

## **PART I -GENERAL**

### 1.01 Related Documents

- A. Drawings and General Provisions of Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this section.

### 1.02 Description of Work

- A. Extent of each type of masonry work is indicated on drawings and schedule.
- B. Types of masonry work required include:
  - 1. Concrete Unit Masonry.
  - 2. Architectural units:
    - a. Smooth Face Unit Masonry.
    - b. Split Face Unit Masonry.
    - c. Split-Ribbed Unit Masonry.
    - d. Textured Face Unit Masonry
    - e. Tru-Brick Unit Masonry
    - f. LEED Qualifying Unit Masonry
  - 3. Ground Face Unit Masonry.
  - 4. Pre-faced Unit Masonry.
  - 5. Acoustical Unit Masonry.

### 1.03 Related Work

- A. Install work furnished under other sections, which must be built into unit masonry work, including, but not limited to:
  - 1. Glass Unit Masonry.
  - 2. Anchorage Devices.
  - 3. Flashings.
  - 4. Loose Steel Lintels.

### 1.04 Quality Assurance

- A. Fire Performance Characteristics: Where indicated, provide materials and construction which are identical to those of assemblies, equivalent thickness, whose fire endurance has been determined by testing in compliance with ASTM E 119 by means acceptable to authorities having jurisdiction.
- B. Single Source Responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.
- C. Single Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

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- D. Field Constructed Mock-Ups: Prior to installation of masonry work, erect representative sample wall panels to further verify selections made for color and texture characteristics, under sample submittals of masonry units and mortar, and to establish a standard for completed masonry work for qualities of appearance, materials, construction and workmanship.
- E. Build mock-ups for the following types of masonry in sizes approximately six foot (6') long by four foot (4') high, by full thickness, including face and back-up wythes, as well as accessories.
  - 1. Each type of exposed unit masonry work.
  - 2. Typical exterior face brick wall.
  - 3. Typical interior brick wall.

## 1.05 Submittals

- A. Product Data: Submit manufacturer's product data for each type of masonry unit, accessory and other manufactured products
- B. Compliance: Submit certifications that each type complies with specified requirements.
- C. Color Selection: For initial selection submit:
  - 1. Unit masonry samples showing full extent of colors and textures available for each type of exposed masonry unit required.
  - 2. Colored mortar samples showing full extent of colors available.
- D. Samples: For verification purposes submit:
  - 1. Unit masonry samples for each type of exposed masonry unit, include full range of color and texture to be expected in completed work.
  - 2. For selection of brick, submit products of all manufacturers that the manufacturers or their agents consider to be their closest match. Re-submit until match meets approval of Architect.
  - 3. Colored masonry mortar samples for each color required showing the full range of color which can be expected in the finished work. Label samples to indicate type and amount of colorant used.

## 1.06 Referenced Standards

- A. Comply with the current applicable provisions of all codes, standards and specifications referenced in this section, except as modified by the requirements of these Contract Documents, including, but not limited to, the following:
  - ASTM C-90 - Load Bearing Masonry Units.
  - ASTM C-129 - Non-Load Bearing Masonry Units.
  - ASTM C-140 - Testing Concrete Masonry Units.
  - ASTM E-119 - Fire Tests with Building Construction and Materials.
  - NCMA -TEK Bulletins.

## 1.07 Delivery, Storage and Handling

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- A. Deliver masonry materials to project in undamaged condition. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
- B. Limit moisture absorption of concrete masonry units during delivery and until time of installation.
- C. Store cementitious materials off the ground, under cover and in a dry location.
- D. Store and protect aggregates where grading and other required characteristics can be maintained.
- E. Store and protect masonry accessories including metal items to prevent deterioration by corrosion and accumulation of dirt.

