



Caribbean Industrial Research Institute

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SERVICE PROJECT REPORT

CLIENT: CEMTILE
ADDRESS: Building No.1, Tumpuna Park, Tumpuna Road, Arima
PROJECT TITLE: **Testing of concrete roof tiles**
PROJECT CODE: EC03828504/05
REPORT NO.: 1897/05 Page 1 of 3
DATE: July 5, 2005

1.0 INTRODUCTION

The client submitted thirteen (13) samples each of Flat and S-shaped concrete roof tiles for conduct of the following tests:

- (a) Dimensional tolerances
- (b) Water absorption
- (c) Transverse strength

The tiles were submitted on June 3, 2005 and were assigned CARIRI identification numbers T052828 and T052829 respectively.

2.0 APPROACH

The investigation was carried out using guidelines given in the following test methods:

- ASTM C 1492 *Standard Specification for Concrete Roof Tile*
- ASTM C 140 *Standard Test Methods of Sampling and Testing Concrete Masonry Units*

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- *ASTM C 67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile*

For each type of tile, three specimens were used for dimensional checks, five for water absorption determination and five for transverse strength determination. The average results obtained are presented in the results.

3.0 RESULTS

Test period: June 6 –10 and July 4, 2005

Averaged results obtained were compared with specifications given in ASTM C 1492 *Standard Specification for Concrete Roof Tile*.

3.1 Results of tests conducted on the Flat concrete roof tiles are presented in Table 1.

Table 1: Flat concrete roof tiles (T052828)

Test	Average values obtained	ASTM C 1492 Specifications
Length (in)	16.65	15.68 – 17.33
Width (in)	13.05	12.59 – 13.91
Weight (lb)	10.61	9.83 – 10.87
Water Absorption (%)	7.7	≤ 10.5 %
(Dry) Transverse Breaking Strength, Lbf (N)	326 (1449)	≥ 300 (1334)

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3.2 Results of tests conducted on the S-shaped concrete roof tiles are presented in Table 2.

Table 2: S-shaped concrete roof tiles (T052829)

Test	Average values obtained	ASTM C 1492 Specifications
Length (in)	16.63	15.68 – 17.33
Width (in)	12.81	12.59 – 13.91
Weight (lb)	10.53*	8.55 – 9.45
Water Absorption (%)	8.6	≤ 10.5 %
(Dry) Transverse Breaking Strength, Lbf (N)	606 (2693)	≥ 400 (1779)

*Outside specifications limits.

Technician:

Project Chief:

Approved by:

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Suresh Ramdhanie
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