

**At last Eurocode 8 for Malaysia is out !!!!!**

**Earthquake Resistance Test**

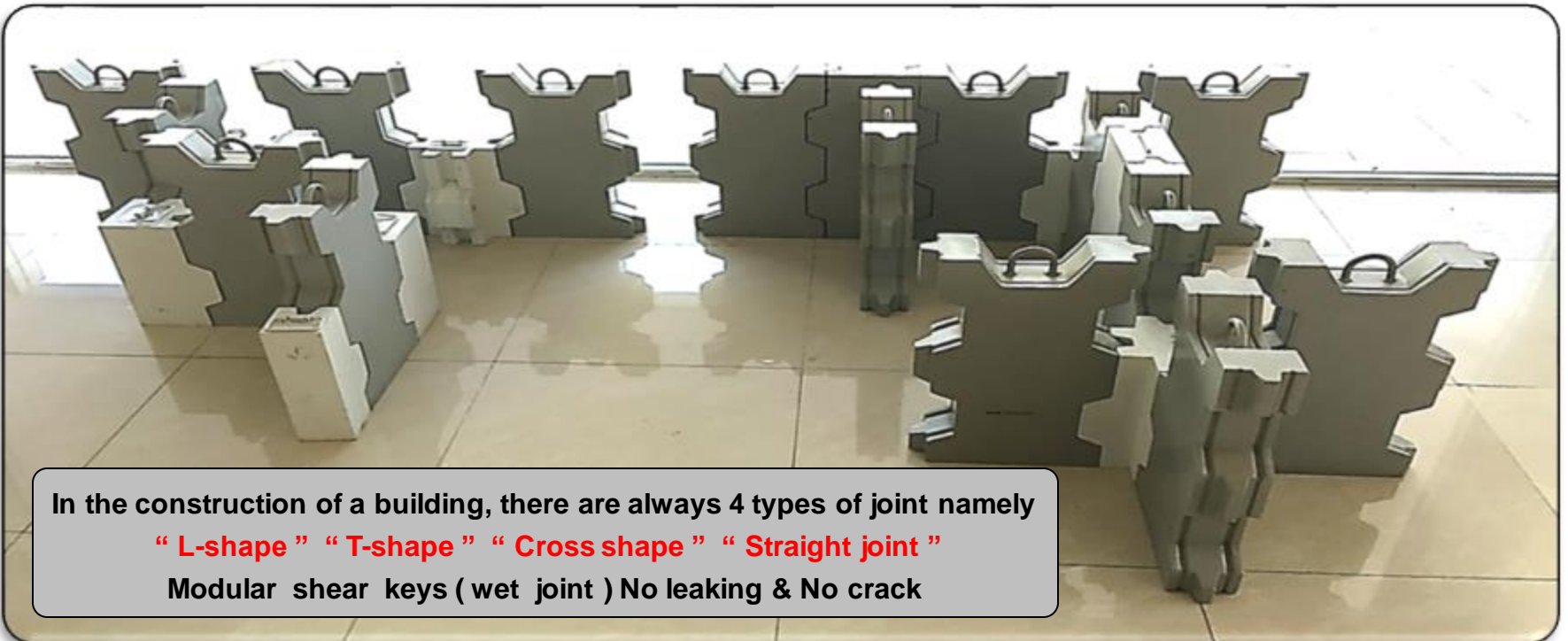
**By**

**HC Precast System Sdn Bhd In Collaboration With UTM, Johor.**

**Utilised BSI code : 8 major earthquakes in the world**

**Industrialized Building System ( IBS )**

**100 % Malaysia Technology With 6 IPs'**



**In the construction of a building, there are always 4 types of joint namely**

**“ L-shape ” “ T-shape ” “ Cross shape ” “ Straight joint ”**

**Modular shear keys ( wet joint ) No leaking & No crack**

At last Eurocode 8 for Malaysia is out !!!!!



