

Good fire resistance

สมบัติการทนไฟสูง

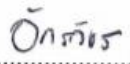


**FACULTY OF ENGINEERING
CHULALONGKORN UNIVERSITY
FIRE SAFETY RESEARCH CENTER**



- TYPE OF TEST** : DETERMINATION OF THE FIRE RESISTANCE OF NON-LOADBEARING ELEMENTS OF CONSTRUCTION
- TEST SPECIMEN** : **TEXCA Wall 9.0 cm**
The specimen is a 3 m x 3 m vertical construction consisting of five 600 mm x 3000 mm x 90 mm (width x height x thickness) hollow-core concrete wall panels. Cement grout, fiber mesh, and 5-mm thick skim coat mortar side together with were used to fix the joints between the wall panels on both exposed and unexposed. The specimen was installed on a 3 m x 3 m steel testing frame using bolts on the upper and lower edges. The perimeter joint between the wall panels were reinforced with Ø 12 mm dowels on the left and right edges. Tile adhesive and cement mortar were also used to grout the perimeter joint at the lower edge of the specimen. The details of the specimen are shown in Appendix C. The specimen was provided and installed by the client.
- CLIENT** : **SIAMESE ECOLITE CO., LTD.**
335/13-14 Srinakarin Rd., Nongbon, Pravet
Bangkok 10250, Thailand
- DATE OF TEST** : December 8, 2025
- TEST MACHINE** : Large-scale vertical furnace at the Fire Safety Research Center (FSRC), Department of Civil Engineering, Chulalongkorn University in Bangkok, Thailand. The furnace is capable of producing a standard temperature-time relationship according to BS 476 Part 20: 1987.
- TEST METHOD** : The testing procedures follow the British Standard BS 476: Fire tests on building materials and structures
BS 476 Part 20: 1987: Method for determination of the fire resistance of elements of construction (general principles)
BS 476 Part 22: 1987: Methods for determination of the fire resistance of non-loadbearing elements of construction Section 5: Determination of the fire resistance of partitions.
- TEST RESULTS** : The non-loadbearing element of construction described above has the fire resistance of each criterion for the period stated:
(The test results only relate to the behaviour of the specimen of the element of construction under the particular condition of the test. They are not intended to be the sole criteria for assessing the potential fire performance of the element in use nor do they reflect the behaviour in fire.)

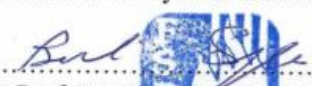
Criteria	Fire Resistance (hr:min)	Remarks
Insulation	1:51	The maximum temperature of the unexposed face of the specimen exceeded 180°C above the initial mean value of 31°C.
Integrity	4:00	The test was terminated by the client. During the test, all integrity criteria were fulfilled (no sustained flaming and no through gap such that the 6 mm diameter gap gauge could penetrate).

Tested by: 
(Professor Dr. Akhrawat Lertwari)



Date: December 22, 2025

Examined by: 
(Professor Dr. Thanyawat Pothisiri)

Approved by: 
(Associate Prof. Dr. Bodichai Sangpetngam)
On Behalf of Head of Civil Engineering Department

Good sound insulation

สมบัติการกั้นเสียงดี



LABORATORY REPORT

ON

THE SOUND TRANSMISSION-LOSS MEASUREMENTS
OF THE *TEXCA WALL* PANEL

FOR

SIAMESE ECOLITE CO, LTD.

Table 1. The airborne sound transmission-loss (TL) for each individual 1/3 octave band center frequency and STC rating of the test panel.

Test sample: TEXCA WALL (thickness 90 mm.).
 Client: Siamese Ecolite Co., Ltd.
 Test panel size: 3040 mm x 2440 mm x 100 mm.
 Date: 1 May 2025.
 Temperature: 27°C
 Relative humidity: 55%

Frequency (Hz)	TL (dB)
125	31
160	29
200	31
250	26
315	33
400	34
500	39
630	41
800	44
1000	45
1250	48
1600	51
2000	53
2500	55
3150	57
4000	59

STC	41
Maximum Deficiency	8 dB
Sum of Deficiency	21 dB



Low thermal conductivity

สมบัติการนำความร้อนต่ำ



TEST REPORT

Sample's name

Precast Lightweight Aggregate
Concrete

Mark / Brand

TEXCA® wall

Laboratory No.

