NATIONAL INNOVATION AND CREATIVE ECONOMY EXPO 2017 (NICE' 17) TECHPITCH

- HC PRECAST WALL PANEL -

13th OCTOBER 2017

HC PRECAST SYSTEM SDN BHD
(586697-M)
FAST • FEASIBLE • FLEXIBLE

Office
No. 23B, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas 41200 Klang, Selangor Darul Ehsan

Factory
Lot 1, Jalan Zurah 8, Pusat Perindustrian Zurah Mukim Rasa, Daerah Hulu Selangor 44200 Rasa, Selangor Darul Ehsan

+603 3325 8995 +603 3319 8994
www.hcprecast.com enquiry@hcprecast.com

CONTENT

1

SYSTEM DESCRIPTION

System Description

- Has been patented in United State (US) , Malaysia Patent (MyIPO) and Indonesian.

  - 1 US : US Patent Building Method
  - 3 MyIPO : 1. Improvement In Building Method
    2. Panel Formwork System
    3. Earthquake Proof Wall Panel
  - 1 Indonesia Patent : Panel Dinding Yang Tahan Terhadap Gempa Bumi

- 5 patent is represent : Column , Beam and Modular Shear Keys

- 100% Malaysian invention & IBS 1 stop solution.

US Patent : Building Method

US006829870B2

(12) **United States Patent**
Hur

(10) **Patent No.: US 6,829,870 B2**
(45) **Date of Patent: Dec. 14, 2004**

(54) **BUILDING METHODS**

(75) Inventor: **Teow Beng Hur**, Selangor Darul Ehsan (MY)

(73) Assignee: **HC Precast System SDN. BHD.**, Selangor Darul Ehsan (MY)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 16 days.

(21) Appl. No.: **10/285,548**

(22) Filed: **Nov. 1, 2002**

(65) **Prior Publication Data**

US 2004/0016199 A1 Jan. 29, 2004

(51) **Int. Cl.**[7] **E04C 2/38**

(52) **U.S. Cl.** **52/656.1**; 52/563; 52/631; 249/47; 249/191

(58) **Field of Search** 249/19, 22, 26, 249/27, 47, 191; 52/426, 562, 563, 275, 656.1, 631

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,939,500 A	*	6/1960	Grant	269/102
3,288,427 A	*	11/1966	Pluckebaum	249/192
5,078,360 A	*	1/1992	Spera	249/26
5,102,092 A	*	4/1992	Salas	249/192
5,553,430 A	*	9/1996	Majnaric et al.	52/236.8
5,740,648 A	*	4/1998	Piccone	52/426

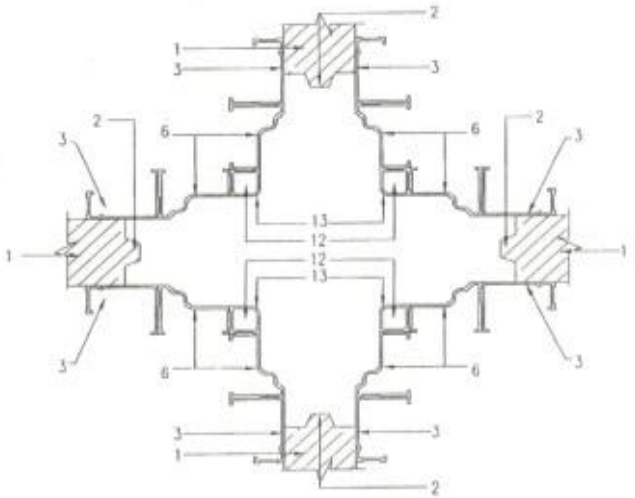
* cited by examiner

Primary Examiner—Korie Chan
(74) *Attorney, Agent, or Firm*—Nath & Associates PLLC; Harold L. Novick

(57) **ABSTRACT**

A building is erected using pre-cast wall panels, preferably load-bearing wall panels having a shear key on each vertical edge and starter bars on each horizontal edge, by first erecting the wall panels, and then casting a concrete column around the vertical edges of adjacent or intersecting wall panels using movable formwork made up from a set of standard modules that can be assembled to form different configurations and sizes of column for different panel arrangements. The moulding surfaces of the modules may be shaped to provide decorative features to the columns and/or the column/wall intersections.

3 Claims, 5 Drawing Sheets



MyIPO 1/3 : Improvement In Building Method

MALAYSIA

CERTIFICATE OF GRANT OF A PATENT

In accordance with Section 31(2) of the Patents Act 1983 a patent for an invention having grant number MY - 124213 - A has been granted to HC PRECAST SYSTEM SDN BHD in respect of an invention having the following particulars :

TITLE	:	IMPROVEMENTS IN BUILDING METHODS.
FILING DATE	:	25 JULY 2002
PRIORITY DATE	:	NONE
NAME OF INVENTOR	:	TEOW BENG HUR.
PATENT OWNER	:	HC PRECAST SYSTEM SDN BHD NO. 1, JALAN SINGA 20/E, SEKSYEN 20, 40000 SHAH ALAM, SELANGOR DARUL EHSAN, MALAYSIA.
DATE OF GRANT	:	30 JUNE 2006

Dated this 30 day of JUNE 2006

(MOHD. AMRAN BIN ABAS)
for Registrar of Patents
MALAYSIA

MyIPO 2/3 : Panel Formwork System

MALAYSIA

CERTIFICATE OF GRANT OF A PATENT

In accordance with Section 31 (2) of the Patents Act 1983 a patent for an invention having grant number MY - 139712 - A has been granted to HC PRECAST SYSTEM SDN. BHD. in respect of an invention having the following particulars :

TITLE	:	PANEL FORMWORK SYSTEM
FILING DATE	:	27 MAY 2003
PRIORITY DATE	:	NONE
NAME OF INVENTOR	:	TEOW BENG HUR
PATENT OWNER	:	HC PRECAST SYSTEM SDN. BHD. NO. 1, (GRD. FLOOR) JALAN SINGA 20/E SEKSYEN 20 40000 SHAH ALAM SELANGOR DARUL EHSAN MALAYSIA
DATE OF GRANT	:	30 OCTOBER 2009

