

**SECTION 04222**

**GROUND FACE CONCRETE MASONRY UNITS**

**\*\*\*\*\* E. Dillon & Company manufactures the following high quality, custom produced, architectural concrete masonry units (CMU) using superior colored aggregates from its own quarry and state-of-the art polishing, grinding, and other equipment:**

**Premier Line Reflective Faced CMU**

**Premier Line Ground Face CMU**

**Premier Line Split Face CMU**

**This guide specification section can be used to specify Premier Line Ground CMU, concrete masonry units with faces ground to expose carefully selected aggregates. SECTION 04221 - REFLECTIVE FACE CONCRETE MASONRY UNITS can be used to specify Premier Line Reflective Face CMU and SECTION 04223 - SPLIT FACE CONCRETE MASONRY UNITS can be used to specify Premier Line Split Face CMU. For projects using more than one Premier Line CMU, these sections can be combined into a single SECTION 04220 - CONCRETE MASONRY UNITS.**

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**PART 1 - GENERAL**

**1.1 SUMMARY**

**This guide specification section contains only minimal requirements for constructing CMU assemblies. Reinforcement, mortar, and grout are not included and this section needs to be cross referenced to the section containing installation requirements. However, if this section is to be a stand-alone, all inclusive masonry section; reinforcement, mortar, grout, and installation requirements will need to be added by the specifier. \*\*\*\*\***

A. Section includes: Concrete masonry units with faces ground to expose aggregates [Section includes reinforcement, mortar, and grout].

B. Related sections:

**\*\*\*\*\* List other specification sections dealing with work directly related to this section such as the following. \*\*\*\*\***

1. Section 07212 - Foamed-in-Place Insulation: Insulation placed in CMU cavities either during or after erection of masonry walls.
2. Section 07600 - Flashing and Sheet Metal: Sheet metal flashing embedded in masonry joints.

3. Section 04810 - Unit Masonry Assemblies: Construction of masonry walls using ground face masonry units specified in this Section.

## 1.2 REFERENCES

**\*\*\*\* List by number and full title reference standards referred to in remainder of specification section. Delete non-applicable references. \*\*\*\***

A. America Society for Testing and Materials:

1. ASTM C33 - Concrete Aggregates.
2. ASTM C90 - Load-Bearing Concrete Masonry Units.
3. ASTM C744 - Prefaced Concrete and Calcium Silicate Masonry Units.

## 1.3 SUBMITTALS

A. Provide in accordance with Section 01330 - Submittal Procedures:

1. Product data for CMU types indicating composition, shape, surfaces, and dimensions.
2. Copies of test reports and certificates showing compliance with Paragraph 2.2.A and Paragraph 2.3.
3. Samples of ground face CMU illustrating color range, surface, and texture.
4. Installation instructions.

## 1.4 MOCK-UP

**\*\*\*\* Appearance is a key attribute of masonry walls constructed with Premier Line Ground Face CMU. To ensure quality is achieved, a mock-up is recommended. Use this article to specify a ground face CMU sample wall panel constructed at site for approval by architect. \*\*\*\***

- A. In accordance with Section 01400 - Quality Control, prepare mock-up of ground face CMU wall illustrating color, finish, texture, and joints and to establish standard of quality for completed work.
- B. Mock-up shall be building corner [with [window] [door] opening] illustrating ground face CMU and mortar combination, coursing, and pattern. Mock-up shall be constructed with:
  1. Ground face CMU as specified in this Section.

2. Mortar, grout, and reinforcement specified in Section 04810 - Unit Masonry Assemblies.
- C. Size: Approximately [4 feet] [1.2 m] [\_\_\_\_\_] high by [6 feet] [1.8 m] [\_\_\_\_\_] long.
- D. Provide slab or foundation support as required by size of mock-up.
- E. Retain mock-up during construction as quality standard. Completely remove when work is accepted.

## **1.5 HANDLING**

- A. Deliver, store, and handle masonry units in manner to avoid chipping, breakage, marring ground faces, and contact with contaminating materials.
- B. Deliver on wood pallets with foam layers to protect ground faces. Prior to shipping cover block cubes with shrink wrap or shrink bags.
- C. Site store in protected area and covered to ensure units remain dry and clean. Do not allow units to sit in standing water.

