Test Report No. 221416777
Dated 23 May 2019

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SUBJECT

Maximum Load Test of Partition Wall System using "GEG-ECO Light Weight Panel 105mm (Thickness)" submitted by GE Tech Industry Sdn. Bhd.

CLIENT

GE Tech Industry Sdn. Bhd,
Wisma HCK, No.6 Jalan 19/1B,
Seksyen 19,
46300 Petaling Jaya,
Selangor.

SAMPLE RECEIVING DATE / TEST DATE

12 – 21 April 2019 / 22 - 23 April 2019

DESCRIPTION OF SAMPLE / CONDITION OF SAMPLE RECEIVED

Product Description	:	GEG-ECO Light Weight Panel 105mm (Thickness)
Sample Condition	:	The samples were received in good condition; no scratch or damage was observed.

METHOD OF TEST

The sample was tested adopting to BS 5234: Part 2: 1992 "Partitions (including matching linings) Part 2. Specification for performance requirements for strength and robustness including methods of test", Annex G Determination of resistance to crowd pressure.

TEST FACILITY

TÜV SÜD (Malaysia) Sdn Bhd
No 18, Jalan Astaka U8/82,
Bukit Jelutong,
40150 Shah Alam,
Selangor, Malaysia.

TESTED/PREPARED BY

Hafiz Bin Ahmad
Assistant Manager (RI)