Dated this 30 day of OCTOBER 2009

(SHAMSIAH BINTI KAMARUDDIN)
for Registrar of Patents
MALAYSIA

MyIPO 3/3 : Earthquake Proof Wall Panel

MALAYSIA

CERTIFICATE OF GRANT OF A PATENT

In accordance with Section 31 (2) of the Patents Act 1983 a patent for an invention having grant number MY-157696-A has been granted to HC PRECAST SYSTEM SDN. BHD., in respect of an invention having the following particulars :

TITLE	:	EARTHQUAKE PROOF WALL PANELS
FILING DATE	:	22 JULY 2010
PRIORITY DATE	:	NONE
NAME OF INVENTOR	:	TEOW BENG HUR
PATENT OWNER	:	HC PRECAST SYSTEM SDN. BHD. NO. 23B, JALAN SERI SARAWAK 20B/KS 2, TAMAN SRI ANDALAS 41200 KLANG SELANGOR DARUL EHSAN MALAYSIA
DATE OF GRANT	:	15 JULY 2016
DURATION OF PATENT	:	22 JULY 2010 UNTIL 22 JULY 2030
END OF PROTECTION	:	14 JULY 2017 (SUBSEQUENT ANNUAL FEE SHALL FOLLOW AS STATED IN THE SCHEDULE OF FEES AT THE BACK OF THIS PAGE)

Dated this 15 day of JULY 2016

(DATO' SHAMSIAH BINTI KAMARUDDIN)
Registrar of Patents
MALAYSIA

Indonesia Patent : Panel Dinding Yang Tahan Terhadap Gempa Bumi

KEMENTERIAN HUKUM DAN HAK ASASI MANUSIA
REPUBLIK INDONESIA
DIREKTORAT JENDERAL KEKAYAAN INTELEKTUAL
Jl. H.R. Rasuna Said Kav 8-9, Kuningan, Jakarta Selatan, 12940
Telepon: (021) 57905611 Faksimili: (021) 57905611
Laman: http://www.dgip.go.id Surel: dopatent@dgip.go.id

P21/760
14/9 hal 7

Nomor : HKI-3-HI.05.02.04.P00201000903-DP 47693
Lampiran : 1 (satu halaman)
Hal : Pemberitahuan dapat diberi Paten

07 SEP 2017

Yth. Ir. Migni Myriasandra, S.H., M.I.P., M.SEL
PT. Oktroi International,
Kantor Taman A-9, Unit A6 & A7
Jl. Mega Kuningan, Kuningan, Jakarta 12950

Dengan ini diberitahukan, bahwa sesuai dengan hasil pemeriksaan substantif terlampir, permohonan paten berikut ini dinyatakan dapat diberi Paten:

Nomor Permohonan	:	P00201000903
Tanggal Penerimaan	:	20 Desember 2010
Pemohon	:	HC PRECAST SYSTEM Sdn. Bhd
Judul invensi	:	PANEL DINDING YANG TAHAN TERHADAP GEMPA BUMI

00-2017-222830

Direktur Paten, Desain Tata Letak
Sirkuit Terpadu dan Rahasia Dagang,

Freddy Harris
Hendul Sinaga, M.Hum.
NIP. 196202021991031001

Tembusan:
1. Direktur Jenderal Kekayaan Intelektual (sebagai Laporan)
2. Aditia Meiriza Ashibi, ST.

Form HKI/3/012/2013
31 Agustus 2017

Lampiran 1

HASIL PEMERIKSAAN SUBSTANTIF TAHAP AKHIR (Diberi Paten)
Nomor Permohonan: P00201000903

1. Dengan ini diberitahukan bahwa:
   a. deskripsi yang diterima adalah deskripsi:
      [ ] halaman asli seperti saat diajukan
      [x] halaman 1- 12 sesuai surat Saudara tanggal: 14 Agustus 2017
   b. klaim yang diterima adalah klaim:
      [ ] nomor asli seperti saat diajukan
      [x] nomor 1 – 5 sesuai surat Saudara tanggal: 14 Agustus 2017
   c. gambar yang diterima adalah gambar
      [ ] nomor asli seperti saat diajukan
      [x] nomor 1 – 10 sesuai surat Saudara tanggal: 14 Agustus 2017
   d. gambar untuk publikasi B adalah: Gambar 8
2. Deskripsi dan klaim-klaim serta gambar-gambar tersebut di atas dengan ini dinyatakan telah memenuhi ketentuan Pasal 2, Pasal 3, Pasal 5, dan ketentuan lain dalam Undang-undang Republik Indonesia Nomor 14 Tahun 2001 tentang Paten, sehingga permohonan paten ini dapat dipertimbangkan untuk diberi Paten.

Pemeriksa,

Aditia Meiriza Ashibi, ST.
NIP. 198105022008011021

System Description

- Register with CIDB Gred G7
- Sijil Perolehan Kerja Kerajaan
- Sijil Pengeluar IBS
- ISO 9001 : 2008

CIDB : Gred G7

278670 A

CIDB MALAYSIA

PERAKUAN PENDAFTARAN

Adalah dengan ini diperakui bahawa kontraktor yang dinyatakan di bawah ini telah berdaftar dengan Lembaga mengikut Bahagian VI Akta Lembaga Pembangunan Industri Pembinaan Malaysia 1994. Pendaftaran ini adalah tertakluk kepada syarat-syarat yang telah ditetapkan di belakang Perakuan ini

No Pendaftaran: **0120111104-SL137168**

Nama Kontraktor : **HC PRECAST SYSTEM SDN. BHD.**

Alamat Berdaftar : **NO.23B, JALAN SERI SARAWAK 20B/KS2**
TAMAN SERI ANDALAS
41200 KLANG
SELANGOR

Gred, kategori dan pengkhususan berdaftar

G7 B B19 B01 B04
G7 CE CE21

Tarikh Mula Berkuatkuasa : **08 MAR 2017**

Tarikh Habis Tempoh Perakuan : **07 MAR 2019***

*Perakuan ini hendaklah diperbaharui sekurat-kurangnya 60 hari sebelum tarikh habis tempoh.

