C270 Masonry Mortar
Samples 59 & 60

Please Note:

- Please allow until August 16th for receipt of these samples. You should receive a total of three boxes (two boxes of cement and one of masonry sand).
- Samples (plastic bags) must be properly identified before removal from boxes.
- The cementitious materials are both Type M masonry cement.
- Densities and unit weights of the materials used for the mortar batch are provided in the instructions and reporting form.
- Use the provided cement densities in the air content calculations.

How to Submit Test Results:

- On the CCRL Home Page, enter your lab number and PIN and click on "SIGN IN".
- Click on "Masonry Mortar" from the menu on the left.
- Click on "Enter Data"
- Make sure the information at the top of the screen is accurate.
- Carefully enter your data. Round data properly. Data that is not rounded correctly cannot be submitted until correction is made. You will receive an error saying you have bad data, and the data will not be entered into the website.
- DO NOT enter "N/A" or zeros for data that you are not reporting, leave this data area blank. Zeros will be interpreted as data.
- Once all data has been entered click on the "Submit" button.
- You should see a confirmation screen. Print the confirmation screen for your records.
- If you have trouble entering or do not receive confirmation visit Data Entry Trouble Shooting or contact CCRL via ccrl@astm.org or by calling 240-436-4800, prior to the closing date. CCRL cannot make accommodations for data received after the closing date.
- Sign out of the website and login again to check that your data was submitted properly. You may add data or make corrections up to the closing date.
- **Closing date for all test results is September 27, 2024**.

July 26, 2024

TO: Participants in the CCRL ASTM C270 Masonry Mortar Proficiency Sample Program

SUBJECT: Masonry Mortar Proficiency Samples No. 59 and No. 60

The current pair of samples for the Masonry Mortar Proficiency Sample Program are being distributed by FedEx Ground. These samples are identified as Masonry Mortar Samples No. 59 & No. 60. The cement portions of these samples are packaged in plastic bags and weigh approximately 7,500 grams each. These two masonry cements were produced at different production facilities and should not be mixed. A single box containing about 15 kg of fine aggregate is distributed with these samples. This fine aggregate is to be used in the proportioning of both mortars. Instructions for the materials proportioning of mortar are enclosed.

Please allow until August 16, 2024 for receipt of these samples (non-receipt date). Please weigh the bags to ensure that you have received the proper amount of each material. If the samples have not been received on this date or if the samples you received are damaged, you need to notify us in writing, so please email us at ccrl@astm.org. Replacement samples will be sent. Failure to notify us by this date may result in you not receiving replacement samples in time to perform the necessary testing. Additional shipping charges will be incurred, if contact is not made by the non-receipt date.

Instructions covering the proposed tests and the necessary data sheets for reporting the test results are on the following pages. Please read these carefully before testing.

Tests should be conducted as soon as possible after the samples are received, and the test results should be promptly reported to CCRL upon completion of testing. Test results should be entered at our website: http://www.ccrl.us/.

A final report containing scatter diagrams, average values, standard deviations, laboratory ratings and other pertinent information will be available at our website. Notification and information about the final report will be sent by email.

Additional samples of this sample pair will be available for sale after the final report has been issued. Past CCRL samples for other programs are also available for sale. These samples can be used for research, technician training, and test equipment verification. Contact us for availability and pricing.

Sincerely,

Kent Niedzielski
Program Manager, Proficiency Sample Programs
Cement and Concrete Reference Laboratory

CCRL PROFICIENCY SAMPLE PROGRAM
ASTM C270 MASONRY MORTAR
SAMPLE NO. 59 & NO. 60

INSTRUCTIONS FOR TESTING

Materials Proportioning of Mortar -

Cementitious Materials: The two cements for preparing the mortars are packaged in plastic bags, each of which contains approximately 7,500 grams of cement. The samples, labeled **No. 59** and **No. 60**, represent cements from different production facilities, and should not be combined or interchanged. Both materials are **Type M** masonry cement.

Sand: A single container of approximately 15 kg of masonry sand is provided for preparing both mortars. This material should be oven dried in accordance with ASTM Standard C270-24.

Material unit weights and densities:

Masonry cement No. 59		Masonry cement No. 60		Masonry Sand
Density, g/cm^3	Bulk density, lb/ft^3	Density, g/cm^3	Bulk density, lb/ft^3	Density, g/cm^3
3.01	80	2.98	80	2.65

Proportions for Proficiency Sample Nos. 59 & 60: A mortar consisting of 1 part masonry cement to 3 parts masonry sand, by volume, is to be tested.