## 1.08 Project Conditions

- A. Protection of Work: During erection, cover top of walls with waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.
  - 1. Extend cover a minimum of 24" down both sides and hold cover securely in place.
- B. Do not apply uniform floor or roof loading for at least 12 hours after building masonry walls or columns.
- C. Staining: Prevent grout, mortar or soil from staining the face of masonry to be left exposed or painted. Remove grout or mortar in contact with such masonry immediately.
- D. Do not apply concentrated loads for at least 3 days after building masonry walls or columns.
- E. Protect base of walls from rain-splashed mud and/or mortar splatter by means of coverings spread on ground and over wall surfaces.
- F. Protect sills, ledges and projections from droppings of mortar.
- G. Cold Weather Protection:
  - 1. Do not lay masonry units that are wet or frozen.
  - 2. Remove any ice or snow formed on masonry bed by carefully applying heat until top surface is dry to the touch.
  - 3. Remove masonry damaged by freezing conditions.
    - a. For units with surface temperature above 32 Degrees F, wet with water heated to above 70 Degrees F.
    - b. For units with surface temperature below 32 Degrees F, wet with water heated to above 130 Degrees F.
- H. Perform the following construction procedures while masonry work is progressing. Temperature ranges indicated below apply to air temperature existing at time of installation, except for grout:
  - 1. For Grout: Temperature ranges apply to anticipated minimum night temperatures. In heating mortar and grout materials, maintain mixing temperature selected within 10 Degrees F.
  - 2. 40 Degrees F to 32 Degrees F:
    - a. Mortar: Heat mixing water to produce mortar temperature between 40 Degrees F and 120 Degrees F.
    - b. Grout: Follow normal masonry procedures.
  - 3. 32 Degrees F to 25 Degrees F:

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- a. Mortar: Heat mixing water and sand to produce mortar temperatures between 40 Degrees F and 120 Degrees F. Maintain temperature of mortar on boards above freezing.
- b. Grout: Heat grout materials to 90 Degree F to produce in-place grout temperature of 70 Degree F at end of work day.
4. 25 Degrees F to 20 Degrees F:
  - a. Mortar: Heat mixing water and sand to produce mortar temperatures between 40 Degrees F and 120 Degrees F. Maintain temperature of mortar on boards above freezing.
  - b. Grout: Heat grout materials to 90 Degrees F to produce in-place grout temperature of 70 Degrees F at end of work day.
  - c. Use windbreaks or enclosures when wind is in excess of 15 mph.
5. 20 Degrees F and Below:
  - a. Mortar: Heat mixing water and sand to produce mortar temperatures between 40 Degrees F and 120 Degrees F.
  - b. Grout: Heat grout materials to 90 Degrees F to produce in-place grout temperature of 70 Degrees F at end of work day.
  - c. Masonry Units: Heat masonry units so that they are above 20 Degrees F at time of laying.
  - d. Provide enclosure and auxiliary heat to maintain an air temperature of at least 40 Degrees F for 24 hours after laying units.
  - e. Do not heat mixing water for mortar and grout to above 160 Degrees F.
- I. Protect completed masonry and masonry not being worked on in the following manner: (Temperature ranges indicated apply to mean daily air temperatures except for grouted masonry; if for grouted masonry, temperature ranges apply to anticipated minimum night temperatures.)
  1. 40 Degrees F to 32 Degrees F:
    - a. Protect masonry from rain or snow for at least 24 hours by covering with weather-resistant membrane.
  2. 32 Degrees F to 25 Degrees F:
    - a. Completely cover masonry with weather-resistant membrane for at least 24 hours.
  3. 25 Degrees F to 20 Degrees F:
    - a. Completely cover masonry with weather-resistant insulating blankets or similar protection for at least 24 hours; 48 hours for grouted masonry.
  4. 20 Degrees F and Below:
    - a. Except as otherwise indicated, maintain masonry temperature above 32 Degrees F for 24 hours using enclosures and supplementary heat, electric heating blankets, infrared lamps or other methods proven to be satisfactory. For grouted masonry maintain heated enclosure to 40 Degrees F for 48 hours.



## **PART 2 -PRODUCTS**

### 2.01 Masonry Units, General

- A. Manufacturer: All concrete masonry units shall be manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- B. Obtain masonry units from one manufacturer, of uniform texture and color for each kind required, for each continuous area and visually related areas.

### 2.02 Concrete Masonry Units

- A. General: Comply with referenced standards and other requirements indicated below applicable to each form of concrete masonry unit required.
- B. Provide special shapes where required for lintels, jambs, corners, sash, control joints, headers, bonding and other special conditions.
- C. Concrete Block: Provide units complying with characteristics indicated below for Face Size, Exposed Face, and under each form of block included for weight classification.
  - 1. Size: Manufacturer's standard units with nominal face dimensions of 16" long x 8" high (15 5/8" x 7-5/8" actual) x thicknesses indicated.
- D. Hollow Load-Bearing Block: ASTM C-90, normal weight (125 lbs. per cubic foot dry weight).
- E. Solid Load-Bearing Block: ASTM C-90, normal weight (125 lbs. per cubic foot dry weight).

