

# Specifications

## Architectural Concrete Masonry

### CSI SECTION 04222 ARCHITECTURAL CONCRETE MASONRY

This suggested guide specification has been developed using the current edition of the Construction Specifications Institute (CSI) "Manual Practice", including the recommendations for the CSI 3 Part Section Format. Additionally, the development concept and organizational arrangement of the American Institute of Architects (AIA) MASTERSPEC Program have been recognized in the preparation of this guide specification. Neither CSI nor AIA endorse the use of specific manufacturers and products

ED NOTE: THIS SECTION COVERS INFORMATION SPECIFIC TO ARCHITECTURAL CONCRETE MASONRY UNITS FOR EXTERIOR AND/OR INTERIOR WALLS AS SINGLE WYTHE AND/OR MULTI WYTHE SYSTEMS USED FOR LOADBEARING AND/OR NON LOADBEARING WALLS AS INDICATED ON THE PLANS AND/OR SCHEDULE OF FINISHES.

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## PART 1 GENERAL

### 1.01 SUMMARY

ED NOTE: REVISE BELOW TO SUIT PROJECT CONDITIONS.

A. Section j Includes: Adams Architectural Concrete Masonry Units.

- 1. Adams Profile Split Face Units (PSF).
- 2. Adams Profile Split Face Single Score Units (PSF-1).
- 3. Adams Profile Split Face Double Score Units (PSF-2)
- 4. Adams Profile Wide Split Rib Four Units (PWSR-4).
- 5. Adams Profile Split Rib Two Units (PSR-2).
- 6. Adams Profile Split Rib Four Units (PSR-4).
- 7. Adams Profile Split Rib Eight Units (PSR-8).
- 8. Adams Brickstone Units (BS).
- 9. Adams Shadow Stone Units (SS).

10. Adams Castle Rock Units (CR).
11. Adams Profile Smooth Face Units (PSMF).
12. Adams Profile Smooth Face Single Score Units (PSMF-1).
13. Adams Profile Split Face/Profile Smooth Face/Polished Face Sill Units
14. Adams Ashlarstone Units (AS)
15. Adams Polished Face Units (PF)
16. Adams Polished Face Single Score Units (PF-1)
17. Adams Polished Face Oversize Units (PF Oversize)

B. Related Sections: Refer to Division 4 Masonry, Division 5 Metals, and Division 7 Thermal and Moisture Protection Sections for the following:

1. Section 0410 Mortar and Masonry Grout.
2. Section 04150 Masonry Accessories.
3. Section 04200 Unit Masonry.
4. Section 04500 Masonry Restoration and Cleaning.
5. Section 05500 Metal Fabrications: Placement of loose steel lintels.
6. Section 07150 Dampproofing.
7. Section 07180 Water Repellents.
8. Section 07200 Insulation
  - a. Vermiculite/Perlite Loose Fill Insulation.
  - b. KORFIL Block Insulation.
  - c. Integra Wall System Insulation.
9. Section 07600 Flashing and Sheet Metal.
10. Section 07900 Joint Sealers.

## **1.02 REFERENCES**

A. American Society for Testing and Materials (ASTM):

1. ASTM C 90-Latest Revision Standard Specification for Load-Bearing Concrete Masonry Units.
2. ASTM C 140-Latest Revision Standard Methods of Sampling and Testing Concrete Masonry Units.

B. Joint Effort of the American Concrete Institute, the American Society of Civil Engineers, and the Masonry Society.

1. Building Code Requirements for Masonry Structures (ACI 530-08/ASCE 5-08/TMS 402-08).
2. Specifications for Masonry Structures (ACI 530.1-08/ASCE 6-08/TMS 602-08).
3. Commentary of Building Code Requirements for Masonry Structures (ACI 530.1-08/ASCE 6-08/TMS 602-08).
4. Commentary on Specifications for Masonry Structures (ACI 530.1-08/ASCE 6-08/TMS 602-08).