STATUS : AKTIF - Kontraktor yang diawardkan projek semasa perakuan pendaftaran ini dikeluarkan.

(Sr MOHD ZAID ZAKARIA)
b.p. Ketua Eksekutif
Bertarikh: 08 MAR 2017

CIDB : Sijil Perolehan Kerja Kerajaan

A 163503

CIDB MALAYSIA

Sijil Perolehan Kerja Kerajaan

NO. SIJIL PENDAFTARAN
0120111104-SL137168

Adalah disahkan Syarikat/Firma seperti butir-butir berdaftar dengan Lembaga Pembangunan Industri Pembinaan Malaysia dan tertakluk kepada syarat-syarat termaktub di belakang sijil.

Tarikh Mula Berdaftar Dengan CIDB : 04/11/2011

NAMA DAN ALAMAT BERDAFTAR

HC PRECAST SYSTEM SDN. BHD.
NO.23B, JALAN SERI SARAWAK 20B/KS2
TAMAN SERI ANDALAS
41200 KLANG
SELANGOR

TEMPOH SAH LAKU :

DARI : 08/03/2017
HINGGA: 07/03/2019

GRED	KATEGORI	
G7	B	(Pembinaan Bangunan)
G7	CE	(Pembinaan Kejuruteraan Awam)

PEGAWAI SYARIKAT YANG DITAULIAHKAN	NO. K/P
FADZIL BIN AHMAD	700419-02-5977
AHMAD SUHAIMI BIN ABDUL MAJID	610530-03-5859

(Sr MOHD ZAID ZAKARIA)
b.p. Ketua Eksekutif
Bertarikh: 08 MAR 2017

Sijil Pengeluar IBS

CIDB MALAYSIA

PENILAIAN PENGELUAR BERSTATUS IBS

ASSESSMENT OF IBS STATUS MANUFACTURER (AIS)

No. Siri : 3815

Adalah dengan ini disahkan bahawa :
It is hereby verified that :

HC PRECAST SYSTEM SDN BHD
NO 23B, JALAN SERI SARAWAK 20B/KS2
TAMAN SERI ANDALAS
41200 KLANG
SELANGOR DARUL EHSAN

Merupakan :
Is :

PENGELUAR

Lokasi Kilang :
Factory Location :

LOT 1, JALAN ZURAH 8
KAWASAN PERINDUSTRIAN ZURAH
MUKIM RASA, DAERAH HULU SELANGOR
44200 RASA
SELANGOR DARUL EHSAN

No. Laporan :
Report No. :

ASL270815IBSC0502

Sebagai syarikat Status IBS yang mengeluarkan produk IBS berikut:
As an IBS status company that manufactures the following IBS components:

SISTEM KONKRIT PRATUANG :
- *COLUMN*
- *BEAM*
- *WALL*
- *SLAB*

****

Tarikh Dikeluarkan :
Issue Date :

10 FEBRUARI 2017

Sah Sehingga :
Valid Until :

09 FEBRUARI 2018

Kategori :
Category : C

DATUK IR. ELIAS ISMAIL
b.p Ketua Eksekutif
CIDB Malaysia

Pusat IBS, CIDB Malaysia
Galeri Komponen IBS
Lot 8, Jalan Chan Sow Lin
55200 Kuala Lumpur
Malaysia

TEL: 03-92016909
FAX: 03-92015870

Laman Web
ibs.cidb.gov.my

ISO 9001 : 2008

Alcumus ISOQAR

Certificate of Registration

Certificate Number:
10898

Initial Registration Date:
25 April 2013

Re-issue Date:
20 September 2016

Expiry Date:
15 September 2018

This certificate will remain valid till expiry date subject to the company maintaining its system to the required Standard. This will be monitored regularly by ISOQAR. Further clarification regarding the scope of this certificate and the applicability of the relevant standard requirements may be obtained by consulting Alcumus ISOQAR Ltd.

ISOQAR registered
UKAS MANAGEMENT SYSTEMS 0026

Certificate No. 10898
ISO 9001

Issue by:
Alcumus ISOQAR LTD
Cobra Court, 1 Blackmore Road, Stretford
Manchester M32 0QY, U.K.
Tel: +44 161 8809513
www.alcumusisoqar.com/isoqar

This is to certify that the Management System of

HC Precast System Sdn. Bhd.

No. 23, Jalan Seri Sarawak 20B/KS2,
Taman Seri Andalas, 41200 Klang,
Selangor Darul Ehsan, Malaysia.

