



## Design Tips

*Technical Bulletin #37*

### JOB SITE HANDLING AND INSTALLATION

The on-site personnel should be familiar with the applicable sections of the Cast Stone Institute<sup>SM</sup> Specifications and the Project Specification pertaining to delivery, storage, setting, patching, cleaning, pointing, caulking and sealing. In case of a conflict between the two specifications, the Project Specification should prevail. Where the Project Specification may not include a particular issue, the Industry Standards should be followed.

The following checklist has been developed for Cast Stone installations.

1. Prior to delivery there should be a set of the approved shop drawings and the approved color and texture sample on file. All test reports specified should be submitted as required.
2. Upon deliver, all Cast Stone should be checked for chips, cracks, stains, or broken pieces. Any damage should be noted on the delivery slips and communicated to the manufacturer or the sales representative.
3. Color and texture should be inspected in accordance to approved color sample or mock-up panel set up at the job site. In general, the color and texture of the Cast Stone delivered to the job site should be approximately equal to the approved sample when viewed in good typical daylight conditions at a ten foot distance. (See technical literature on Inspection and Acceptance.)
4. Storage of Cast Stone should be above the ground on non-staining planks or pallets. The storage site should be away from heavy construction traffic. Cast Stone stored for an extended period of time should be kept on pallets or non-staining planking and covered with non-staining tarpaulins. Allow for air circulation.
5. Prior to setting, insure climatic conditions are within thermal limitations of mortar. Mortar retarders and accelerators should be used according to manufacturers directions but not with patching material. Set stone in full mortar joints and fill all dowel holes and anchor slots completely with mortar. Insure uniform joint widths within specifications tolerances.
6. Ensure that all specified flashing and dampproofing is installed. Flashing pierced by stone anchors must be sealed either by metal thimble, grommet or approved sealant.
7. Concrete should never be poured against unprotected Cast Stone. Where poured in place concrete is placed against Cast Stone sills, separate with appropriate material prior to pouring concrete.
8. Stone anchors must meet specified standards and be non-corrosive. Stone slots to receive anchors should be completely filled with mortar.
9. Prior to setting insure that the surfaces set in mortar are drenched with water. This will secure a good bond and help to prevent mortar shrinkage.
10. Weep holes must be installed over windows, at relieving angles and at the V bottom of walls. No mortar drippings shall be allowed in the wythe between back of stone and face of back-up structure.
11. All head joints at coping and sills, and joints at column covers, soffits, and, in general, all stone sections with projecting profiles, exposed top joints or rigid suspension connections to the supporting structure should be sealant joints. Only the ends of load bearing lug sills shall be set in a full bed of mortar to prevent cracking

from future wall settlement. After setting, prime the joints, insert properly sized backup rod and gun in sealant.

12. All trim items except parapet coping must align with control joints. Do not bridge coping over expansion joints.
13. Cast Stone should be handled to minimize chipping. Care must be taken not to bump the stone into anything. Handle stones with the wide portion of the cross section in the vertical position to minimize breakage.
14. After setting, columns, pilasters, entry jambs, window sills and all stone with projecting profiles should be protected during the remaining construction.
15. During construction, cover open walls when rain is anticipated.
16. Chipped Cast Stone must be patched by skilled mechanics. A trial patch must be approved before general patching is to commence.
17. Planter coping, fountain coping, swimming pool coping, treads, risers, stone pieces at grade, and pavers should be treated with a silane or siloxane water repellent after setting. This will minimize the likelihood of dirt and groundwater entering the surface of the stone; a frequent cause of staining, efflorescence and enhancement of crazing. Check that water repellent does not affect color or texture when dry.
18. Load bearing units should be reinforced as necessary. They may not be designed to be handled in a different orientation than they will be installed in the structure. Lintels and large panels must be kept vertical.

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