04 2000
Unit Masonry

Last Update: September 28, 2022

A. General

1. Aesthetic Considerations:
   a. Brick Masonry: Except where brick accents are appropriate, use red brick or brick blend that matches the general color and texture of brick used on campus, particularly in the vicinity of the project.
      1. Where new brick veneer abuts existing brick walls or is used to infill existing brick walls, use the closest matching brick. Use dissimilar or contrasting brick only with the approval of the Owner.
   b. Concrete Unit Masonry shall not be used as an exposed exterior material except where permitted for concealed, non-public locations.
   c. Indiana Limestone shall be select grade, buff color. Use standard size and profile trim to the greatest extent possible.
   d. Natural Stone Masonry shall be used only with approval by the Owner.
   e. Cast Stone masonry shall be used only with approval by the Owner.
2. Performance/Design Criteria:
   f. Brick Masonry: Comply with the recommendations of The Brick Industry Association (BIA) *Technical Notes on Brick Construction*.
   g. Concrete Unit Masonry: Comply with the recommendations of the National Concrete Masonry Association (NCMA) *Tek Notes*.
   h. Cast Stone Masonry: Comply with the recommendations of the Cast Stone Institute (CSI) *Technical Manual*.
   i. Stone Masonry:
      2. Limestone Masonry: Comply with the recommendations of the Indiana Limestone Institute of America (ILI) *The Indiana Limestone Handbook*.
      3. Natural Stone Masonry: Comply with the recommendations of the Marble Institute of America (MIA) *Dimension Stone Design Manual*.
   j. Engineered Unit Masonry and Load-Bearing Masonry (including veneer subjected to lateral loads): Comply with the requirements of TMS 402/ACI 530/ASCE 5 or the prescriptive requirements of the Indiana Building Code (IBC).
   k. Expansion and Control Joints: Provide horizontal and vertical joints in accordance with the recommendations of the corresponding technical resources.

04 2000
Unit Masonry

B. Quality Assurance

1. Mock-Ups:

   a. For new exterior wall construction, erect full thickness wall assemblies, including proposed backup, representative of the typical construction and of sufficient size to include:
      4. Minimum one glazed opening, if applicable, including perimeter insulation and sealant, lintels, termination of water-resistant membranes, air barriers, and/or vapor retarders.
      5. Base of wall and intermediate level flashing, weep system, cavity drainage system, vertical compression relief, and shelf angles. Include at least one sealant joint at each interface between different materials.
      6. Top of wall including coping, termination of water-resistant membranes, air barriers, and/or vapor retarders and connection to roofing system.
      7. Step back mock-up construction in layers at one side to reveal relationships between the various layers in the assembly.
      8. Clean one half of the exposed faces of the mock-up with the specified cleaner.

   b. Protect mock-up from weather with vapor-permeable moisture-resistant covering.

   c. Mock-up may be used for verification testing during erection, in accordance with Enclosure Commissioning requirements.

C. Products:

1. Facing Brick: ASTM C216, Type FBX (preferred) or FBS (if necessary), Grade SW
2. Hollow Concrete Masonry Units: ASTM C90, 2800 psi unit compressive strength, light weight (interior), medium or normal weight (exterior, including backup wythe for composite walls.)
3. Cast Stone: ASTM C1364, 6500 psi minimum compressive strength, 4-8 % air entrainment (except VDT units), CPWL less than 5% after 300 cycles.
4. Mortar and Grout: ASTM C150 Type I or II Portland Cement, ASTM C144 aggregates. Do not use colored mortar unless approved by Owner.
5. Interior Embedded Anchors, Ties, and Wire Reinforcement: Hot-dipped galvanized steel.
6. Exterior Wythe Ties and Anchors: Type 304 Stainless Steel, unless otherwise acceptable to the Owner.
7. Masonry Veneer Anchors and Ties: Thermally broken, vertically adjustable type suitable to minimize heat-loss through continuous cavity insulation and capable of providing a minimum of 100 lbf load in tension or compression without deformation or play greater

than 0.05 inches.

d. Screws for Attachment of Veneer Anchors: Organic polymer coated to provide a minimum of 800 hours of salt-spray resistance per ASTM B117.

8. Horizontal Joint Reinforcing, Exterior: ASTM C951, 0.187 inch, hot-dip galvanized steel. Interior: ASTM C951, 0.187 inch, hot-dip or mill galvanized steel.
9. Flashing: ASTM A240, Type 304 Stainless Steel. 0.016 inch (26 gage) thick minimum, smooth finish, with soldered seams.
10. Vents/Weeps: Molded PVC grilles, UV and insect resistant, full height of head joints.

D. Installation:

1. Tie size, type and spacing shall provide sufficient strength for the design lateral loads. Ties and anchors shall extend to 1/2 inch from the face of the finished wall.
2. Bond: Running, except where other patterns needed to match existing bond pattern or for approved decorative effects.
3. Exterior mortar joints shall be concave tooled. Exposed interior mortar joints shall be concave tooled unless otherwise approved by the Owner.
4. Provide control and expansion joints as recommended by the BIA or NCMA. Indicate locations on elevations and describe criteria in specifications.
5. Flashing and Weep Installation:

   a. Fabricate flashing with 1/2-inch drip edge, with outer edge hemmed and bent down 30 to 45 degrees.
      1. Anchor and seal top edge to wall construction.
      2. In masonry cavity walls, extend interior termination an minimum of 2 inches into the backup masonry bed joint a minimum of 8 inches above the level where flashing extends to the exterior.
      3. Ensure flashing has positive slope towards the exterior face of the wall.
      4. Fabricate corners to form a

   e. Vents/Weeps: Install at 16 inches o.c., above flashing and at top of veneer wall cavities.

END OF SECTION