has been approved by ISOQAR to

ISO 9001:2008

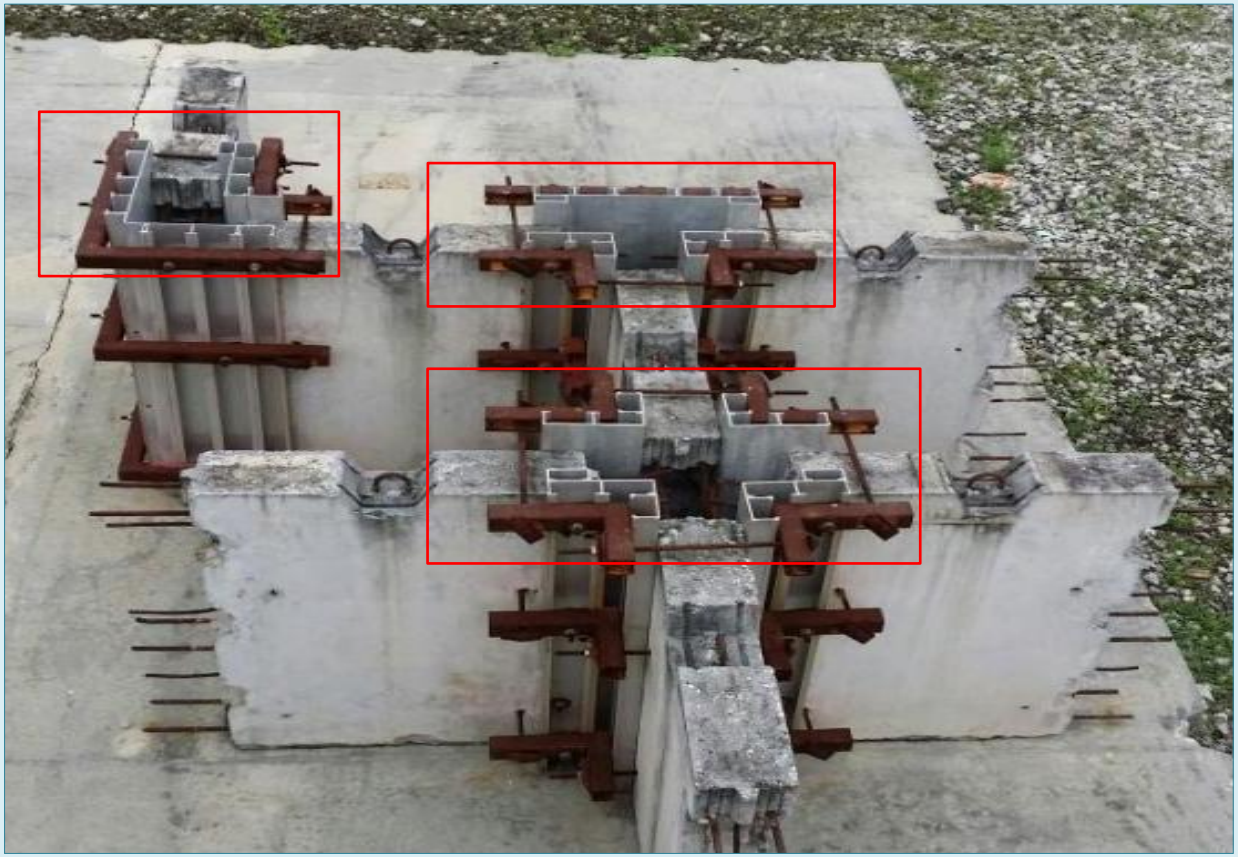
Scope of Activities:

Design, Outsource Manufacture and Supply of Precast Concrete Wall and Panel Formwork System

Signed (on behalf of ISOQAR)

System Description

- HCPS IBS flexibility to suit all architectural demands by using Modular Mould System.
  In the construction of a building, there are always 4 types of joint namely L-shape, T-shape, Cross shape and Straight joint.



- Provide speedier construction, cost effectiveness, high quality and easy standardization.

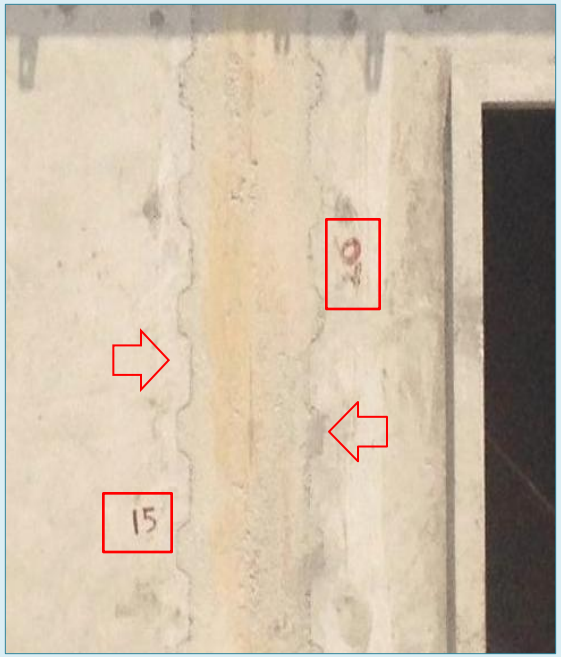
System Description

- HC Precast System (HCPS) Is a **system provider** with **manufacturing facilities** specialist in Industrialized Building System (IBS)
- Supply and Install Superstructure (Frame & Wall)

3 in 1 in Malaysia

- Load bearing wall

- Modular shear keys (wet joint)



- Box system

System Description

- 37.7 kN per key
  - Independent checker by JKR for HCPS Modular Shear Keys Wet Joint

Perunding PaduReka Sdn. Bhd.
Company No: 2630°6T
CONSULTING ENGINEERS
Head Office : No. 41A, Jalan Jejaka 2, Taman Maluri, Cheras, 55100 Kuala Lumpur. Tel No: 603-92832399, 92839837, 92839825 Fax: 603-92839800, 92875572
Johor Bahru Branch : 24-A, (1st Floor), Jalan Layang 16, Taman Perling, 81200 Johor Bahru. Tel No: 607-3418807 Fax: 607-3418356
E-mail: pprt@streamyx.com, padureka@gmail.com

Cadangan Pembinaan Kompleks Bank Gen Biji Benih Pertanian Di Ibu Pejabat Mardi, Serdang, Selangor

