



Caribbean Industrial Research Institute

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## REPORT

**Attn:** Mr. Bimal Seebaran

**Project Code:** EC03826713/23

**Client:** ABEL BUILDING SOLUTIONS – ANSA MCAL ENTERPRISES LTD

**Client Address:** Depot Road Longdenville, Chaguanas


**Report Title:** Testing of 4" x 8" x 16" Columbia 1600 concrete blocks

**Report No:** 0968/23/01

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**Reviewed By:**

  
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**Date:** 2023/06/27

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Lisa Ramoutar, Laboratory Manager

**Date:** 2023/06/27

**Copy No: 1 of 1**

**Appendices:**

**Report Version:**

**ORIGINAL**

**RE-ISSUE**

**AMENDED**



## Introduction

The client submitted six (6) 4 inch concrete blocks labeled "90 x 190 x 390 Columbia 1600" for water absorption and compressive strength determination. The samples were submitted on June 13, 2023 and were assigned CARIRI Identification numbers T231399 to T231404.

## Approach

Guidelines given in *ASTM C140-18: Standard test method for sampling and testing of concrete masonry units* were used in the investigation.

## Results

Testing period: June 14 to 21, 2023.

Test results are presented in Tables 1 and 2.

Table 1: Compressive strength results of 4 inch concrete blocks

CARIRI ID	Client ID	Avg. overall dimensions LxBxH (mm)	Net cross-sectional area (mm <sup>2</sup> )	Load (N)	Net area compressive strength (N/mm <sup>2</sup> )	Requirements of ASTM C90-16a
T231399	90x190x390 Columbia 1600	390x90x189	22 503	609 709	27.1	<b>Min. net area compressive strength</b> Average of 3 units - 13.8 N/mm <sup>2</sup> Individual unit - 12.4 N/mm <sup>2</sup>
T231400		391x90x191	22 365	630 756	28.2	
T231401		389x90x192	22 562	453 630	20.1	
				Average	25.1	

Date tested: June 21, 2023

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Table 2: Water absorption results of 4 inch concrete blocks

CARIRI ID	Client ID	Oven dry density (kg/m <sup>3</sup> )	Water absorption (kg/m <sup>3</sup> )	Requirements of ASTM C90-16a
T231402	90x190x390	2143	111	<b>Max. water absorption</b> For conc. density >2000 kg/m <sup>3</sup> Average of 3 units - 208 kg/m <sup>3</sup> Individual unit – 240 kg/m <sup>3</sup>
T231403	Columbia	2154	109	
T231404	1600	2144	111	
	Average	2147	110	

Date tested: June 14 to 16, 2023

**END OF REPORT**

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