## SEMINAR ON MALAYSIA NATIONAL ANNEX TO EUROCODE 8 - DESIGN OF STRUCTURES FOR EARTHQUAKE RESISTANCE

11 October 2018 (Thursday), Concorde Hotel, Shah Alam

### Introduction

The Department of Standards Malaysia, a government agency under the Ministry of Energy, Science, Technology, Environment & Climate Change has established the Malaysia National Annex, which was developed by Working Group 1 on Determination of PGA under Local and Far Field Seismic Condition, under the supervision of Technical Committee on Earthquake both are committees under the purview of ISC D (Building, Construction and Civil Engineering). At the same time, a special committee consisting of Malaysian experts from various organisations has been formed as part of the team in the establishment of the Malaysian earthquake standards for Malaysia.

The time and effort taken in preparing the draft Malaysia National Annex to MS EN 1998-1 deserves much credit. The development of this National Annex was initiated in 2007 until its publication in 2017. In 2009, relevant international and foreign standards had been studied as part of the preparation of the draft. The TC on Earthquake, which was then managed and chaired by IEM, had also organised a series of events, including symposiums and workshops from 2011 to 2013 that caught the interest of both local and international experts. In 2016, due to the overwhelming comments received, the draft underwent major changes to incorporate the Malaysian interest, mainly the elements of public safety.

With the expanded committee that engaged both industries and academia, the Malaysia National Annex to MS EN 1998-1 has been successfully published. It contains information on Nationally Determined Parameters to be used for the design of buildings and civil engineering works to be constructed in Malaysia. These Nationally Determined Parameters are to be read in conjunction with MS EN 1998-1:2015, Eurocode 8: Design of structures for earthquake resistance - Part 1: General rules, seismic actions and rules for buildings. Reference can be made to other parts of BS EN 1998, where applicable.

### Target Groups

- Building contractors
- Consulting engineer
- Government agency/Local authorities/Regulatory agency
- Universities/Academia/Researcher



Supported by:

**Fees:**  
**RM250.00**

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\*Group Discounts:  
3 - 4 participants: 5% & 5 or more  
participants: 10%

### Objectives

- To impart understanding on the earthquake design principles including the performance requirements and compliance criteria
- To promulgate Nationally Determined Parameters for Malaysia which include the application of informative annexes, country specific data (geographical, climatic, etc.)
- To guide user in the implementation of MS EN 1998-1 for building design

### TENTATIVE PROGRAMME

8.30 am	Arrival and Registration
9.00 am	<b>Paper 1: Introduction to National Annex EC8</b>  <b>Ir. Kamaluddin Abdul Rashid</b> Chairman, WG1 - Determination of PGA for Malaysia/ Member of TC on Earthquakes Deputy Director General (Building Sector), Public Works Department Malaysia (JKR)
10.00 am	Refreshment
10.30 am	<b>Paper 2: Earthquake in Malaysia</b>  <b>Dr. Mohd. Rosaidi Che Abbas</b> Committee member of TC on Earthquakes Committee member of WG1 - Determination of PGA for Malaysia/ Former Deputy Director General (Operational), Malaysian Meteorological Department (MMD)
11.30 am	<b>Paper 3: Active Faults in Malaysia</b>  <b>Professor Dr. Felix Tongkul</b> Member of TC on Earthquakes Committee Member of WG1 - Determination of PGA for Malaysia/ Director of Natural Disasters Research Centre, Faculty of Science and Natural Resources, Universiti Malaysia Sabah (UMS)
12.30 pm	Lunch
2.00 pm	<b>Paper 4: Seismic Hazard Assessment</b>  <b>Professor Dr. Azlan Adnan</b> Member of TC on Earthquakes Committee Member of WG1 - Determination of PGA for Malaysia/ Department of Structure & Materials, Faculty of Civil Engineering Universiti Teknologi Malaysia (UTM)
3.00 pm	<b>Paper 5: Design of Buildings using EC8</b>  <b>Ir. Professor Dr. Jeffrey Chiang Choong Lwin</b> Committee member and former Chairman of TC on Earthquakes, Vice-President of The Institution of Engineers Malaysia (IEM) Chairman of Corporate Affairs, The Institution of Engineers Malaysia (IEM)/Professor of Civil Engineering, Faculty of Engineering & the Environment, SEGi University
4.00 pm	<b>Panel Discussion and Q&amp;A Session</b> Moderator: Ir. Kamaluddin Abdul Rashid Panelists: All Speakers
4.30 pm	Refreshment and End of Seminar

Notes: All package including Certificate of attendance, lunch and refreshments.

