

1. Design Criteria

- a. The exterior masonry shall be designed to resist weathering and efflorescence. The design shall take into account the design changes and details to be 100% effective. List is organized in order of effect of reducing efflorescence:
 - i. Specify low alkali Portland cement (0.6% alkali or less, by weight) to reduce the presence of alkalis in mortar mix.
 - ii. Use “non-efflorescing” (ASTM C67) fired clay brick with balanced chemical additives to immobilize sulfates found in brick to reduce their ability to become soluble.
 - iii. Use clean, washed sand to reduce the presence of soluble salts in the mortar mix.
 - iv. Use clean potable water in the mortar mix and during cleaning.
 - v. Specify densely tooled concave or V type joints that compact the surface mortar to reduce water infiltration into wall and reduce pores in mortar joints.
 - vi. Detail masonry walls with proper drainage and air circulation behind the veneer. Keep airspace clear during construction.
 - vii. Detail walls with architectural elements that reduce the amount of water exposed to the brick such as overhangs, careful placement of landscape irrigation, and proper flashings.
- d. Ensure compatibility of all materials to be in contact with each other.
- e. Graffiti control coating required refer to 4f below.

2. Reference Standards:

- a. Masonry Institute of America Efflorescence: Cause and Control.

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- b. Brick Industry Association Brick Brief August 2009 Efflorescence Prevention and Control
 - c. Brick Industry Association: Technical Notes; Review entire inventory of notes for topics that apply to the design including #23A “Efflorescence, Causes and Prevention”
3. Submittals to be reviewed by University
- a. Final selection of material samples to be approved by UVM project manager and design consultant.
 - b. Ensure that mockups are specified and constructed prior to construction to allow for sufficient review time by UVM.
4. Products, Materials & Equipment
- a. As selected by design consultant. Ensure long term durability, and compatibility with adjacent materials.
 - b. Ensure positive flow of moisture to weeps and exterior face of veneer.
 - c. Provide airspace behind brick veneer and keep the airspace clear of mortar droppings that would block air and water flow by specifying anti-clog nets or other measures
 - d. Do not specify the use of rope wicks or plastic weep tubes.

5.