



Caribbean Industrial Research Institute

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REPORT

Attn: Mr. Bimal Seebaran

Project Code: EC03826634/25

Client: ABEL BUILDING SOLUTIONS – ANSA MCAL ENTERPRISES LTD

Client Address: Depot Road Longdenville, Chaguanas

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

Report No: 0861/25/01

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Reviewed By:

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Date: 2025/05/09

Authorized By:

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Date: 2025/05/09

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 Col 1600" for water absorption and compressive strength determination. The samples were submitted on February 11, 2025 and were assigned CARIRI Identification numbers T250735 to T250740.

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: February 17 to May 07, 2025.

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 ²)	Load (N)	Net area compressive strength (N/mm ²)	Requirements of ASTM C90-16a
T250735	90x190x390 Col 1600	390.0×90.0×190.0	23 650	430 250	18.2	Min. net area compressive strength Average of 3 units - 13.8 N/mm ² Individual unit - 12.4 N/mm ²
T250736		390.0×90.0×190.0	22 900	524 550	22.9	
T250737		390.0×90.0×190.0	22 400	448 200	20.0	
				Average	20.4	

Date tested: May 07, 2025

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Table 2: Water absorption results of 4 inch concrete blocks

CARIRI ID	Client ID	Oven dry density (kg/m ³)	Water absorption (kg/m ³)	Requirements of ASTM C90-16a
T250738	90x190x390 Col 1600	2172	103	Max. water absorption For conc. density > 2000 kg/m ³ Average of 3 units - 208 kg/m ³ Individual unit – 240 kg/m ³
T250739		2128	116	
T250740		2115	115	
	Average	2138	111	

Date tested: February 17 to 19, 2025

- Test Laboratory: CARIRI Materials Laboratory, Trincity West Industrial Estate, Macoya

END OF REPORT