Login for online registration: [www.sirimsts.my/](http://www.sirimsts.my/)

Earthquake resistance test sample using BSI code





## Certificate of Earthquake Resistance Test



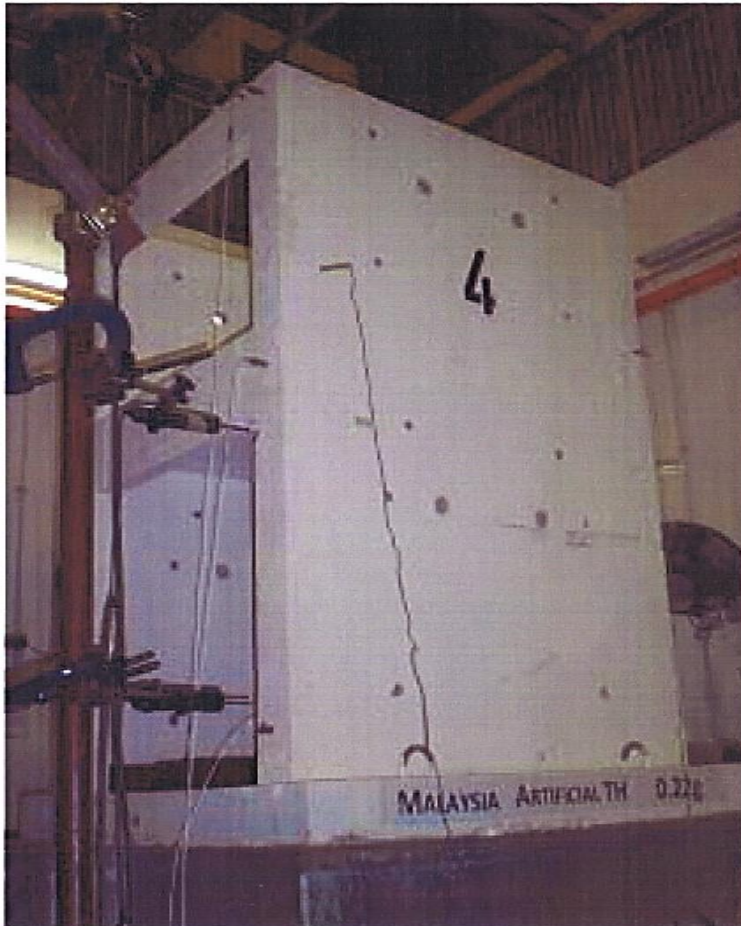
**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

e-SEER  
Engineering Seismology and  
Earthquake Engineering Research



HC PRECAST SYSTEM SDN. BHD.

Earthquake Resistance System  
Tested on  
18 August 2011  
@ Laboratory of Shake Table Testing  
Faculty of Civil Engineering  
Universiti Teknologi Malaysia  
81310 Skudai, Johor



### *Earthquake Resistance Test of Scaled-Down Double Storey Building of HC PRECAST SYSTEM SDN. BHD.*

*Under 8 different real earthquake time histories over the world as follow:*

Earthquake	Year	Scaled PGA (g)	Magnitude	Result
El-Centro, California	1940	0.96	7.1	
Tabas, Iran	1978	0.114	7.4	
Irpinia, Italy	1980	0.606	6.5	
Kobe, Japan	1995	1.035	6.9	
New Zealand	1987	0.165	5.6	
Taiwan SMART1	1983	0.117	6.8	
Duzce, Turkey	1999	0.075	7.1	
Malaysia Artificial	-	0.606	-	

*The **HC PRECAST SYSTEM** performed extremely well throughout all the earthquake tests without any visible cracks or damages*

Dr Azlan Adnan  
Professor of Structural Earthquake Engineering  
Faculty of Civil Engineering, Universiti Teknologi Malaysia