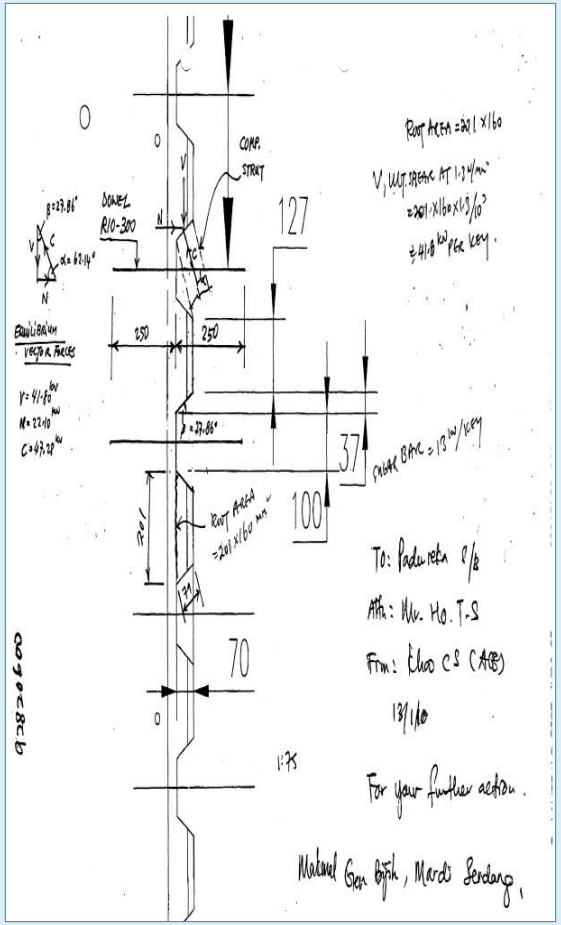
Supplementary Independent Checker Engineer's Report No. 5-1 on Shear Key Joints For Precast R.C. Wall Panels

JURUTERA PROFESIONAL AWAM IR. HO THEY SEE 4314 MALAYSIA

Prepared By :
Perunding PaduReka Sdn. Bhd.
41A Jalan Jejaka 2
Taman Maluri
Cheras
55100 Kuala Lumpur

18 January 2010

MUSA HJ. MD. YUNOS B.Sc. (Hons.), CIVIL ENG. PENG. MIEM. ASEAN (Eng.), CIDBM (Med).



Cadangan Pembinaan Kompleks Bank Gen Biji Benih Pertanian Di Ibu Pejabat Mardi, Serdang, Selangor
- **Supplementary Independent Checker Engineer's Report No. 5-1 on Shear Key Joints For Precast R.C. Wall Panels**

A_s is the minimum area of dowel reinforcement

αf is the angle of internal friction between the faces of the joint. tanαf is 1.7 from Table 5.3 of BS 8110 ; Part 1. However, this tanαf is best determined by tests under Research and Development if possible.

It is interesting to note that 0.6 tanαf ≈ 1.0 and $V \approx F_b$.

e) The total ultimate shear capacity of the shear key joint is assessed as follows :-

From (c) above, for R10 dowel, V_c = 24.7 kN
From (d) above, for R10 dowel, V_d = 13 kN
Total, V_t = 37.7 kN per key

The number of effective keys times 37.7 kN shall determine the ultimate shear capacity of the shear key joint of a precast r.c. wall panel.

Page 3 of 3

System Description

- HCPS has been collaboration with Agency CREAM, UTM, UiTM for earthquake test and with Nanyang Technological University, Singapore to published journal. International magazine in precast has been published in previous years.

UTM
e-SEER
Engineering Seismology and Earthquake Engineering Research
UNIVERSITI TEKNOLOGI MALAYSIA

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

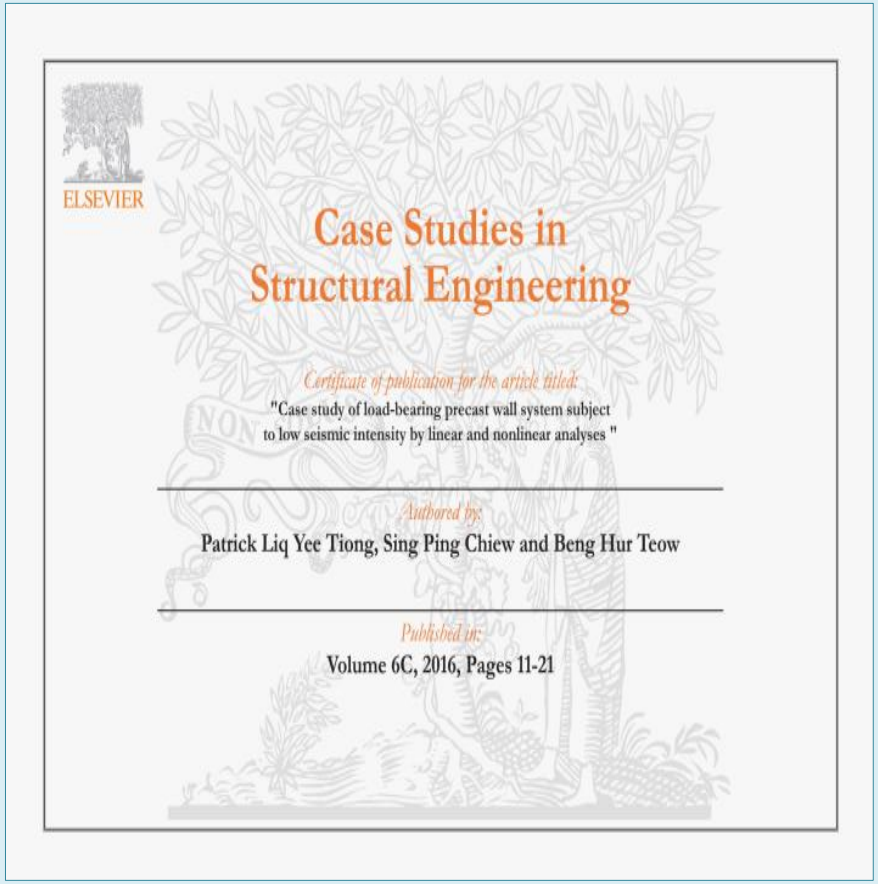
Earthquake Resistance Test of Scaled-Down Double Storey Building of
HC PRECAST SYSTEM SDN. BHD.
Under 8 different real earthquake time histories over the world as follow:

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

UTM
Earthquake Resistance Test of Scale-Down Double Storey Building



ELSEVIER

Case Studies in Structural Engineering

Certificate of publication for the article titled:
"Case study of load-bearing precast wall system subject to low seismic intensity by linear and nonlinear analyses "

