



Caribbean Industrial Research Institute

Mailing Address: Tunapuna Post Office, Trinidad and Tobago  
Telephone: (868) 299-0210 Telefax: (868) 662-7177  
www.cariri.com Email: mail@cariri.com

## REPORT

**Attn:** -

**Project Code:** EC03826577/25

**Client:** TRINIDAD AND TOBAGO BUREAU OF STANDARDS

**Client Address:** Century Drive, Trincity Industrial Estate

**Report Title:** Testing of 6 inch concrete blocks

**Report No:** 0493/25/01

**Project Chief:** Lisa Ramoutar

**Author(s):** Vinesh Lall

**Reviewed By:**

Neal Hassim, Civil Technologist

**Date:** 2025/02/12

**Authorized By:**

Lisa Ramoutar, Laboratory Manager

**Date:** 2025/02/12

**Copy No:** 1 of 1

**Appendices:**

**Report Version:** ORIGINAL

RE-ISSUE

AMENDED

## Introduction

The client submitted twelve (12) 6 inch concrete blocks for determination of parameters identified in Table 1. The samples were submitted on November 28, 2024 and were assigned CARIRI Identification numbers T250416 to T250427.

Table 1: Sample identification and tests requested

CARIRI ID	Client ID	Test
T250416 to T250418	B-6"-1 to B-6"-3	Compressive strength
T250419 to T250421	B-6"-4 to B-6"-6	Water absorption
T250422 to T250424	B-6"-7 to B-6"-9	Dimensional checks
T250425 to T250427	B-6"-10 to B-6"-12	Surface finish

## Approach

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

## Results

Testing period: January 06 to 22, 2025

Test results are presented in Tables 2 to 5.

Table 2: Compressive strength results of 6 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
T250416	B-6"-1	392.5×140.0×190.0	31 600	696 250	22.0	<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>
T250417	B-6"-2	392.5×140.0×187.5	31 700	895 212	28.2	
T250418	B-6"-3	392.5×140.0×190.0	32 100	972 050	30.3	
				Average	26.8	

Date tested: January 22, 2025

1. This report relates only to the specific item(s)/sample(s) which has been tested, analysed, or calibrated by CARIRI. It shall be used solely for informing the client of the results of this specific item(s)/sample(s) and not any other. Information contained herein, shall not be used for any other purposes including, but not limited to, Certification, Advertising, and Marketing.  
 2. This report may not be reproduced other than in full, except with the prior written authorization from the Executive Management of CARIRI.  
 3. Any Opinions and Interpretations expressed within are outside the scope of our Certification and/or Accreditation.

Table 3: Water absorption results of 6 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
T250419	B-6"-4	2193	109	<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>
T250420	B-6"-5	2169	119	
T250421	B-6"-6	2183	108	
	Average	2182	112	

Date tested: January 06 to 09, 2025

Table 4: Dimensional check results of 6 inch concrete blocks

CARIRI ID	Client ID	Dimensions (mm)						Normalized Web Area (mm <sup>2</sup> /m <sup>2</sup> )
		Average Length	Average Breadth	Average Height	Average Shell Thickness	Average Web Thickness	Average Web Height	
T250422	B-6"-7	392.5	140.0	190.0	26.00	28.75	190.0	198 000
T250423	B-6"-8	392.5	142.5	190.0	28.25	26.50	190.0	183 000
T250424	B-6"-9	392.5	140.0	187.5	29.00	33.50	190.0	230 000

Date tested: January 13, 2025

Table 5: Surface finish results

CARIRI ID	Client ID	Chips (>25.4mm)		Cracks (>0.5mm)		Imperfections visible from 20ft away	
		Yes	No	Yes	No	Yes	No
T250425	B-6"-10		✓		✓		✓
T250426	B-6"-11		✓		✓		✓
T250427	B-6"-12		✓		✓		✓

Date tested: January 13, 2025

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

**END OF REPORT**

1. This report relates only to the specific item(s)/sample(s) which has been tested, analysed, or calibrated by CARIRI. It shall be used solely for informing the client of the results of this specific item(s)/sample(s) and not any other. Information contained herein, shall not be used for any other purposes including, but not limited to, Certification, Advertising, and Marketing.  
 2. This report may not be reproduced other than in full, except with the prior written authorization from the Executive Management of CARIRI.  
 3. Any Opinions and Interpretations expressed within are outside the scope of our Certification and/or Accreditation.