



WEAVER CONSTRUCTION MANAGEMENT, INC.
 3679 S. Huron St., Suite 404
 Englewood, CO 80110
 Phone: (303) 789-4111 FAX: (303) 789-4310

SUBMITTAL TRANSMITTAL

August 17, 2011
WGC Submittal No: 04100-001

PROJECT: Harold Thompson Regional WRF
 Birdsall Rd.
 Fountain, CO 80817
 Job No. 2908

ENGINEER: GMS, Inc.
 611 No. Weber St., #300
 Colorado Springs, CO 80903
 719-475-2935 Roger Sams

OWNER: Lower Fountain Metropolitan
 Sewage Disposal District
 901 S. Santa Fe Ave.
 Fountain, CO 80817
 719-382-5303 James Heckman

CONTRACTOR: Ammex Masonry, Inc.
 P.O. Box 1272
 Commerce City, CO 80022
 303-853-9008 Amy Wheeler

SUBJECT: Submittal for Mortar & Grout in the Headworks Building - Type S Bulk Mortar Mix: Quikrete® Mix 202 S (PLS) and Quikrete® Mix 303 Fine Grout 3000 PSI

SPEC SECTION: 04100 - Mortar & Grout

PREVIOUS SUBMISSION DATES:

DEVIATIONS FROM SPEC: ___ YES X NO

CONTRACTOR'S STAMP: This submittal has been reviewed by Weaver General Construction and approved with respect to the means, methods, techniques, & safety precautions & programs incidental thereto. Weaver General Construction also warrants that this submittal complies with contracted documents and comprises on deviations thereto:

<p>Contractor's Stamp:</p> <p>Date: 8/17/11 Reviewed by: H.C. Myers (X) Reviewed Without Comments () Reviewed With Comments</p> <p>ENGINEER'S COMMENTS:</p>	<p>Engineer's Stamp:</p>
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Technical and Engineering Center
 500 Marathon Parkway
 Lawrenceville, GA 3004
 Phone: 770-216-9580

CERTIFIED TEST REPORT

Product:	MIX 202 S (PLS)
Product Code:	SR21001 R1
Manufactured by:	QUIKRETE - Colorado

Initial Testing

Sample Identification		Test	Specification	Results
Date Received	10/9/2008	Water (%)	As required	17.6
Date Produced	9/5/2008	Consistency	105-115% @25d	106
Production Code	250249172	Unit Weight	1	134.4
Lab Code:	08-5261	Set Time		
		Air (%)	1	6

Strength Testing

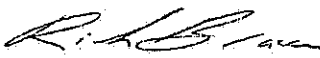
Test Conditions: Mix Method M, 24H demold, cure > 95% RH

Test	Compressive Strength (psi)		Flexural Strength (psi)	
Age	Specification (1)	Result	Specification (1)	Result
1 day				
3 day				
7 day	1	1730		
28 day	1800	4200		

Other Testing

Test	Specification	Test Results
Water Retention	>= 75%	85
#4 Fraction	0%	0
+ #8 Fraction	< 3%	1

(1) A value of 1 indicates that the property is being measured but no minimum value has been set

Certified by 
 Rich Braun
 Technical Director



September 22, 2009

LETTER OF CERTIFICATION

QUIKRETE[®] Mix 202 S (PLS)
SR21001

QUIKRETE[®] - Denver

To: Whom It May Concern

This letter certifies that QUIKRETE[®] Type S Bulk Mortar Mix, manufactured according to the approved formulation with approved raw materials, will meet the *property* specifications for an ASTM C 270, *Standard Specification for Mortar for Unit Masonry*, Type S Mortar.

The raw materials used in this product formulation meeting the standard specifications include: Type I/II Portland Cement meeting ASTM C 150, *Standard Specification for Portland Cement*, Hydrated Lime Type S meeting ASTM C 207, *Standard Specification for Hydrated Lime for Masonry Purposes*, and Mason Sand meeting ASTM C 144, *Standard Specification for Aggregate for Masonry Mortar*.

Mortar property characteristics including compressive strength are specified according to ASTM C 270 with laboratory testing. ASTM C 270 (property specification) is not for use to specify minimum compressive strengths to be achieved by field mixed mortars. Field mixed mortar may be tested according to ASTM C 780 to evaluate mortar properties such as mortar water content or consistency. As defined in ASTM C 1586, compressive strength values determined through ASTM C 780 in the field are **not expected nor required** to achieve the compressive strengths of laboratory tested ASTM C 270 specification mortars.

We are pleased to be of service to you. If you have any questions, please let us know.

Rich Braun
Technical Director

THE QUIKRETE[®] COMPANIES Inc.
Technical & Engineering Center
500 Marathon Parkway
Lawrenceville, GA 30045
770.216.9580 • 770.237.2548 Fax • www.quikrete.com



**1. Product Name**

QUIKRETE® Bulk Masonry Mortars & Corefill
Masonry Grouts

2. Manufacturer

The QUIKRETE Companies
One Securities Centre
3490 Piedmont Rd., NE, Suite 1300
Atlanta, GA 30305
(404) 634-9100
Fax: (404) 842-1424
www.quikrete.com

3. Product Description**BASIC USE**

QUIKRETE® Bulk Masonry products are contractor grade masonry mortars and grouts designed for building and reinforcing walls made of brick, block or stone.

COMPOSITION & MATERIALS

QUIKRETE Bulk Masonry Mortars and Corefill Masonry Grouts are preblended sanded products requiring only the addition of water. Mortars are available in Types M, N or S, using either masonry cement or a Portland/lime blend. Fine and coarse grouts are available in strength ranges from 2000 psi (13.8 MPa) to greater than 5000 psi (34.5 MPa).

COLORS

Standard color is gray. Masonry mortars are available in white and a variety of custom colors by special order.

