORCEMENTS - Quoins

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The information within this and all our bulletins has been provided as a guideline and based upon statistical data and prior uses. We always suggest that you consult with your engineer, architect or contractor for the best design and use of cast stone for your project. Our design team is always available to answer any of your questions. We do not accept any liability from damages resulting from your interpretation of the data contained within.

Quoins (pronounced coins) are decorative cast stone strips or edgings strategically placed at the corners of buildings, from top to bottom. They give the building that extra color, enhanced image, and finished look. They usually are designed to run vertically along the cornered edges of buildings, mostly seen around the foyer, breezeways, and entrances.

Quoins are usually rectangular or square in shape and have different edging such as the straight, beveled, chamfered, or rounded look. They can be patterned in a zig-zag fashion or lined up evenly on both sides of the corner. They can be short and stout, or longer in nature to fit the image that your design team wants to portray.

Quoins are typically found as offset or contrasting colors, on the corners of brick buildings. Red brick buildings, with the white accent corners covered in cast stone quoins, are extremely attractive and provide great curb appeal. Cast stone quoins can also be used to accent natural stone, cast stone, and stucco buildings as well.

When designing the quoins in a brick setting or natural stone setting, it is appropriate to gauge the size of the quoin to match the running bond of the brick or stone. The height of the quoin should match up to the brickwork or the natural stone height, minus the joint.

Since the quoin design incorporates two pieces, the manufacturing time is reduced, and the pieces can be made in rapid fashion without blocking and mold change-outs. The amount of time to tamp a straight edged piece as opposed to the chamfered, beveled or rounded edge is too minimal to track. Once a mold is designed and made, the mold is used repeatedly. Repetitive manufacturing of the same mold cuts down on manufacturing costs greatly.

Quoins can be secured to any structure provided the correct anchoring or strapping has been accounted for. One can tie into another masonry unit, a concrete wall, or steel structures. Non-corrosive straps should be used to anchor the stone both on the top and at the bottom. It is much easier to place the straps into a continuous anchor slot as opposed to placing the strapping into one or two designated anchor slots on the stone; therefore, proper planning at the initial design stage will allow for the proper anchor slot and strapping.

One must keep in mind the material that the quoins are adjoining to due to the expansion and contraction of the material. Clay brick expands after it is made and continues for quite a while. Materials shrink and expand with inclement weather conditions. Since the surrounding materials of the quoins can expand or contract, the overall face of the wall will shift, thus, the proper joints must be accounted for from the start. Proper mortar joints and sealants must be used to compensate for the movement. (See our bulletins on Allowances for Movement, Weather Considerations, Mortar and Sealants.)

One must also be cautious of the color of the mortar with the cast stone quoins. Darker color grouting and mortar can stain the lighter cast stone pieces thus, it is advisable to continuously sponge off the face of the cast stone material to avoid staining. Carefully clean the mortar off the cast stone, ensuring one not scrape, or damage the cast stone with any metal tools.

Although many masonry contractors use high pressure washers and strong acidic solutions to clean the brick walls after installation, it is not advisable to use high pressure on the cast stone pieces. Soap and water should be used first to wash cast stone. If that does not work, a mild (5-10%) acidic solution, designed for cast stone material, should be tested on an extra piece of stone or in an inconspicuous spot. Acidic solutions can change the texture of the face of the stone, thus one wants to be cautious not to change the appearance or texture from the control sample that had previously been approved.

Additionally, one should avoid any collection of water at the base of the building. Any collection of acidic solution can change the color and texture of the cast stone material. Proper drainage should be in place.

Once the project has been washed, it is prudent to check the joints to make sure that there are not any areas that have shrunk or been compromised during install or cleaning. Any cracking or separation can cause voids where water and moisture can seep in and cause deterioration problems. Proper precautions and remedies should be in place from the start.

Once final inspection and approval have been complete, it is a good idea to apply a water repellent on the cast stone material. (See our bulletin on Water Repellents.)

We have only touched lightly on quoins, and strongly suggest that you refer to our other bulletins on Mortars, Sealants, Pointing of Joints, Allowances For Movement, Weather Consideration, and Tips and Cleaning. Our design team can assist you and make recommendations. It is always prudent to discuss your options with a structural engineer when designing any structure.