### 2.03 Architectural Concrete Masonry Units

#### **SMOOTH FACE PIGMENTED CONCRETE MASONRY UNITS**

- A. Manufacturer: WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- B. All units will conform to ASTM C-90.
  - 1. Weight Classification: Normal Weight, Medium Weight or Light Weight.
  - 2. Minimum Net Compressive Strength 1900 PSI.
- C. Sizes: Manufacturers Standard Nominal Sizes.
- D. Color: Shall be as manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631 and selected from WELLNITZ ARCHITECTURAL BLOCK SERIES.
- E. Provide integral water repellant in all WELLNITZ ARCHITECTURAL SMOOTH PIGMENTED BLOCK SERIES as manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- F. All WELLNITZ ARCHITECTURAL SMOOTH PIGMENTED BLOCK SERIES shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of the construction.
- G. Cleaning: As recommended by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.

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## **SPLIT FACE CONCRETE MASONRY UNITS**

- A. Manufacturer: WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
  - 1. Face design shall be split face as manufactured by WELLNITZ CONCRETE PRODUCTS.
- B. All units will conform to ASTM C-90.
  - 1. Weight Classification: Normal Weight, Medium Weight or Light Weight.
  - 2. Minimum Net Compressive Strength 1900 PSI.
- C. Sizes: Manufacturers Standard Nominal Sizes.
- D. Color: Shall be as manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631 and selected from WELLNITZ ARCHITECTURAL BLOCK SERIES.
- E. Provide integral water repellent in all WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- F. All WELLNITZ ARCHITECTURAL SPLIT FACE BLOCK SERIES shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of construction.
- G. Cleaning: As recommended by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.

## **SPLIT RIBBED FACE CONCRETE MASONRY UNITS**

- A. Manufacturer: WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
  - 1. Face design shall be textured face as manufactured by WELLNITZ CONCRETE PRODUCTS.
- B. All units will conform to ASTM C-90.
  - 1. Weight Classification: Normal Weight, Medium Weight or Light Weight.
  - 2. Minimum Net Compressive Strength 1900 PSI.
- C. Sizes: Manufacturers Standard Nominal Sizes.
- D. Color: Shall be as manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631 and selected from WELLNITZ ARCHITECTURAL BLOCK SERIES.
- E. Provide integral water repellent in all WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- F. All WELLNITZ ARCHITECTURAL SPLIT FACE BLOCK SERIES shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of construction.
- G. Cleaning: As recommended by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.

## **TEXTURED FACE CONCRETE MASONRY UNITS**

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- A. Manufacturer: WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
  - 1. Face design shall be textured face as manufactured by WELLNITZ CONCRETE PRODUCTS.
- B. All units will conform to ASTM C-90.
  - 1. Weight Classification: Normal Weight, Medium Weight or Light Weight.
  - 2. Minimum Net Compressive Strength 1900 PSI.
- C. Sizes: Manufacturers Standard Nominal Sizes.
- D. Color: Shall be as manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631 and selected from WELLNITZ ARCHITECTURAL BLOCK SERIES.
- E. Provide integral water repellant in all WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- F. All WELLNITZ ARCHITECTURAL TEXTURED FACE BLOCK SERIES shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of construction.
- G. Cleaning: As recommended by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.

## **TRU-BRICK CONCRETE MASONRY UNITS**

- A. Manufacturer: WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
  - 1. Face design shall be as specified and as manufactured by WELLNITZ CONCRETE PRODUCTS.
- B. All units will conform to ASTM C-90.
  - 1. Weight Classification: Normal Weight, Medium Weight or Light Weight.
  - 2. Minimum Net Compressive Strength 1900 PSI.
- C. Sizes: Manufacturers Standard Nominal Sizes.
- D. Color: Shall be as manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631 and selected from WELLNITZ TRU-BRICK BLOCK SERIES with selected color flashing and rate of application.
- E. Provide integral water repellant in all WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- F. All WELLNITZ TRU-BRICK BLOCK SERIES shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of construction.
- H. Cleaning: As recommended by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.

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## **LEED QUALIFYING CONCRETE MASONRY UNITS**

- A. Manufacturer: WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
  - 1. Face design shall be as specified and as manufactured by WELLNITZ CONCRETE PRODUCTS.
- B. All units will conform to ASTM C-90.
  - 1. Weight Classification: Normal Weight, Medium Weight or Light Weight.
  - 2. Minimum Net Compressive Strength 1900 PSI.
- C. Sizes: Manufacturers Standard Nominal Sizes.
- D. Color: Shall be as manufactured by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631 and selected from WELLNITZ ARCHITECTURAL BLOCK SERIES.
- E. Mix design shall include a recycled content as required by the United States Green Building Council without environmental ramifications due to material used in below grade applications as specified by the Environmental Protection Agency.
- F. Provide integral water repellant in all WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.
- G. All WELLNITZ ARCHITECTURAL SPLIT FACE BLOCK SERIES shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of construction.
- H. Cleaning: As recommended by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631.

