QUIKRETE® Guide Specification

SECTION 040513

MASSONRY 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

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.
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.
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 270:

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 270:

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 270:

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.
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