## Briefing by the UTM's Professor

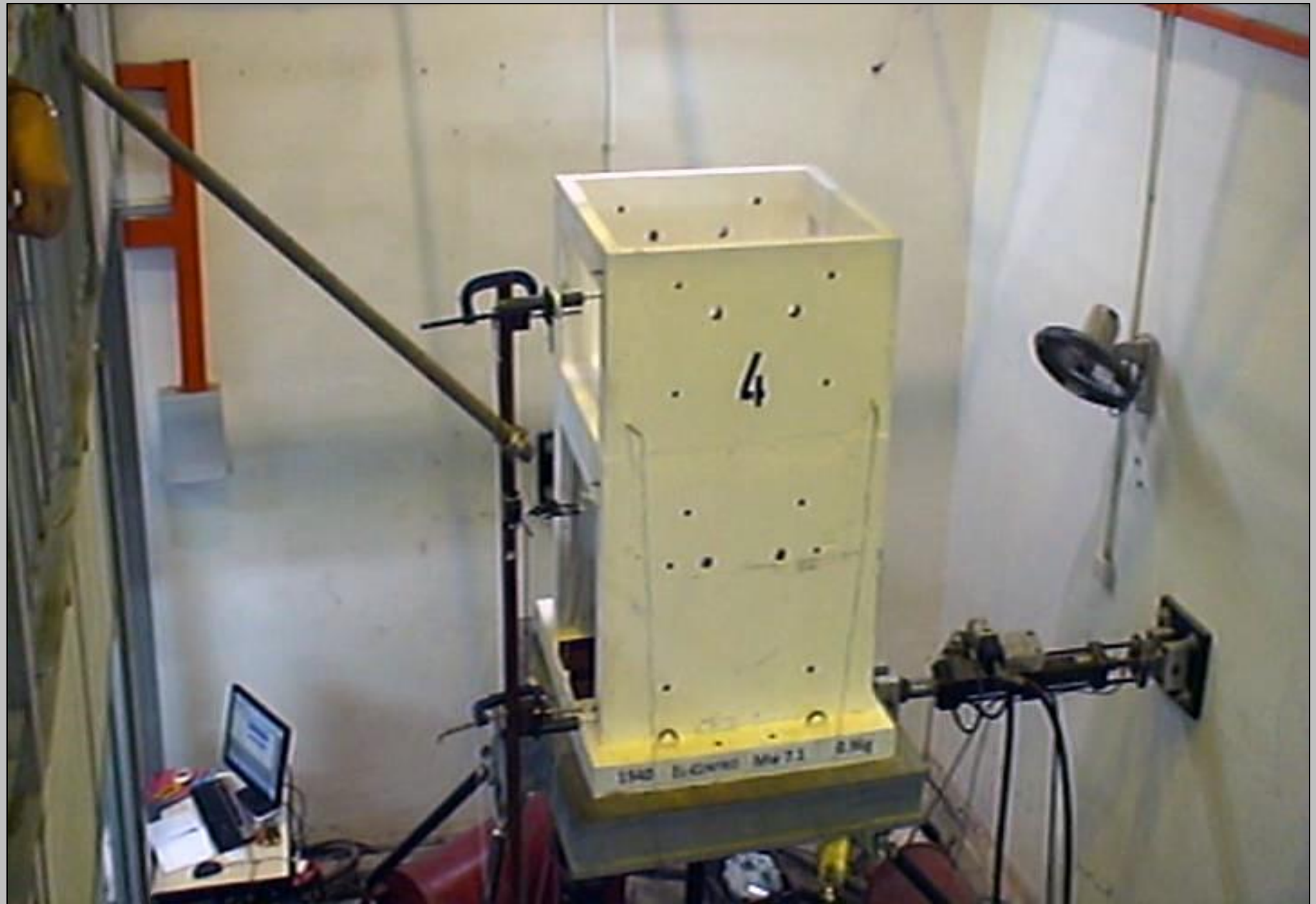


## Briefing by the UTM's Professor





## Earthquake Resistance Test In Progress - Shake Table at UTM Lab



## Earthquake Resistance Test In Progress - Shake Table at UTM Lab



Earthquake Resistance Test In Progress - Monitoring by UTM's Professor





## Earthquake Resistance Test In Progress - Monitoring by UTM's Professor



**Earthquake Resistance Test In Progress - Witnessed by Related Government Agencies**





**Earthquake Resistance Test In Progress - Witnessed by Related Government Agencies**



## Earthquake Resistance Test In Progress - Monitoring Result of The Test





**Earthquake Resistance Test In Progress - Briefing to HCPS's Managing Director**



## Success in Earthquake Resistance Test up to 7.4 Magnitude using BSI Code





## Sample Unit Return to HCPS' Office in Taman Seri Andalas Klang





**THANK YOU**

