

SECTION 04 20 00

UNIT MASONRY ASSEMBLIES

1 PART 1 GENERAL

1.1 SUMMARY

- A. Section includes concrete masonry units and reinforcement, anchorage, and accessories.
- B. Allowances: Not used.

1.2 SUBMITTALS

- A. Product Data: Submit masonry units and fabricated wire reinforcement, wall ties, anchors and other accessories.
- B. Samples: Submit two samples of masonry units to illustrate color, texture and extremes of color range.

1.3 QUALITY ASSURANCE

- A. Perform Work in accordance with MSJC Code (ACI 530/ASCE 5/TMS 402) and MSJC Specification (ACI 530.1/ASCE 6/TMS 602).

1.4 ENVIRONMENTAL REQUIREMENTS

- A. Hot and Cold Weather Requirements: MSJC Specification.

2 PART 2 PRODUCTS

2.1 UNIT MASONRY ASSEMBLIES

- A. Manufacturers: Concrete Masonry Units
 - 1. Genest Concrete Works, Inc.
 - 2. Gagne and Son Concrete Block, Inc.
 - 3. Trenwyth Industries, Inc.
 - 4. Substitutions: Permitted.

2.2 COMPONENTS

- A. Hollow Load Bearing Concrete Masonry Units: ASTM C90, Type I - Moisture Controlled; normal weight.
 - a. Where concrete blocks are installed in walls exposed to the weather, provide the following:
 - 1) All concrete blocks installed in walls exposed to weather shall be manufactured with an integral liquid polymeric water repellent admixture. This admixture shall be equal to "Dry-Block" CMU admixture as produced by Grace Construction Products, or Rheopel as produced by Master Builders. The admixture

product shall be compatible with the mortar admixture product utilized for the project. Reference the Mortar and Masonry specification section 04 05 03.

- B. Solid Load-Bearing Concrete Masonry Units: ASTM C90, Type I - Moisture Controlled; normal weight.
- C. Hollow, Solid Non-Load Bearing Concrete Masonry Units: ASTM C129, Type I - Moisture Controlled; normal weight.
- D. Concrete Brick Units: same Grade, Type, and Weight as block units.
- E. Ground Face Concrete Masonry Units: ASTM C90, type 1 – Moisture Controlled, normal weight, with integral color, ground face, shot blasted finish.
 - 1. Pierra-Tex Plus units, GFP-001 Oceanmist color, as manufactured by Genest Concrete, PO Box 151, Sanford, ME 04073, or equal.
- F. Concrete Masonry Unit Size and Shape: Nominal modular size of 8x16x8 inches, or 8x16x4 inches, as indicated. Furnish special units for 90 degree corners, bond beams, lintels, and bullnosed corners.

2.3 ACCESSORIES

- A. Single Wythe Joint Reinforcement: Truss type; ASTM A 580 stainless steel wire, 3/16 inch side rods with 9 ga. cross ties.
 - 1. Hohmann & Barnard "Lox-All Truss-Mesh", or equal.
- B. Multiple Wythe Joint Reinforcement: Truss type; with moisture drip; adjustable type, ASTM A 580 stainless steel wire, 3/16 inch side rods with 9 ga. cross ties.
 - 1. Hohmann & Barnard "Cavity Truss Twin-Mesh", or equal.
- C. Reinforcing Steel: ASTM A615/A615M, 60 ksi yield grade, deformed billet bars, galvanized finish at exterior walls, uncoated finish at interior construction.
- D. Strap Anchors: bent steel shape, 8x2 inch size x 1/8 inch thick, hot dip galvanized to ASTM A153/A153M B2 finish.
- E. Wall Ties: Formed stainless steel wire, triangular shape, 3/16" diameter, adjustable, with 14 gage sheet metal anchor section with spacer legs, ASTM A 167 – AISI Type 304 Stainless Steel.
 - 1. Hohmann & Barnard "X-Seal Anchor", or equal.
- F. Mortar and Grout: As specified in Section 04 05 03.
- G. Copper/Kraft Paper Flashings: 5 oz/sq ft rolled sheet copper bonded to fiber reinforced asphalt treated Kraft paper.
- H. Lead Coated Copper Flashings: 16 oz lead coated copper, hemmed edge.
- I. Stainless Steel Flashings: 0.015" thick, soft temper.