## **1.03 SUBMITTALS**

A. General: Prepare, review, approve, and submit specified submittals in accordance with Division 1 Submittals Sections. Submit the following:

1. Product Data: Submit product data for each type of product specified, including certification that each type complies with specified requirements.
2. Samples: Submit verification samples for colors, textures.
3. Test Report: Submit test report from an independent testing agency indicating compliance with ASTM C 90 for concrete masonry units.

#### **1.04 QUALITY ASSURANCE**

A. Mockup (Field Constructed): Install at project site a job mockup using acceptable products and manufacturer approved installation methods. Obtain Owner's and Architect's acceptance of finish color, texture and pattern, joint sizes, and installation workmanship standard.

ED Note: Specify Below Mockup size And Substrate.

1. Mockup Size: 3'4" (5 courses high) by 4'0" (3 block wide) is recommended as the minimum size.
2. Maintenance: Maintain mockup during construction for workmanship comparison; remove and legally dispose of mockup when no longer required.
3. Incorporation: Mockup may be incorporated into final construction upon Owner's and Architect's approval.

B. Pre-Installation Conference: Convene prior to commencing work of this section, under provisions of Section 01040 Coordination and Project Meetings.

#### **1.05 DELIVERY, STORAGE, AND HANDLING**

A. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

B. Storage and Protection: Store materials in a manner that protects from exposure to harmful weather conditions.

## **PART 2 PRODUCTS**

ED NOTE: COORDINATE BELOW ARTICLE WITH DIVISION 1 MATERIAL AND EQUIPMENT (PRODUCT OPTIONS AND SUBSTITUTIONS) SECTION, AND BIDDING DOCUMENTS, IF ANY.

#### **2.01 MANUFACTURES**

A. Acceptable Manufacturers; Adams Products Company, Oldcastle, Architectural Products Group Companies.

1. Production Facilities: Castle Hayne, NC, Cowpens, SC, Dunn, NC, Greensboro, NC, Kinston, NC, Morrisville, NC, Myrtle Beach, SC, Rockwood, TN

Website [www.adamsproducts.com](http://www.adamsproducts.com)

P.O. Box 189, Morrisville, NC 27560

Telephone 800-672-3131;

919-467-2218; Fax: 919-469-0509

2. Proprietary Product(s)/System(s):

Adams Architectural Concrete Masonry Units with integral water repellent agent. Dry-Block producer complies with qualification criteria and is annually certified by W. R. Grace & Company. RainBloc producer complies with qualification and is annually certified by ACM Chemistries.

a. Size: Width (W) X Height (H) X Length (L).

b. Color:

1. Selected from colors listed on web site:

[www.adamsproducts.com/design/architectural\\_colorcharts](http://www.adamsproducts.com/design/architectural_colorcharts)

c. Minimum Net Area Average Compressive Strength: High Strength Unit. Average of three units 3000PSI, individual unit 2700 PSI. Exceeds ASTM C 90 standard average of three units 1900 PSI, individual unit 1700 PSI.

d. Maximum Absorption: Low Absorption unit. The unit shall contain specific amounts of the integral water repellent compound so the absorption is less than

(7.5%) and/or 10 lbs/CF. Exceeds ASTM C 90 standard of 13 lbs/CF absorption rate.  
e. Weight Classification: High Density Unit. Normal Weight not less than 125 lbs/CF.  
f. Exposes Face Finish:

1. Adams Profile Split Face Units (PSF).
  2. Adams Profile Split Face Single Score Units (PSF-1).
  3. Adams Profile Split Face Double Score Units (PSF-2).
  4. Adams Profile Wide Split Rib Four Units (PWSR).
  5. Adams Profile Split Rib Two Units (PSR-2).
  6. Adams Profile Split Rib Four Units (PSR-4).
  7. Adams Profile Split Rib Eight Units (PSR-8).
  8. Adams Brickstone Units (BS).
  9. Adams Shadow Stone Units (SS).
  10. Adams Castle Rock Units (CR).
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  14. Adams Ashlarstone Units (AS).
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  16. Adams Polished Face Single Score Units (PF-1).
  17. Adams Polished Face Oversize Units (PF Oversize).
3. Product(s)/System(s)/Testing:
- a. Architectural Unit Product Standard:
    1. Comply with ASTM C 90 for concrete masonry units.
    2. Comply with Carolina Concrete Masonry Association (CCNMA) Architectural Concrete Masonry Guideline Specification

