

# QUIKRETE® Guide Specification

## SECTION 040513

### MASONRY MORTAR

For best results, display hidden notes to specifier.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Mortar for masonry specified in other sections.

##### 1.2 RELATED SECTIONS

- A. Section 0482000 - Unit Masonry Assemblies.

##### 1.3 REFERENCES (All references should be latest version published)

- A. ASTM C 91 - Standard Specification for Masonry Cement
- B. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar
- C. ASTM C 150 - Standard Specification for Portland Cement.
- D. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
- E. ASTM C 270 - Standard Specification for Mortar for Unit Masonry.
- F. ASTM C 595 - Standard Specification for Blended Hydraulic Cements.
- G. ASTM C 780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Masonry.
- H. ASTM C 1157 - Standard Performance Specification for Hydraulic Cement.
- I. ASTM C 1329 - Standard Specification for Mortar Cement.
- J. ASTM C 1384 - Standard Specification for Admixtures for Masonry Mortars.
- K. ICBO-ES - Evaluation Report 3759: Easy Spread Plasticizer for Mortar.
- L. NCMA TR-88 - Hot & Cold Weather Masonry Construction Manual.

##### 1.4 SUBMITTALS

- A. Submit under provisions of Section 013000.
- B. [Product Data]: Manufacturer's data sheets on each product to be used, including:
  1. Mixing and preparation instructions and recommendations.
  2. Storage and handling requirements and recommendations.
  3. Installation methods.

- C. Test Reports:
  - 1. Submit certified test reports showing that the cementitious components of the mortar mix comply with the specified requirements.
  - 2. Submit certified test report showing that the mortar complies with the specified requirements.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver mortar mix to site in sealed bags. Identify each bag with material name and type.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: The Quikrete Companies; One Securities Centre, 3490 Piedmont Road, Suite 1300, Atlanta, GA 30305. ASD. Tel: (404) 634-9100.  
[www.quikrete.com](http://www.quikrete.com).
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 016000.

#### 2.2 APPLICATIONS

- A. Foundations: Use Type M.
- B. Foundations: Use Type S.
- C. Other Masonry: Use Type M.
- D. Other Masonry: Use Type S.
- E. Other Masonry: Use Type N.

#### 2.3 CEMENT/LIME MORTAR

- A. Type M Mortar: Mix to the Property Specifications of ASTM C 27 0:
  - 1. Compressive Strength: 2500 psi (17.2 MPa), minimum, at 28 days for laboratory mixed mortar with a flow of 110 plus/minus 5 percent.
  - 2. Water Retention: 75 percent, minimum.
  - 3. Air Content: 12 percent, maximum.
  - 4. Aggregate Ratio: No less than 2.25 and no more than 3.5 times the sum of the separate volumes of cementitious materials.
- B. Type S Mortar: Mix to the Property Specifications of ASTM C 27 0:
  - 1. Compressive Strength: 1800 psi (12.4 MPa), minimum, at 28 days for laboratory mixed mortar with a flow of 110 plus/minus 5 percent.
  - 2. Water Retention: 75 percent, minimum.
  - 3. Air Content: 12 percent, maximum.
  - 4. Aggregate Ratio: No less than 2.25 and no more than 3.5 times the sum of the separate volumes of cementitious materials.
- C. Type N Mortar: Mix to the Property Specifications of ASTM C 27 0:
  - 1. Compressive Strength: 750 psi (5.2 MPa), minimum, at 28 days for

- laboratory mixed mortar with a flow of 110 plus/minus 5 percent.
- 2. Water Retention: 75 percent, minimum.
- 3. Air Content: 14 percent, maximum; except when structural reinforcement is incorporated into mortar, not more than 12 percent unless bond strength test data is submitted to justify higher air content.
- 4. Aggregate Ratio: No less than 2.25 and no more than 3.5 times the sum of the separate volumes of cementitious materials.