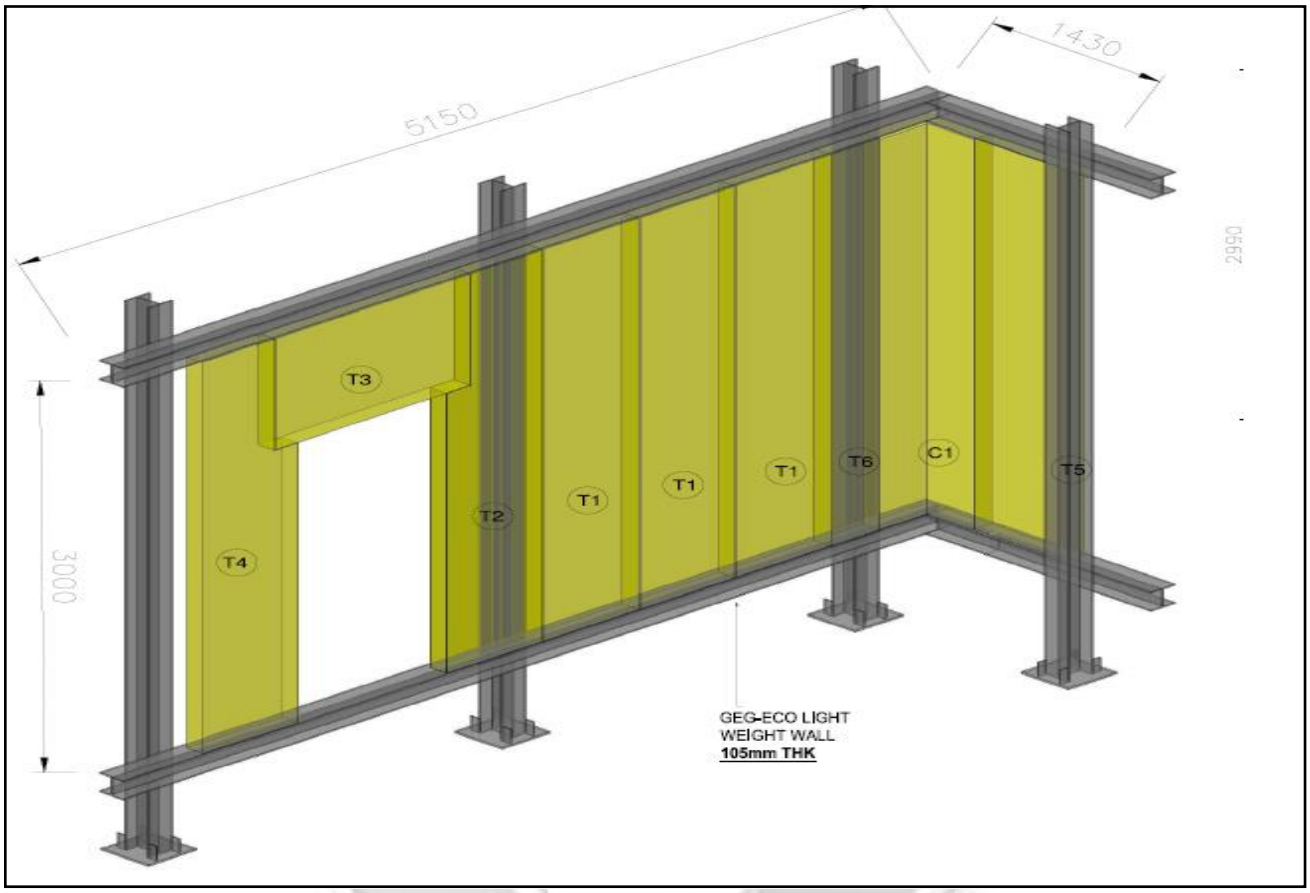
SIGNATORY

Ir. Terry Lee WS
Manager (RI)

DESCRIPTION OF SAMPLE

Components used are as follow:

1. Panel Dimensions: -



No.	Width (mm)	Height (mm)	Quantity
T1	600	2990	3 nos
T2	590	2990	1 nos
T3	1220	850	1 nos
T4	600	2990	1 nos
T5	600	2990	1 nos
T6	300	2990	1 nos
C1	405 + 405	2990	1 nos

Figure 1: Detail sizes of GEG-ECO Light Weight Panels arrangement installed on the testing's frame.

Figure 2: Test mock-up of GEG-ECO Light Weight Panel installed.

2. Components used for this system are: - PLEASE REFER TO PARTITION WALL DRAWINGS (Pg. 9)

TEST SETUP

A mock-up test specimen 4615mm width X 3000mm height and a partition junction assembly of a right-angle corner with a return of 1005mm was installed onto the test rig for the performance test. Total, 2 sheets of company's drawings contain the details of the mock-up specimen.

The test specimen includes a door set 900mm width X 2100mm height and a 600mm run of partition flanking at one side of the doorset.

It was installed on 12 - 16/4/2019 and tested on 22 - 23/4/2019. Conditioning of the specimen with reference to BS 5234: Part 2: 1992 was agreed to be 7 days after installation was completed in the lab's condition.

Figure 3: Test mock-up of GEG-ECO Light Weight Panel installed and right corner junction.

DESCRIPTION OF TESTS

Crowd pressure

This test simulates a uniform band load such as a crowd leaning against the wall.

After test load of 3.0 kN/m was applied through a 2.5 m long wooden beam placed at a height of 1.2 m above the bottom of the wall, further load was applied at step load 0.5kN/m until structure damage was observed. Maximum load and deflection were taken at 125 mm above the beam.

RESULT

Crowd Pressure

Date of test: 23/4/2019
Lab temperature / Humidity: 33.5°C / 62%
Max Load applied: 7.5 kN/m

Load	Duration (min)	Deflection (mm)	Residual Deflection (mm)	Condition of the specimen tested	BS 5234: Pt 2: 1992 Requirements
Pretest load of 200 (N)	1	0	0	Hair line crack is observed at the back.	There shall be no collapse or damage that would render the partition wall dangerous, due to any of its parts becoming dislodged or shattered, in a manner that could cause injury.
0.75 kN/m	2	0.10	-		
1.5 kN/m	2	0.41	-		
3.0 kN/m	2	0.79	-		
3.5 kN/m	2	0.27	-	Longitudinal crack observed	
4.0 kN/m	2	0.34	-		
4.5 kN/m	2	1.71	-		
5.0 kN/m	2	0.40	-		
5.5 kN/m	2	0.57	-		
6.0 kN/m	2	0.77	-		
6.5 kN/m	2	1.37	-		
7.0 kN/m	2	0.87	-		
7.5 kN/m[1]	2	-3.70	-3.70		

Note [1] – Negative (-ve) value indicates that the structural move in the opposite direction of the load applied.