Authored by:
Patrick Liq Yee Tiong, Sing Ping Chiew and Beng Hur Teow

Published in:
Volume 6C, 2016, Pages 11-21

Nanyang Technological University, Singapore

System Description

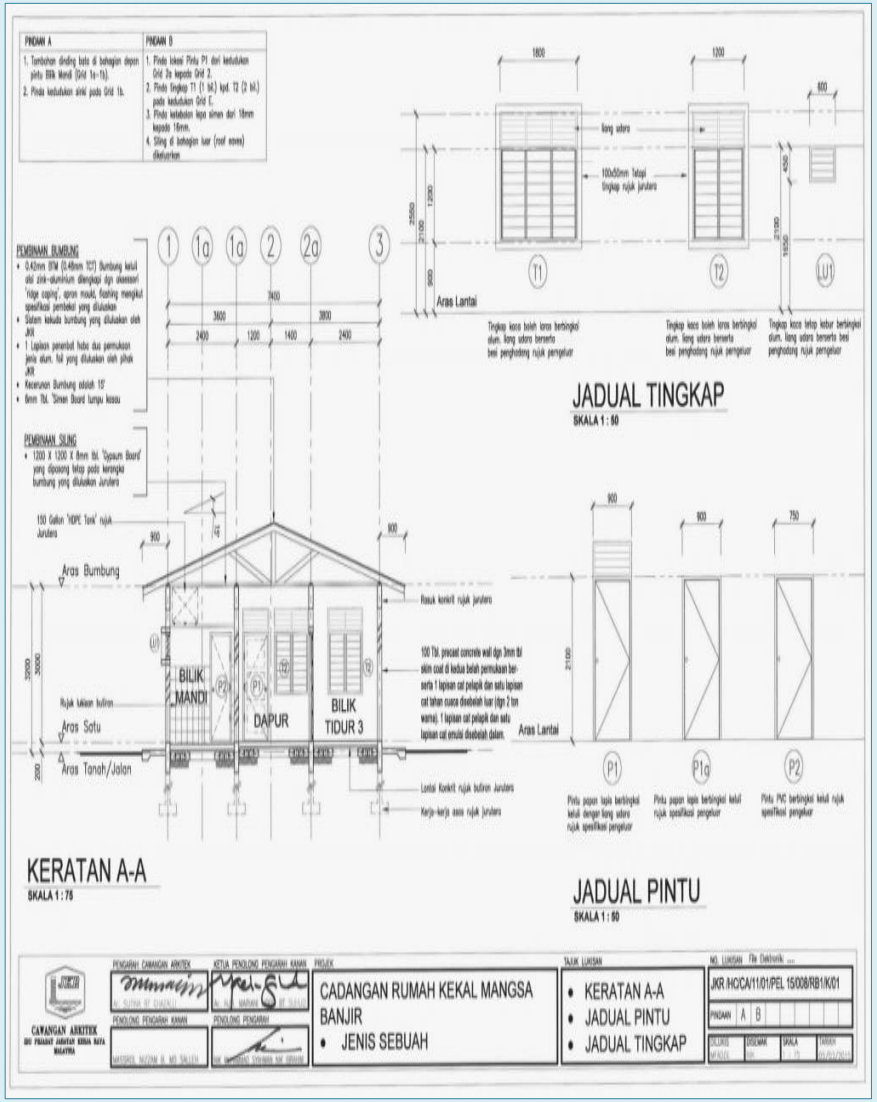
- Ability to address challenges and resolve critical construction issues