- D. Masonry Mortar Mix: Factory blended hydraulic cement/lime/sand mix proportioned to produce masonry mortar complying with the property Specifications in [ASTM C 270](#) for the specified type of masonry mortar; Quikrete Packaged Hydraulic cement/Lime Masonry Mix.
  - 1. Portland Cement or Blended Cement: [ASTM C 150](#) Types I, IA, II, IIA, III or IIIA.
  - 2. Portland Cement or Blended Cement: [ASTM C 595](#) Types IS, IS-A, IP, IP-A, I(PM), I(PM)-A, I(SM), OR I(SM)-A.
  - 3. Portland Cement or Blended Cement: [ASTM C 1157](#) Types GU, HE, MS, HS, MH, or LH.
  - 4. Lime: Hydrated lime, [ASTM C 207](#) Type S.
  - 5. Sand: Mason's sand, [ASTM C 144](#) .

## 2.4 MASONRY CEMENT MORTAR

- A. Type M Mortar: Mix to the Property Specifications of [ASTM C 27 0](#):
  - 1. Compressive Strength: 2500 psi (17.2 MPa), minimum, at 28 days for laboratory mixed mortar with a flow of 110 plus/minus 5 percent.
  - 2. Water Retention: 75 percent, minimum.
  - 3. Air Content: Maximum 18 percent.
  - 4. Aggregate Ratio: No less than 2.25 and no more than 3.5 times the sum of the separate volumes of cementitious materials.
- B. Type S Mortar: Mix to the Property Specifications of [ASTM C 27 0](#):
  - 1. Compressive Strength: 1800 psi (12.4 MPa), minimum, at 28 days for laboratory mixed mortar with a flow of 110 plus/minus 5 percent.
  - 2. Water Retention: 75 percent, minimum.
  - 3. Air Content: Maximum 18 percent.
  - 4. Aggregate Ratio: No less than 2.25 and no more than 3.5 times the sum of the separate volumes of cementitious materials.
- C. Type N Mortar: Mix to the Property Specifications of [ASTM C 27 0](#):
  - 1. Compressive Strength: 750 psi (5.2 MPa), minimum, at 28 days for laboratory mixed mortar with a flow of 110 plus/minus 5 percent.
  - 2. Water Retention: 75 percent, minimum.
  - 3. Air Content: Maximum 20 percent; maximum 18 percent when structural reinforcement is incorporated into mortar.
  - 4. Aggregate Ratio: No less than 2.25 and no more than 3.5 times the sum of the separate volumes of cementitious materials.
- D. Masonry Mortar Mix: Factory blended masonry cement/sand mix proportioned to produce masonry mortar complying with the property specifications in [ASTM C 270](#) for the specified type of masonry mortar; Quikrete Packaged Masonry Mortar Mix.
  - 1. Masonry Cement: [ASTM C 9 1](#), Type M.
  - 2. Masonry Cement: [ASTM C 9 1](#), Type S.
  - 3. Masonry Cement: [ASTM C 9 1](#), Type N.
  - 4. Sand: Mason's sand, [ASTM C 144](#) .

## 2.5 ACCESSORY MATERIALS

- A. Water: Clean and free from deleterious acids, alkalies, and organic matter.
- B. Admixtures: Complying with [ASTM 1384](#) or ICBO-ES Evaluation Report 3759.
- C. Pigment: \_\_\_\_\_.
- D. Integral Waterproofer: \_\_\_\_\_.

## 2.6 MIXING

- A. Mixing Procedure: Add factory pre-blended dry materials to water in mortar mixer and mix for 3 to 5 minutes.
- B. Retempering: Use mortar within 2 hours of initial mixing. Retemper mortar that has stiffened because of evaporation of water from mortar by adding water and blending as frequently as needed to restore required consistency.
- C. Cold Weather: Follow National Concrete Masonry Association recommendations for cold weather construction.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. See Section [048200](#).

### 3.2 FIELD QUALITY CONTROL

- A. Owner will arrange for field testing.
- B. Contractor shall arrange and pay for field testing by an acceptable testing agency.
- C. Field Testing: In accordance with [ASTM C 780](#) with following exception: Verify compressive strength by obtaining minimum 20 pound (9 kg) uniform sample of dry blend, prepare mix as specified, and test in accordance with applicable portions of [ASTM C 270](#) .

END OF SECTION