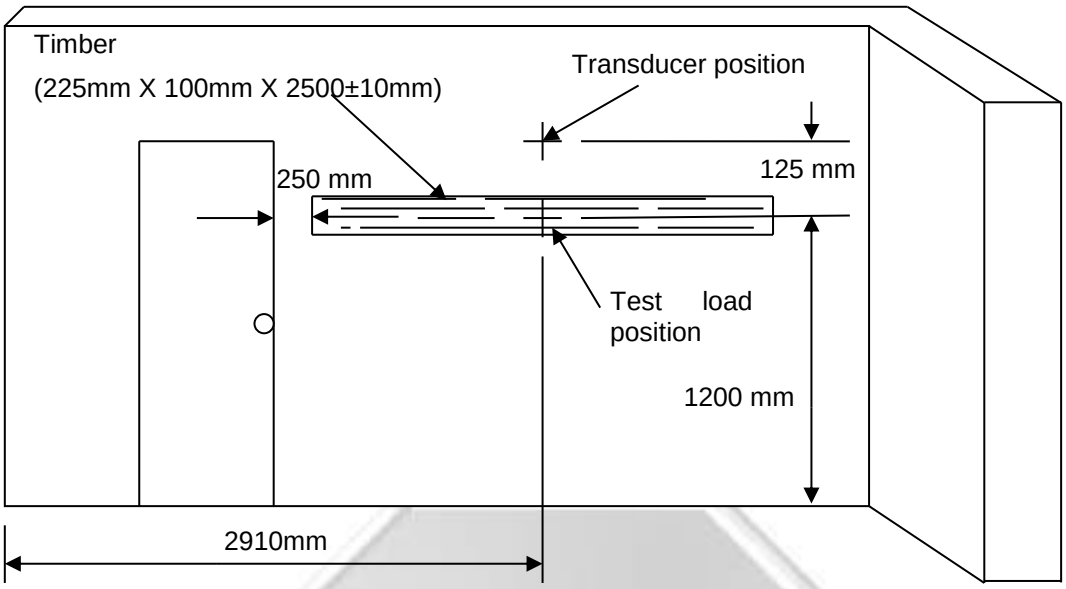


Figure 4: Locations of applied load for crowd pressure

FINDINGS

Partition wall system of GEG-ECO Light Weight Panel 105mm (Thickness) achieved maximum load of 7.5kN/m sustained during crowd pressure test with deflection of -3.70mm.

The crowd pressure test was stopped at maximum load of 7.5kN/m. Crack was observed at the back of partition wall installed. Refer Figure. 6 for detail.