SIZES

The standard package is delivered in 3000 lb (1362 kg) bulk bags (super sacks), which are typically charged into mini-silos that hold up to 6 super sacks. Quikrete Masonry Mortars and Corefill Masonry Grouts are also available in 80 lb (36.3 kg) bags.

YIELD

A 3000 lb (1362 kg) bag will yield:

Grout

- Fine - 0.95 yd³ (0.73 m³)
- Coarse - 0.90 yd³ (0.69 m³)

Mortar

- Portland/lime - 0.95 yd³ (0.73 m³)

TABLE 1 COMPRESSIVE STRENGTHS

Mortar type	Minimum compressive strength
N	750 psi (5.2 MPa)
S	1800 psi (12.4 MPa)
M	2500 psi (17.2 MPa)

TABLE 2 OTHER PROPERTIES

Mortar type	Max. air, % ¹	Max. air, % ²	Water retention, %
N	14	20	> 75
S	12	18	> 75
M	12	18	> 75

¹ Mortars made with Portland cement and hydrated lime or mortar cement.

² Mortars made from masonry cement.

- Masonry cement - 1.05 yd³ (0.8 m³)

COVERAGE**Mortar**

Each 3000 lb (1362 kg) bag of QUIKRETE bulk masonry mortar will lay up to 1400 standard bricks or up to 530 standard blocks. Coverage will vary with mortar type and mortar placement method.

Grout

Each 3000 lb (1362 kg) bag of QUIKRETE fine grout will fill the cores of approximately 110 standard 8" x 8" x 16" (203 x 203 x 406 mm) block. Coverage is reduced to approximately 105 blocks per bag of coarse grout.

4. Technical Data**APPLICABLE STANDARDS****ASTM International**

- ASTM C270 Standard Specification for Mortar for Unit Masonry
- ASTM C476 Standard Specification for Grout for Masonry

PHYSICAL/CHEMICAL PROPERTIES

QUIKRETE Bulk Masonry Mortars meet and exceed the performance requirements of ASTM C270 for the designated type of mortar as shown in Tables 1 and 2.

Grout

QUIKRETE Corefill Masonry Grouts meet and exceed the performance requirements of ASTM C476 for masonry grouts and achieve the typical properties shown in Table 3, when tested in accordance with that specification.

5. Installation**MIXING (MORTARS)**

QUIKRETE Bulk Masonry Mortars require only the addition of water. Mix for approximately 5 minutes in a standard mortar mixer.

PLACING

- Apply a full bed of mortar onto the base, approximately 1/2" - 3/4" (12 - 19 mm) thick
- Push downward into the mortar bed and sideways against the previously laid block with a slight twisting motion
- Tool the mortar joints when the joints become "thumb print" hard; this will make the mortar joint watertight and provide a neat appearance

CURING

Curing of masonry mortars is required only if conditions are very hot, dry or windy. In such cases, a gentle mist of water applied to the surface will prevent premature drying and improve the strength of the mortar.

TABLE 3 TYPICAL PROPERTIES

Property	Result
Water content	12 - 18% (varies with type)
Slump	8" - 11" (200 - 280 mm)
28 day strength ¹	> 2000 psi (13.8 MPa)
Unit weight	
Fine	~ 130 lb/ft ³ (2080 kg/m ³)
Coarse	~ 140 lb/ft ³ (2240 kg/m ³)

¹ Higher strength products are available to meet jobsite strength requirements.



PRECAUTIONS

Variations in mix water amount, mix time, curing conditions and finishing will cause color variations.

MIXING (GROUTS)

QUIKRETE Corefill Masonry Grouts require only the addition of water. Mix for approximately 5 minutes in a standard mortar mixer or drum style concrete mixer. Slump must be 8" - 11" (200 - 280 mm) to comply with ASTM C476 and local building codes.

PLACING

Pump or pour into cores of the wall. Consolidate by vibration and refill in accordance with building code requirements.

6. Availability

QUIKRETE Bulk Masonry Mortars and Corefill Masonry Grouts are available through QUIKRETE Construction Products and designated distributors. Contact QUIKRETE Construction Products for the name of the nearest dealer.

7. Warranty

The QUIKRETE Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE Companies in writing. This limited warranty is issued and accepted in lieu of all other express warranties and expressly excludes liability for consequential damages.

8. Maintenance

None required.

9. Technical Services

The QUIKRETE Companies maintain technical field representatives throughout the country. Contact a local distributor for the name and number of the nearest representative or call QUIKRETE Construction Products.

10. Filing Systems

Additional product information is available from the manufacturer.

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Technical and Engineering Center
 500 Marathon Parkway
 Lawrenceville, GA 3004
 Phone: 770-216-9580

CERTIFIED TEST REPORT

Product:	MIX 303 F GRT 3000 PSI
Product Code:	SR30302
Manufactured by:	QUIKRETE - Colorado

Initial Testing

Sample Identification		Test	Specification	Results
Date Received	10/9/2008	Water (%)	As Required	14.4
Date Produced	9/18/2008	Consistency	8-11" slump	8.5
Production Code		Unit Weight	>125	134
Lab Code:	08-5260	Set Time		
		Air (%)		

Strength Testing


Test Conditions: Mix Method C, Cure >95% RH, CAP; Unbonded / Gypsum

Test Age	Compressive Strength (psi)		Flexural Strength (psi)	
	Specification (1)	Result	Specification (1)	Result
1 day				
3 day				
7 day	1	3670		
28 day	3000	4170		

Other Testing

Test	Specification	Test Results
% retained 3/8" mesh	0	0
% + #8 mesh	+/- 3% goal	4.5

(1) A value of 1 indicates that the property is being measured but no minimum value has been set

Certified by 
 Rich Braun
 Technical Director