BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)

DEPARTMENT OF CIVIL ENGINEERING

Mobile: 01819557964; PABX: 55167100 Ext. 7226
http://brtc.ce.buet.ac.bd/#/home

BRTC Bureau of Research, Testing & Consultation

STRENGTH OF MATERIALS LABORATORY

BRTC No. : **1103-03883 /CE/23-24; Dt: 22/10/2023**
Sent by : Assistant General Manager, Sales & Marketing, Maxcrete Ltd.
Ref. No. : Letter; Dt: 22/10/2023
Project : Not mentioned

Sample : **Autoclave Aerated Concrete (AAC) Block (600×200×200 mm)**
Test Specimen : Autoclave Aerated Concrete (AAC) Block
Test : **Compressive Strength (ASTM C1386)**
Date of Test : 28/10/2023

TEST REPORT

Sl. No.	Nominal Size	Specimen Height	Tested Specimen Area	Maximum Load	Crushing Strength	Average Crushing Strength	Mode of Failure
		(in)	(sq. in)	(lb)	(psi)		
1	600×200×200 mm	7.87	62.31	74,415	1,194	**1140 psi** (7.9 MPa) (80 kg/cm^2)	-
2		7.91	61.85	66,097	1,069		-
3		7.83	60.76	70,144	1,154		-

Note: Samples were received in unsealed condition.

Countersigned by:

Dr. Hasib Mohammed Ahsan
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

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Test Performed by:

15/11/2023

Department of Civil Engineering BUET, Dhaka-1000, Bangladesh

Dr. Shameem Ahmed
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/packet/container under signature of the competent authority. In order to avoid fraudulent fabrication of test results, it is recommended that all test reports are collected by duly authorized person, and not by the Contractor/Supplier.

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BRTC Bureau of Research, Testing & Consultation

STRENGTH OF MATERIALS LABORATORY

BRTC No. : **1103-00739 /CE/23-24; Dt: 17/9/2023**
Sent by : Assistant General Manager, Sales & Marketing, Maxcrete Ltd.
Ref. No. : Letter; Dt: 17/9/2023
Project : Not mentioned
Sample : **Autoclave Aerated Concrete (AAC) Block (600×200×120 mm)**
Test Specimen : Autoclave Aerated Concrete (AAC) Block
Test : **Dry Bulk Density (ASTM C1386)**
Date of Test : 24/09/2023 to 27/09/2023

TEST REPORT

Sl. No.	Nominal Size of Block	Specimen Length	Specimen Width	Specimen Height	Specimen Weight	Dry Bulk Density	Average Dry Bulk Density
		(mm)	(mm)	(mm)	(gm)	(kg/cu.m)	(kg/cu.m)
1	600×200×120 mm	120.0	117.7	118.0	1,365	819	807
2		120.7	119.7	121.0	1,409	806	
3		119.0	118.5	118.0	1,322	794	

Note: Samples were received in unsealed condition.

1
4TbNeTRXY

Test Performed by :

8/10/2023

Department of Civil Engineering ★ BUET, Dhaka-1000, Bangladesh ★

Dr. Hasib Mohammed Ahsan
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Dr. Shameem Ahmed
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/packet/container under signature of the competent authority. In order to avoid fraudulent fabrication of test results, it is recommended that all test reports are collected by duly authorized person, and not by the Contractor/Supplier.

Client	:	Engr. Abu Mohammad Samsudding Assistant General Manager, Sales & Marketing Maxcrete Limited RAOWA Complex, Level 11, VIP Road, Mohakhali, Dhaka- 1206
Client's Reference	:	Nil; Date: 08/10/2023
BRTC Reference	:	1103-02556/MME/2023-24; Date: 08/10/2023
Subject	:	Test of Blocks
Sample Condition	:	Not Sealed

22 November 2023
MME-0362/2023-24
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Please Note: *The client supplied the sample and the result given herewith corresponds to the sample tested only. The Department of Materials and Metallurgical Engineering of BUET takes no responsibility regarding the misidentification, if any, of the sample.*

TEST REPORT

Fire Endurance Test (ASTM E 119)

Sample Description	Wall Size	Wall Thickness	Test Temperature	Maximum Temperature Recorded	Test Duration
	mm^2	mm	°C	°C	minute
Autoclaved Aerated Concrete Block Wall	1000 × 1000	200	As per Fig. 1	1200 ±5	300

Observations	Passage of Flame and Smoke	Maximum Temperature at Unexposed Side (°C)	Post Test
	Nil	55	The concrete block wall remained intact although blocks turned brownish and numerous cracks appeared at the exposed surface (Fig. 2).