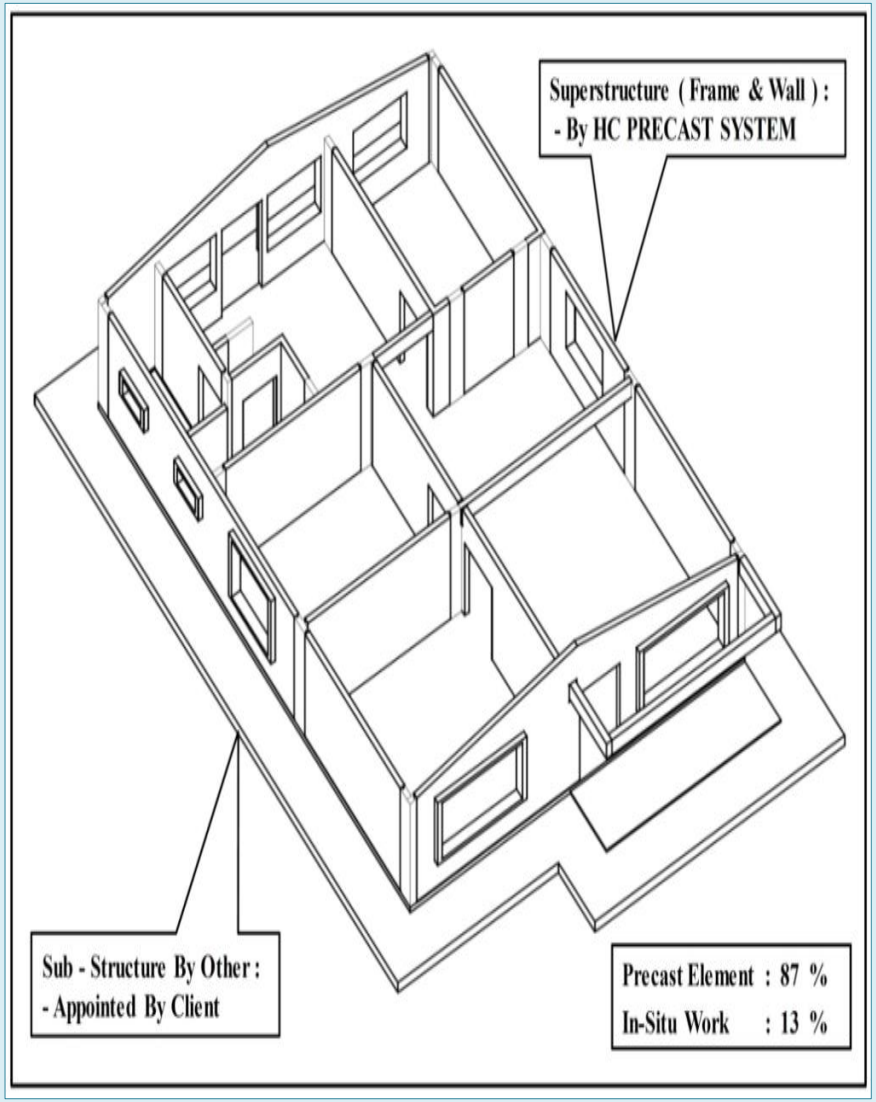
  a) No leaking

  b) No crack

Training unit : - 9 years expose precast wall, precast staircase, half slab & precast beam with in-situ column.
- No Maintenance - No Touch-up - No Water proofing - No Leaking - No crack