## **2.02 RELATED MATERIALS**

A. Mortar and Grout: Refer to Division 4 Masonry Section for mortar and grout materials.

## **2.03 SOURCE QUALITY CONTROL**

A. General:

1. Obtain Architectural Concrete Masonry Units from a single source to ensure color, finish and texture continuity.
2. Manufacturer shall not have less than ten (10) years experience for this type of unit.

# **PART 3 EXECUTION**

## **3.01 MANUFACTURER'S INSTRUCTIONS**

A. Compliance: Comply with manufacturer's product data, including product technical bulletins and product catalog installation instructions.

## **3.02 EXAMINATION**

A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions.

## **3.03 PREPARATION**

A. Adjacent Surface Protection: Protect adjacent work areas and finish surfaces from damage during product installation.

### **3.04 INSTALLATION**

A. General: Refer to Division 4 Masonry Section for installation requirements.

B. Pattern: Install Architectural Concrete Masonry Units in pattern indicated on drawings. Maintain pattern lines. Match approved job mockup.

C. Elevation Tolerances: Elevations of installed Architectural Concrete Masonry units do not exceed 1/4" in 10' or 3/8" in a story height of 20' maximum, except for external corners, expansion joints and other conspicuous lines, do not exceed 1/4" in any one story or 20' maximum.

D. Expansion and Control Joints: Refer to Division 4 Unit Masonry section for expansion and control joints.

### **3.05 CLEANING AND PROTECTION**

A. Cleaning:

1. Good workmanship and job housekeeping practices shall be used to minimize the need for cleaning the masonry. Masonry wall should be dry brushed at end of each days work and also after final pointing and should be left clean and free from mortar droppings. Protect the base of the wall from mud splashes and mortar droppings, protect the wall by setting scaffolds so that mortar is not deflected onto the wall and at the end of each day set the scaffolding boards so that they do not deflect rainfall onto newly laid masonry. ALL WALLS SHOULD BE COVERED AT END OF EACH DAYS WORK TO LIMIT THE AMOUNT OF WATER IN THE WALL DURING THE CONSTRUCTION PROCESS. The masonry laying technique shall be such that mortar does not run down the face of the wall, or smear the masonry face, after the joints are tooled, cut off mortar tailings with the trowel and brush excess mortar burrs and dust from the face of the masonry.

2. If after using the above outlined techniques, additional cleaning of masonry is necessary, the technique, solutions and test area shall be approved by the owner, architect and manufacturer in writing. Wet masonry wall thoroughly with garden hose, apply cleaner with brush and scrub, rinse masonry wall thoroughly with garden hose. Clean the masonry only with an approved cleaning solution (Architectural Split Face use water or "Custom Masonry Cleaner", Architectural Polished Face use water or "Burnished Masonry Cleaner", Architectural Smooth Face use water or "Concrete Brick Cleaner", Quik-Brik use water or "Concrete Brick Cleaner"). The solutions and the method of scraping shall be as outlined on the container by the manufacturer. Immediately after cleaning a small area, the masonry shall be rinsed thoroughly with quantities of water sufficient to rinse cleaning solution completely. DO NOT CLEAN WITH MURIATIC ACID, SANDBLAST OR HIGH PRESSURE WASHERS. High pressure water and sandblasting shall not be used for cleaning except with the recommendation of the manufacturer and the written approval of the architect and the owner.

3. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Remove construction debris from protected site and legally dispose of debris.

**B. Protection: Protect installed product's finish surfaces from damage during construction.**

ED NOTE: IF NON PROPRIETARY SPECIFICATION IS REQUIRED, DELETE ANY REFERENCE TO ADAMS PRODUCTS COMPANY. THE REMAINING SPECIFICATION WILL BE A PERFORMANCE SPECIFICATION.