## **PART 2 - PRODUCTS**

### **2.1 ACCEPTABLE MANUFACTURERS**

- A. E. Dillon & Company, P.O. Box 160, Swords Creek, Virginia 24649; 800-234-8970.
- B. Manufacturers of equivalent products submitted and approved in accordance with Section 01630 - Product Substitution Procedures. Architect reserves right to reject substitution request based on aggregate, color, and ground surface even though structural characteristic, shapes, and materials are equivalent.

### **2.2 MATERIALS**

- A. Aggregates: Selected to provide specific color appearance and complying with:
  1. Normal weight CMU: ASTM C33.
- B. Water repellent: Liquid integral polymeric admixture.

### **2.3 GROUND FACE CONCRETE MASONRY UNITS**

- A. Type: Hollow and solid, load bearing concrete masonry units with faces ground to expose carefully selected aggregates complying with ASTM C90, Grade N, Type I moisture controlled.

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B. Minimum compressive strength: 2,000 PSI for average net area.

**\*\*\*\*\* E. Dillon & Company manufactures normal weight Premier Line Ground Face CMU. \*\*\*\*\***

C. Weight: Normal weight type manufactured with concrete weighing over 125 PCF.

D. Maximum linear shrinkage: 0.065 percent.

E. Water repellency: Units manufactured with integral water repellent.

F. Conform to ASTM C744 when tested for:

1. Craze resistance: No evidence of crazing, cracking, or spalling.
2. Abrasion resistant.
3. Resistance to color change: No significant change in color, gloss, or texture after 500 hours of accelerated weatherometer testing.

**\*\*\*\*\* E. Dillon & Company manufactures Premier Line Ground Face CMU in 27 standard colors achieved with mixes of different colored aggregates. Custom colors and multi-blended mixes are also available. Contact E. Dillon & Company for samples and custom color options. \*\*\*\*\***

G. Color: Achieved with mix of colored aggregates; [Emerald] [Carnival] [Camel] [Red Marvel] [Amethyst] [Mocha] [Desert] [Heritage] [Mars] [Harvest] [Shadow] [Dominion] [Blue Ice] [Desert Bloom] [Silver Sand] [Desert Castle] [Mocassin] [Sierra Mist] [Shell Storm] [Antique Rose] [Hurricane] [Colonial White] [Granite Red] [Salt & Pepper] [Crystal White] [Glacier] [Sahara] manufactured by E. Dillon & Company..

**\*\*\*\*\* Premier Line Ground Face CMU units can be provided with one or more vertical scores per face. \*\*\*\*\***

H. Face pattern: Polished, smooth, flat face [scored with [one] [\_\_\_\_\_] vertical false head joint[s]].

**\*\*\*\*\* E. Dillon & Company manufactures both hollow and solid Premier Line ground Face CMU. Standard height is 7-5/8 inches (194 mm). Standard length is 15-5/8 inches (397 mm). 3-5/8 inches (92 mm) high ashlar units are also available. Available depths are 2-1/4, 3-5/8, 5-5/8, and 7-5/8 (57, 92, 143, and 194 mm). Indicate types required and delete non-applicable ones. \*\*\*\*\***

**\*\*\*\*\* Actual CMU dimensions are 3/8 inch (10 mm) less than nominal unit dimensions. Actual dimensions accommodate a 3/8 inch (10 mm) joint. For example an 8x8x16 unit is actually 7-5/8 inches (194 mm) deep by 7-5/8 inches (194 mm) high by 15-5/8 ((397 mm)**

**inches wide. Dimensions presented in this sections are actual dimensions rather than nominal dimensions. Ground face units are approximately 3/32 inch less than actual due to ground face surface. \*\*\*\*\***

I. Types:

1. Stretcher units: Hollow units with one ground front face, [7-5/8 inches] [194 mm] high.
2. Ashlar units: Half-high hollow units with one ground front face, [3-5/8 inches] [92 mm] high.

**\*\*\*\* Standard Premier Line Ground Face CMU corner units have straight edges. Units can also be provided with bullnose and chamfered edges. \*\*\*\*\***

3. Hollow corner units with one ground front face and one ground end face. [Provide with [3/4 inch] [19 mm] bullnose corner edge.] [Provide with [1/2 inch] [13 mm] chamfered corner edge.]