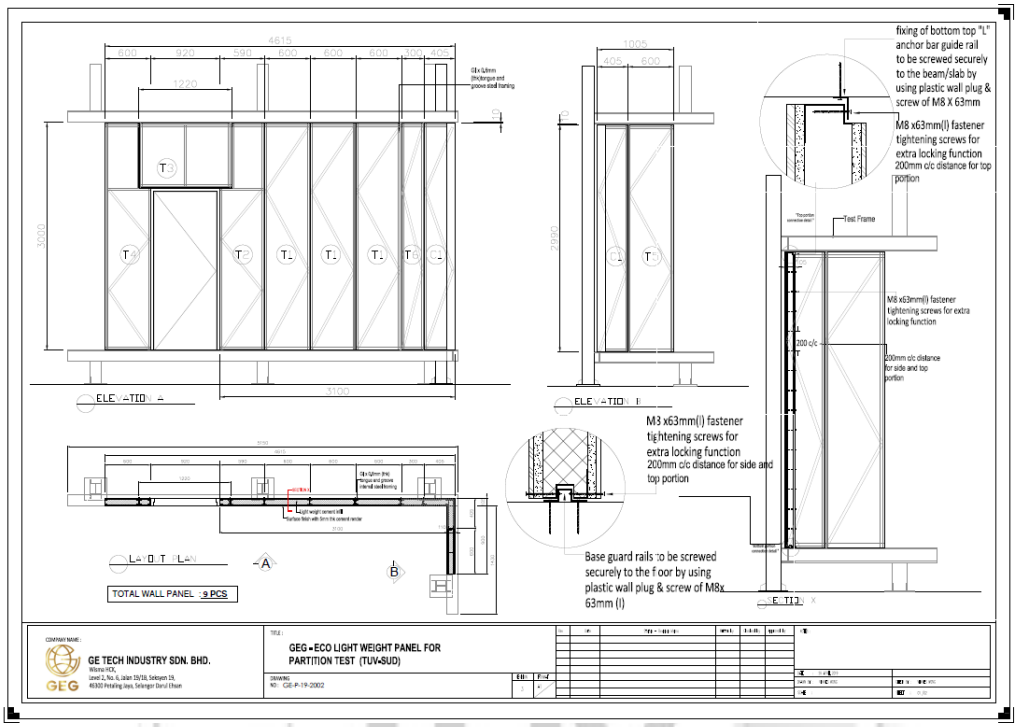
PARTITION TEST PHOTOGRAPHS

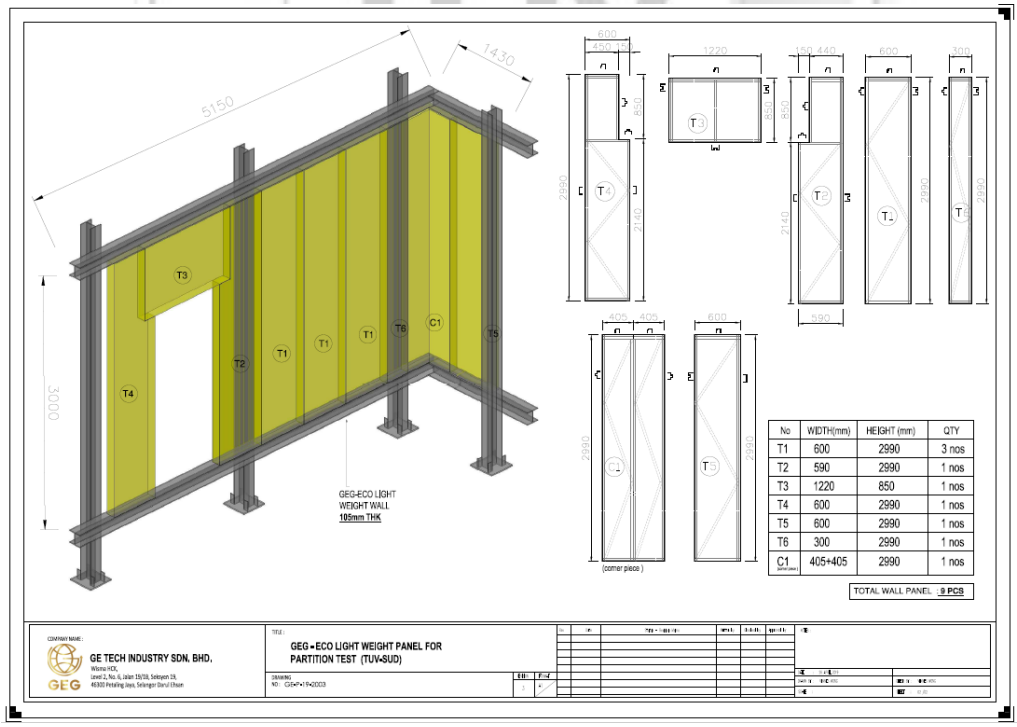
Figure 5: Crowd pressure test

Figure 6 : Crack line observed at the back of partition wall at 7.5kN/m load applied.

PARTITION WALL DRAWINGS

FRONT, RIGHT and ISOMETRIC VIEW





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Components used for this system are:

		
Blue Lion Cement	1) Sika Anchorfix S 2) Hardex RS200 Acrylic Sealant	Base guard rails welded to testing's frame.

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February 2017