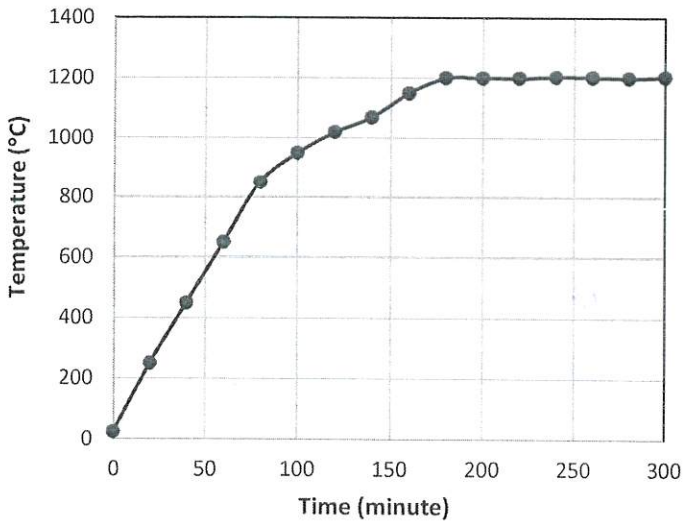

Fig. 1: Furnace test temperature curve showing the temperature rise of the furnace with time during the test.

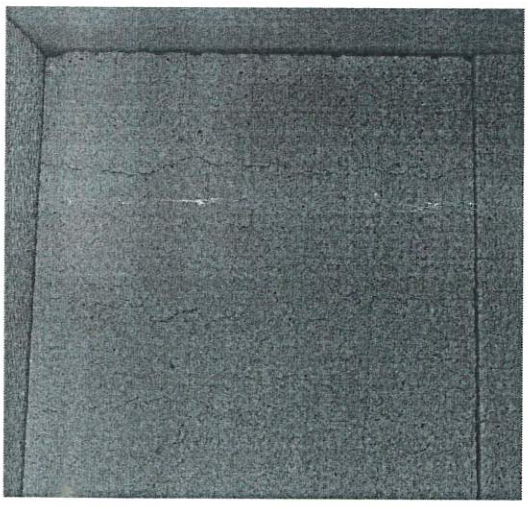

Fig. 2: Section of the block wall showing cracks in the concrete blocks.

22/11/2023
Dr. A. K. M. Bazlur Rashid
Professor and Head

Mirpur Cantonment, Dhaka-1216

Centre for Advisory and Testing Services (CATS-MIST)
Military Institute of Science and Technology

Compressive Strength of Concrete Blocks

CATS Reference	: 2376/36545-A/Con/09/2023	**Date**	: 26.09.2023
Client	: Maxcrete Limited		
Project Name	: Autoclave Aerated Concrete (AAC) Blocks		
Sample Brought By	: Engr. Abu Mohammad Samsuddin, Assistant General Manager		
Test Method	: ASTM C1386	**Date of Receiving**	: 19.09.2023
Sample	: AAC Block, Size: 600mm x 200mm x	**Date of Test**	: 26.09.2023
Quantity of Sample	: 06 Pcs	**Sample Condition**	: Unsealed

Test Results:

Sl No.	Sample ID	Sawed Length	Sawed Width	Thickness	Area	Crushing Load	Crushing Strength	
		mm	mm	mm	mm^2	kN	MPa	psi
1	Block 1	101.0	100.0	100.0	10100	79.7	7.9	1140
2	Block 2	102.0	100.0	100.0	10200	77.3	7.6	1100
3	Block 3	102.0	100.0	100.0	10200	77.6	7.6	1100

Average Crushing Strength:	7.7 MPa	1120.0 psi
Standard Deviation:	0.1 MPa	20.0 psi
Strength Class (ASTM 1386: Table 1):	AAC-6	

Remarks:

1. *All information displayed above (other than the test results) was provided by the client.*
2. *CATS-MIST did not verify whether the samples are representative or not.*

Test Supervised By:

Md. Jahidul Islam, PhD, Engrs
Lt Col
Instructor Class-A
CE Department, MIST
Mirpur Cantonment, Dhaka

Countersigned By:

Khondaker Sakil Ahmed, PhD, PEng
Lt Col & Associate Professor
Department of Civil Engineering
MIST, Mirpur Cantonment

Note: Samples as supplied to us have been tested in our laboratory. CATS-MIST does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples to be sent in secure and sealed cover/packet/container under signature of the competent authority in order to fraudulent fabrication of test results. It is recommended to collect all test reports by duly authorized person and not by the contractor/supplier himself.