## 2.04 Architectural Pre Faced Concrete Masonry Units: Spectra-Glaze II

- A. Manufacturer: CLAYTON BLOCK CO., INC., P.O. Box 3015, Lakewood, NJ 08701, 800-662-3044, under license with The Burns & Russell Company, Baltimore, MD.
- B. All units shall conform to ASTM C-90.
  - 1. Weight Classification: Lightweight.
- C. Sizes: Modular 8" x 16", 4" x 16", 8" x 8", 12" x 12", 16" x 16" including 1/4" exposed face joints; sizes as shown; long dimensions horizontal or vertical as shown.
- D. Pre-Faced Surfaces: All units shall meet all requirements of ASTM C-744.
  - 1. Facing ingredients must be Spectra-Glaze Compound made with Spectra-Glaze polymers, supplied by The Burns & Russell Company, and other ingredients as required to meet or exceed ASTM C-744.
  - 2. Surface Burning Characteristics of Facing: ASTM E 84; flame spread less than 25; fuel contribution 0; smoke density less than 50. Products of combustion considered non-toxic as determined by BRC 4690 (toxicity testing).
- E. Colors: Select from manufacturer's established or custom colors.
- F. Shapes: Provide shapes to suit the condition shown.

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- G. **Cleaning Compound:** Use masonry detergent cleaners such as Spectra brand of cleaners, or Vana-Trol in strict accordance with each manufacturer's directions. Do not use steel wool, or other abrasives or any product containing unbuffered hydrochloric acid or other acids.

## 2.05 Architectural Ground Faced Concrete Masonry Units

- A. **Manufacturer:** GRAND BLANC CEMENT PRODUCTS, 10709 SOUTH CENTER ROAD, GRAND BLANC, MICHIGAN 48439, (800) 875-7500.
- B. All units will conform to ASTM C-90.
1. **Weight Classification:** Normal Weight.
  2. **Minimum Net Compressive Strength** 4000 PSI
- C. **Sizes:** Manufacturers Standard Nominal Sizes.
- D. **Color:** Shall be as manufactured by GRAND BLANC CEMENT PRODUCTS, 10709 SOUTH CENTER ROAD, GRAND BLANC, MICHIGAN 48439, (800) 875-7500, and selected from GRAND BLANC.
- E. Provide integral water-repellant in all GRAND BLANC CEMENT PRODUCTS, as manufactured by GRAND BLANC CEMENT PRODUCTS, 10709 SOUTH CENTER ROAD, GRAND BLANC, MICHIGAN 48439, (800) 875-7500.
- F. All GRAND BLANC CEMENT PRODUCTS shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of the construction.
- G. **Protection:** All GRAND BLANC CEMENT PRODUCTS shall be delivered to the jobsite on wood pallets and packaged with protective cushions between all GROUND FACE BLOCK layers to eliminate chipping. Each pallet to be protected with a plastic cover.
- H. **Cleaning:** No muriatic acid or acid-based solutions shall be used in the cleaning of GRAND BLANC CEMENT PRODUCTS

## 2.06 Acoustical Concrete Masonry Units

- A. **Manufacturer:** SOUNDBLOX as produced by WELLNITZ CONCRETE PRODUCTS, 1355 MCKINLEY AVENUE, COLUMBUS, OHIO 43222, (614) 276-2631, under license from The Proudfoot Co., Inc., Botsford, CT.
- B. All units will confirm to ASTM C-90.
- C. SOUNDBLOX Type RSC, RSC/RF call for filter elements of specially fabricated incombustible fibrous material having metal septa laminated to one side installed with septa facing away from the slots.
- D. SOUNDBLOX Type Q, 8" units shall have only a bare metal septum.
- E. **Sound Absorption:** Shall be in accordance with ASTM C-423.
- F. All SOUNDBLOX Units shall be sound and free of cracks or other defects that would interfere with the proper placing of the units or impair the strength or performance of the construction.



- G. Installation: SOUNDBLOX units shall be seated in a full horizontal bed of mortar. The slots shall be exposed to the area where the sound absorption is desired. Care shall be taken to insure that the slots are kept free of mortar and debris.
- H. SOUNDBLOX workmanship shall conform to all requirements of the General Specifications for masonry work.