Batch proportioning calculations: Batch factor and weight of cement shall be determined and reported in the "EXAMPLES OF MATERIAL PROPORTIONING OF MORTAR - CALCULATION SECTION" found on the test results reporting form. Refer to ASTM C270-24 Appendix X4.2 for an example.

Tests -

Prior to testing, pass the cement for the tests through a No. 20 sieve in accordance with ASTM Standard C183.

Insofar as your laboratory is prepared to do so, make indicated tests on each sample in accordance with the current ASTM Methods designated below, but as modified by ASTM C270-24:

Air Content ..... ASTM C91-23/C185-20

Compressive Strength (6 cube batch) ..... ASTM C109-23

Water Retention ..... ASTM C1506-17

It is preferred that the same operator make the same tests on both samples, on the same day. The results of a single determination should be reported rather than the average of duplicate determinations.

INSTRUCTIONS FOR REPORTING

For the sake of uniformity, report the values for the various tests to the nearest significant number indicated on the reporting forms.

Tests should be conducted as soon as possible after the samples are received, and the test results should be promptly reported to CCRL upon completion of testing. Enter test results at our website: http://www.ccrl.us/.

CCRL PROFICIENCY SAMPLE PROGRAM
ASTM C270 MASONRY MORTAR REPORT FORM
SAMPLE NO. 59 & NO. 60

RETURN TO: Kent Niedzielski, Program Manager
Proficiency Sample Program
Cement and Concrete Reference Laboratory
4441 Buckeystown Pike, Ste C
Frederick, Maryland 27104
Email: ccrl@astm.org

FROM: _____
_____
_____
_____
_____
e-mail: _____

Enter test results at our website: www.ccrl.us

MATERIAL PROPORTIONING OF MORTAR - CALCULATION SECTION
(Determine and report batch factor and cement weight)

	Masonry Mortar Sample No. 59		Masonry Mortar Sample No. 60	
	Masonry Cement No. 59	**Masonry Sand**	**Masonry Cement No. 60**	**Masonry Sand**
Proportions by Volume	1	3	1	3
Bulk Density (lb/ft^3)	80	80	80	80
Batch Factor				
Weight of Material (g)		1440		1440
Water	Add water to obtain flow of 110±5%		Add water to obtain flow of 110±5%	

TEST RESULTS
Report as Indicated in ( )

	Sample No. 59	Sample No. 60	
AIR CONTENT:			
Percent Air *(nearest 0.1 percent)*	_____	_____	[170]
Mixing Water *(nearest 0.1 percent by weight of cement)*	_____	_____	[180]
Flow Obtained *(nearest percent)*	_____	_____	[190]

COMPRESSIVE STRENGTH:

		No. 59	No. 60		
7-day, total load, lbs.	1)	_____	_____		
	2)	_____	_____		
	3)	_____	_____		
7-day, Average *(nearest 10 psi)*				_____	[210]
28-day, total load, lbs.	1)	_____	_____		
	2)	_____	_____		
	3)	_____	_____		
28-day, Average *(nearest 10 psi)*				_____	[211]
Mixing Water *(nearest 0.1 percent by weight of cement)*				_____	[220]
Flow Obtained *(nearest percent)*				_____	[230]

Tests performed by: _____ Date: _____
Tests reported by: _____ Title: _____
Phone: _____ FAX: _____ CCRL laboratory number: _____

CCRL PROFICIENCY SAMPLE PROGRAM
ASTM C270 MASONRY MORTAR REPORT FORM
SAMPLE NO. 59 & NO. 60

RETURN TO: Kent Niedzielski, Program Manager
Proficiency Sample Program
Cement and Concrete Reference Laboratory
4441 Buckeystown Pike, Ste C
Frederick, Maryland 27104
Email: ccrl@astm.org

FROM: _____
_____
_____
_____
_____
e-mail: _____

Enter test results at our website: www.ccrl.us

TEST RESULTS

Report as Indicated in ( )

WATER RETENTION:	**Sample No. 59**	**Sample No. 60**	
Mixing water *(nearest 0.1 percent by weight of cement)*	_____	_____	[330]
Initial flow *(nearest percent)*	_____	_____	[331]
Final flow *(nearest percent)*	_____	_____	[332]
Water retention *(nearest percent)*	_____	_____	[333]

Type of Vacuum Indicator used with Water Retention Apparatus: ☐ vacuum gage ☐ mercury manometer

Filter Paper used (brand and number): ☐ Humboldt ☐ SS 576 ☐ Whatman
☐ other (please specify) _____

Tests performed by: _____ Date: _____
Tests reported by: _____ Title: _____
Phone: _____ FAX: _____ CCRL laboratory number: _____