- J. Lap Sealant: Butyl type as specified in Section 07900.
- K. Preformed Control Joints Neoprene material. Furnish with corner and tee accessories, cement fused joints.
- L. Joint Filler: Closed cell polyethylene; oversized 50 percent to joint width; self expanding.
- M. Building Paper: ASTM D226, No. 30 asphalt saturated felt.
- N. Weeps: Preformed polypropylene 'maze' cells, hollow.
 - 1. Hohmann & Barnard "Quadro-Vent", or equal.
- O. Cavity Protection: Preformed HDPE or nylon mesh, 90 % open to allow passage of water and prevent mortar clogging of cavity.
 - 1. Hohmann & Barnard "Mortar Net", or equal.
- P. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials, recommended by masonry unit manufacturer.
 - 1. PROSOCO "Sure-Klean Restoration Cleaner", or equal.

3 PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify field conditions are acceptable and are ready to receive Work.

3.2 PREPARATION

- A. Coordinate placement of anchors supplied by other sections.

3.3 INSTALLATION

- A. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- B. Coursing of Concrete Masonry Units:
 - 1. Bond: Running.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches.
 - 3. Mortar Joints: Concave.
- E. Placing and Bonding:
 - 1. Isolate masonry partitions from vertical structural framing members with movement joint as indicated on Drawings.
 - 2. Isolate top of masonry from horizontal structural framing members and slabs or decks with compressible joint filler.
- F. Weeps and Vents: Install weeps and vents in outer wythe at 24 inches oc horizontally above through-wall flashing, above shelf angles and lintels, at bottom of walls.

- G. Cavity Wall: Do not permit mortar to drop or accumulate into cavity air space or to plug weep holes. Build inner wythe ahead of outer wythe to receive cavity insulation air/vapor barrier adhesive.
- H. Joint Reinforcement and Anchorage - Single Wythe Masonry:
1. Install horizontal joint reinforcement 16 inches oc. Place joint reinforcement continuous in first and second joint below top of walls.
 2. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- I. Joint Reinforcement and Anchorage - Masonry Veneer:
1. Install horizontal joint reinforcement 16 inches oc vertically. Place joint reinforcement continuous in first and second joint below top of walls.
 2. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
 3. Masonry Backing: Embed wall ties for bonding veneer at maximum 16 inches oc vertically and 24 inches oc horizontally.
 4. Stud Framed Backing: Secure wall ties and embed into masonry veneer at maximum 24 inches oc horizontally and 16 inches oc vertically at interior zones, and 16 inches horizontally and 16 inches vertically at corner zones, as indicated on structural drawings..
- J. Joint Reinforcement and Anchorages - Multiple Wythe Unit Masonry:
1. Install horizontal joint reinforcement 16 inches oc. Place joint reinforcement continuous in first and second joint below top of walls.
 2. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- K. Masonry Flashings:
1. Extend flashings horizontally through outer wythe at foundation walls, above ledge or shelf angles and lintels, at bottom of walls and turn down on outside face to form drip.
 2. Turn flashing up minimum 8 inches and bed into mortar joint of masonry, seal to sheathing over wood framed back-up.
 3. Lap end joints and seal watertight.
 4. Turn flashing, fold, and seal at corners, bends, and interruptions.
- L. Lintels:
1. Install loose steel or masonry lintels over openings as indicated.
 2. Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled or indicated.
 3. Maintain minimum 8 inch bearing on each side of opening.
- M. Grouted Components:
1. Reinforce bond beam and pilasters as detailed.
 2. Support and secure reinforcing bars from displacement.
 3. Place and consolidate grout fill without displacing reinforcing.
 4. At bearing locations, fill masonry cores with grout for minimum 12 inches both sides of opening.

N. Control and Expansion Joints:

1. Do not continue horizontal joint reinforcement through control and expansion joints.
2. Install preformed control joint device in continuous lengths. Seal butt and corner joints.
3. Size control joint in accordance with Section 07900 for sealant performance.
4. Form expansion joint as detailed.

O. Built-In Work:

1. As work progresses, install built-in metal door and glazed frames, fabricated metal frames, anchor bolts, plates and other items to be built in the work furnished by other sections.
2. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout or mortar. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.

Q. Cutting And Fitting:

1. Cut and fit for chases, pipes, conduit, sleeves, and grounds. Coordinate with other sections of work to provide correct size, shape, and location.

R. Parging:

1. Dampen masonry walls prior to parging.
2. Parge masonry walls in two uniform coats of mortar to total thickness of 3/4 inch.

S. CLEANING

1. Remove excess mortar and mortar smears as work progresses.
2. Clean soiled surfaces with cleaning solution.

T. TOLERANCES

1. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
2. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.

...END OF SECTION 04 20 00