An ISO/IEC 17025 MATERIAL TESTING LABORATORY
vide Certificate Number **TC-6815**
SP 101, 2nd Main Road, Ambattur Industrial Estate,
Chennai – 600058
Ph: 044-26242525/044-61740800
Email: cre@microlabchennai.com Web: www.microlabtesting.com

Test Report

Customer:	Report No.:	**TRC-11272-1-4**
M/s. Max Crete Ltd	Report Date:	14-09-2023
Factory: Jagir Meghshimul ,City:Jagir ,1800	Customer Ref. No.:	Mail
	Ref. Date	09-08-2023
	Sample Received Date:	21-08-2023
	Date Of Completion:	05-09-2023

Samples drawn by Customer

Sample Description: Material: AAC Blocks; Size: 600mm x 200mm x 120mm; Qty: 10 No's

Discipline : Mechanical, Group : BUILDING, INFRASTRUCTURE & CONSTRUCTION MATERIALS

BLOCK DRYING SHRINKAGE TEST **Test Method : IS 6441(Part-2):1972(Reaff.2022)**

Verified By: K. SABARI **Tested on : 22-08-2023 to 04-09-2023**

Test Parameters	Result
Drying Shrinkage (%) – Specimen 1	0.011
Drying Shrinkage (%) – Specimen 2	0.008
Drying Shrinkage (%) – Specimen 3	0.009
Average Drying Shrinkage (%)	0.01

For MICROLAB

S. Manoj Kumar
Head, Civil Department

Authorized Signatory

---------- **End of Test Report** ----------

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Email: cre@microlabchennai.com Web: www.microlabtesting.com

Test Report

Customer:	Report No.:	**TRC-11272-1-5**
M/s. Max Crete Ltd	Report Date:	14-09-2023
Factory: Jagir Meghshimul ,City:Jagir ,1800	Customer Ref. No.:	Mail
	Ref. Date	09-08-2023
	Sample Received Date:	21-08-2023
	Date Of Completion:	05-09-2023

Samples drawn by Customer

Sample Description: Material: AAC Blocks; Size: 600mm x 200mm x 120mm; Qty: 10 No's

Discipline : Mechanical, Group : BUILDING, INFRASTRUCTURE & CONSTRUCTION MATERIALS

BLOCK MOISTURE CONTENT TEST **Test Method : IS 6441(Part-1):1972(Reaff.2022)**

Verified By: K. SABARI **Tested on : 05-09-2023**

Test Parameters	Result
Moisture Content (%) – Specimen 1	9.1
Moisture Content (%) – Specimen 2	10.0
Moisture Content (%) – Specimen 3	11.2
Average Moisture Content (%)	10.1

For MICROLAB

S. Manoj Kumar
Head, Civil Department

Authorized Signatory

---------- **End of Test Report** ----------

MAXCRETE
MAXCRETE LIMITED

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email: info@maxgroup-bd.com
web: www.maxgroup-bd.com

MANUFACTURING TEST CERTIFICATE

Product name: Maxcrete Autoclave Aerated Concrete (AAC) Block
Standard: ASTM C-1386
Certificate no: MCL/MAX24020013
Block size (mm): 600×200×120

Date: 14-03-2024
Production date: 14-02-2024
Testing date: 11-03-2024

Test result

Batch No.	SL. No.	Dimension (mm)	Test specimen	Ultimate load (KN)	Compressive strength (MPa)	Average strength (MPa)	Moisture content (%)	Average moisture content (%)	Average Dry density (Kg/m^3)
MCL-35	1	120×119×120	Top	64.02	4.5	4.6	9.56	9.43	698.53
	2	120×119×120	Middle	65.73	4.6		9.08		
	3	120×119×120	Bottom	67.86	4.8		9.64		

We certify the above statement of quality to be true and correct. Please scan the QR Code to verify the report.

MAXCRETE LIMITED
JAGIR, MANIKGONJ

Test Performed By:

Md. Saifur Rahman
Chemist,
AAC Production & WTP Lab.