L55/00528.1

Test Results

Thermal Conductivity at 23.5 °C, W/m-K

0.175

Customer's name

Siamese Ecolite Co., Ltd.

Customer's address

335/13-14 Srinakarin Rd., Nongbon, Pravat, Bangkok 10250

Sample's description

Precast Lightweight Aggregate Concrete
size: 300 mm x 300 mm x 25 mm

Test date

7 February 2012

Test method

ASTM C 518

Approved by

(Mr. Surin Athakitkarnka)

Scientist, Senior Professional Level

Reported by

(Ms. Kittiya Plermjai)

Scientist, Practitioner Level

This report is only valid for the sample received. The above statement is not intended for advertising purposes and shall not be reproduced or shall not manifest partially without the written permission of the Department of Science Service.

Department of Science Service, Ministry of Science and Technology

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Low water absorption

สมบัติการดูดซึมน้ำต่ำ



DEPARTMENT OF CIVIL ENGINEERING
FACULTY OF ENGINEERING, KING MONGKUT'S INSTITUTE OF TECHNOLOGY
LADKRABANG BANGKOK THAILAND. TEL. 0-2329-8333

WATER ABSORPTION TEST

Project : Concrete Block มี hollow 3 รู

Req. No. 69-1069

Sample From : บริษัท เทคนิคัล วัสดุภัณฑ์ จำกัด (มหาชน)

Req. Date : 16-6-2026

Sample Description : Concrete Block (3-core) Size $9.0 \times 19.5 \times 26.0$ cm.

Date of Testing : 17-6-2026

Determination	Sample No.1	Sample No.2	Sample No.3	Sample No.4	Sample No.5
Width of specimen (cm.)	8.840	8.930	8.819	8.890	8.822
Length of specimen (cm.)	26.020	25.837	25.936	25.609	25.595
Height of specimen (cm.)	19.451	19.610	19.465	19.465	19.530
Recieve weight of unit (g) , W_r	4,826	4,796	4,736	4,636	4,705
Saturated weight of specimen (g) , W_s	5,141	5,110	5,044	4,943	5,015
Oven dry weight of specimen (g) , W_d	4,766	4,736	4,679	4,580	4,643
Moisture Content (%) , $(W_s - W_d) \times 100 / W_d$	1.26	1.27	1.22	1.22	1.34
Absorption (%) , $(W_s - W_r) \times 100 / W_d$	7.87	7.90	7.80	7.93	8.01



Note :

- 1) There are five tested samples for this data sheet.
- 2) Certification applies to test samples only.
- 3) No erasure or alterations.
- *4) All samples were collected and submitted to the institute for testing by the commissioning party.
- 5) The institute was not involved in the sample collection process

Tested by



Certified by

High compressive strength

สมบัติความแข็งแรงสูง



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LADKRABANG BANGKOK THAILAND. TEL. 0-2329-8333

COMPRESSIVE STRENGTH TEST

Project :

Req. No. 69-0378

Sample From : บริษัท ไซมัส อีโคโนมิค จำกัด

Req. Date : 6-3-2026

Sample Description Concrete block มีรู hollow 3 รู ขนาด $9.00 \times 20.0 \times 26.0$ cm

Date of Testing : 13-3-2026

Spec. No.	Dimension (mm.)			Weight (kg.)		Density (kg./m. ³)	Cross Sectional Area (mm ²)	Ultimate Load (kN)	Compressive Strength (MPa)	Remarks
	Width	Length	Thickness	Dry	Wet					
1	88.59	253.91	197.85	5.048	-	1,698.67	15,020.17	298.48	19.87	by dry test
2	88.46	255.32	197.00	5.012	-	1,683.85	15,109.24	205.56	13.60	by dry test
3	88.91	255.46	195.37	4.941	-	1,677.78	15,073.78	250.43	16.61	by dry test
Average									16.70	



Note :

- 1) There are three tested samples for this data sheet.
- 2) Certification applies to test samples only.
- 3) No erasure or alterations.
- 4) All samples were collected and submitted to the institute for testing by the commissioning party.

Tested by :

5/3/26 002/ก.
Mr. Jeeradetch Kumwilai



Certified by :