**\*\*\*\*\* Bond beam units are provided with or without solid bottoms. \*\*\*\*\***

4. Bond beam units: Hollow bond beam units with one ground front face and [solid bottom] [knock-out webs].
5. Solid units: Solid unit with one ground front face, [7-5/8 inches] [194 mm] [\_\_\_\_\_] high by [15-5/8 inches] [406 mm] [\_\_\_\_\_] wide.

**\*\*\*\*\* E. Dillon & Company manufactures Majestic™ (oversize) units with one ground face. Standard oversize units are provided in two lengths, 23-3/4 and 15-3/4 inches (603 and 400 mm) wide by 11-3/4 inches (298 mm) high by 3-5/8 inches (92 mm) deep. Various other heights and lengths are available. Contact E. Dillon & Company for options. Oversize units are typically provided with straight edges. As an option, units are available with either bullnose or chamfered treatment on one or more edges. \*\*\*\*\***

6. Majestic™ (oversize) units: Units with one ground face, [23-3/4 inches] [15-3/4 inches] [603 mm] [400 mm] [\_\_\_\_\_] wide by [11-3/4 inches] [298 mm] [\_\_\_\_\_] high by [3-5/8 inches] [92 mm] deep. [Provide with [3/4 inch] [19 mm] bullnose edges.] [Provide with [1/2 inch] [13 mm] chamfered edges.]

**\*\*\*\*\* Sill units are provided in three depths, 7-5/8, 5-5/8, and 3-5/8 inches (194, 143, and 92 mm). \*\*\*\*\***

7. Sill units: Solid units with vertical and sloped ground front face, [7-5/8 inches] [194 mm] wide by [7-5/8 inches] [194 mm] high by [[7-5/8] [5-5/8] [3-5/8] inches] [[194] [143] [92] mm] deep.

J. Unit sizes: [As indicated on Drawings and otherwise required to complete work.]

1. Depths: [[2-1/4] [3-5/8] [5-5/8] [7-5/8] inches] [[57] [92] [143] [194] mm].
2. Height: [7-5/8 inches] [194 mm] [and] [3-5/8 inches] [92 mm].
3. Length: [15-5/8 inches] [397 mm].]

### **PART 3 - EXECUTION**

#### **3.1 COORDINATION**

- A. Coordinate provision of ground face CMU with mortar specified in Section 04810 - Unit Masonry Assemblies to ensure:
  1. Color compatibility between integrally colored ground face CMU and integrally colored mortar.
  2. Water repellent admixture added to mortar matches water repellent used in manufacture of ground face CMU.

#### **3.2 INSTALLATION**

- A. Install ground face CMU as part of unit masonry work specified in Section 04810 - Unit Masonry Assemblies. Install, protect, and clean in accordance with installation requirements of that Section, manufacturer's installation instructions, and the following additional requirements.
- B. Field cut ground face CMU with power tools to provide straight true edges and avoid damage to ground face. Do not install chipped or broken units.
- C. Exercise care that wet mortar is not splashed onto ground face during installation. Excess or splashed mortar shall be cleaned from face with dry burlap wipe. Remove after mortar becomes hard enough not to smear but prior to mortar sets.
- D. During grouting, placement of foamed-in place insulation, and application of sealants, ensure that materials are not smeared onto ground faces of CMU.. Remove as recommended by manufacturer.

#### **3.3 PROTECTION**

- A. During erection: Cover top of walls with waterproof sheeting at end of each day. Cover partially completed walls when work is not in progress. Extend cover 24 inches minimum down both sides and hold securely in place.
- B. Protect face of walls, sills, and other projections from roof run-off, splashed water, mud, grout, and mortar.

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- C. Spread sand or straw at base of walls to minimize dirt and clay splashing onto ground CMU faces.
- D. Without damaging completed work, provide protective boards at exposed external corners which may be damaged by construction activities.

### **3.4 CLEANING**

- A. Clean soiled ground CMU surfaces only with non-etching type cleaning solution as recommended by manufacturer. Follow manufacturers cleaning instructions. Maintain ground surface and color.

**END OF SECTION**