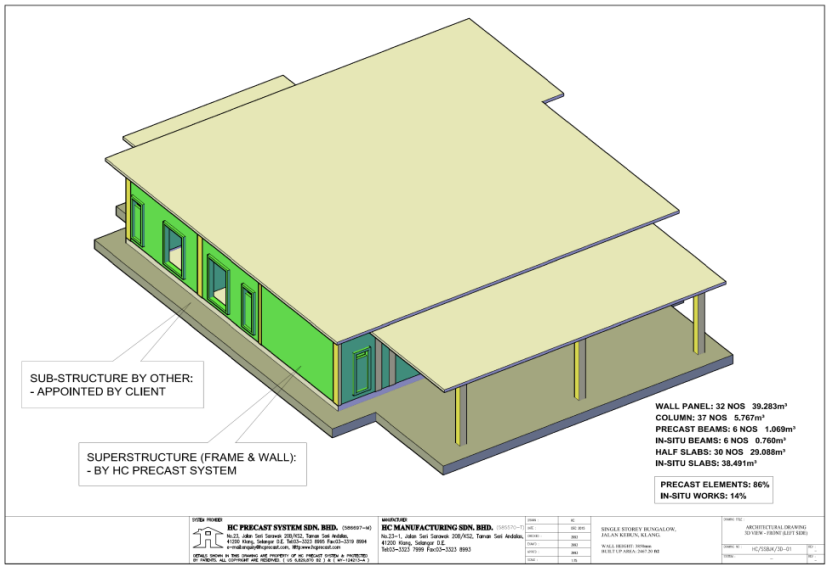
Drawing Conversion 2D To 3D

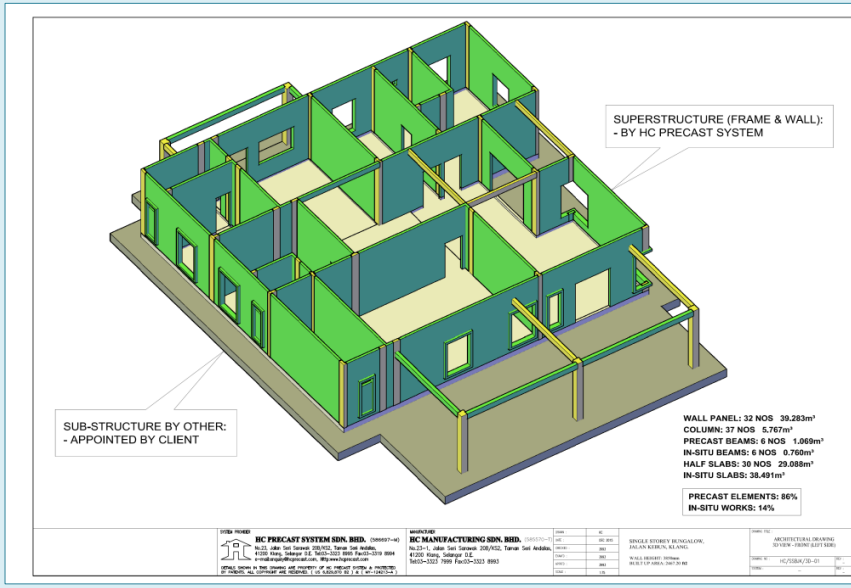


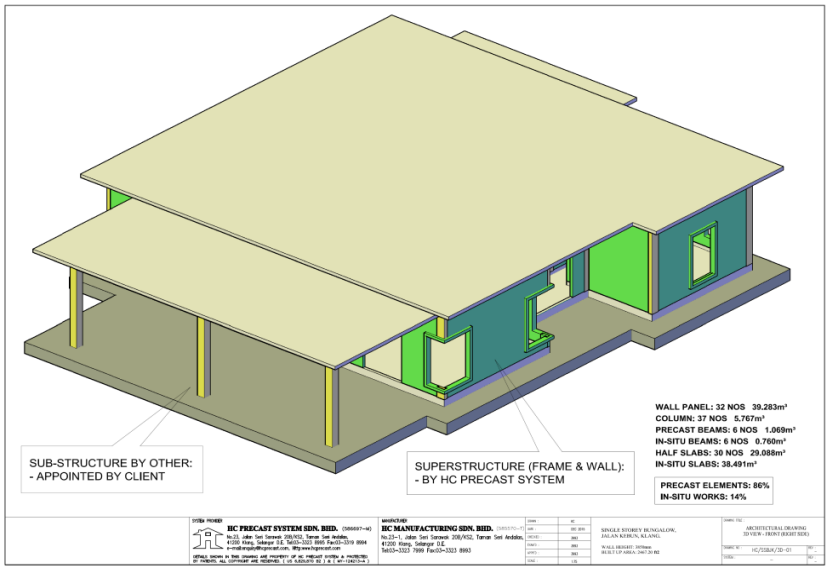


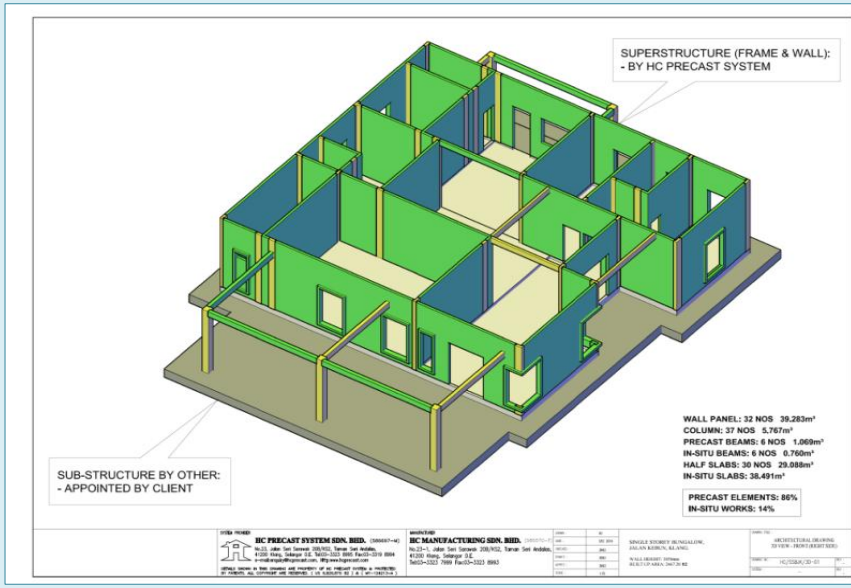
Original 2D **To** **System 3D**

System Drawing - 3 D

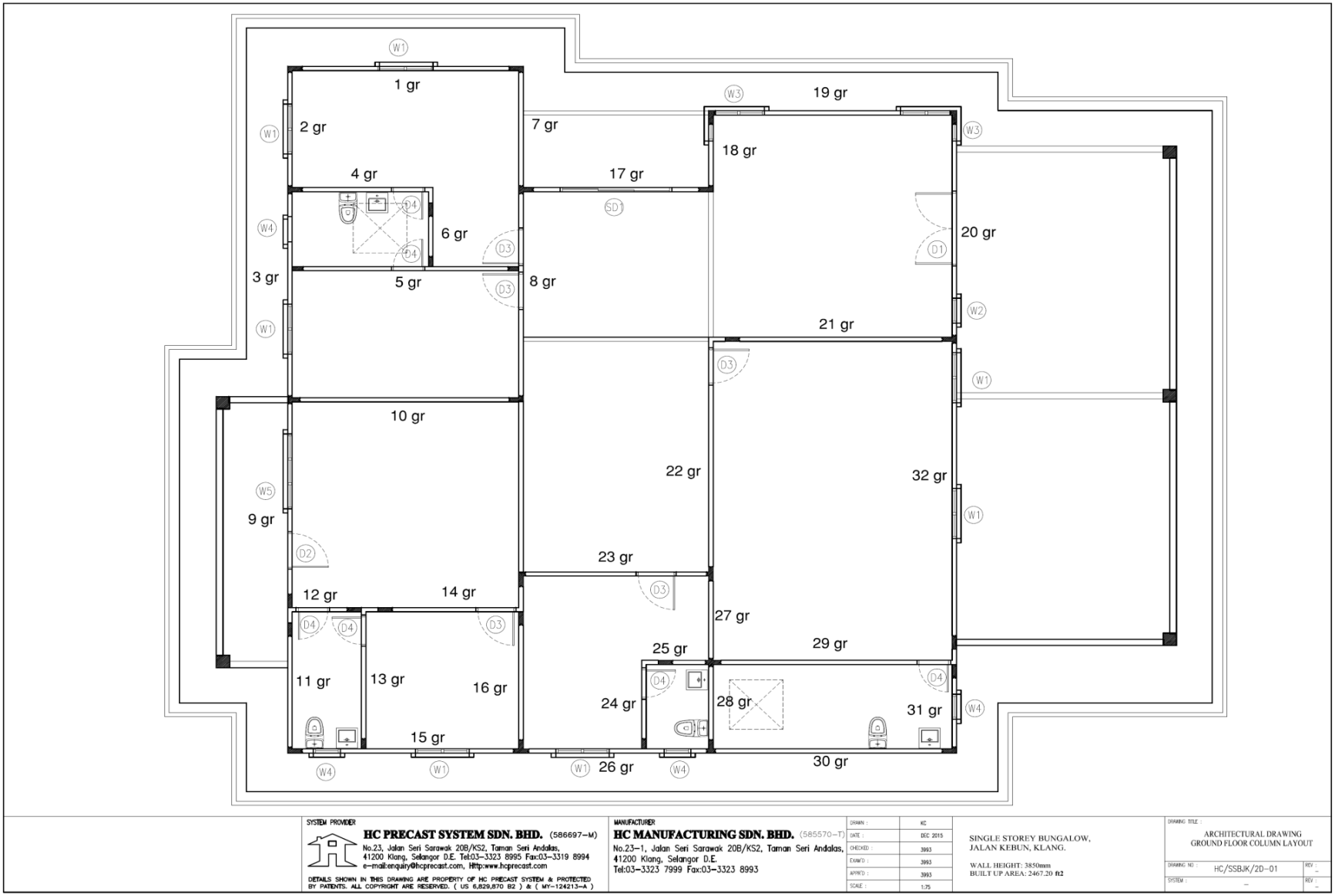








Wet Work Joint



SYSTEM PROVIDER

HC PRECAST SYSTEM SDN. BHD. (586697-M)

No.23, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E. Tel:03-3323 8995 Fax:03-3319 8994 e-mail:enquiry@hcprecast.com, Http:www.hcprecast.com

MANUFACTURER

HC MANUFACTURING SDN. BHD. (585570-T)

No.23-1, Jalan Seri Sarawak 20B/KS2, Taman Seri Andalas, 41200 Klang, Selangor D.E.
Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :	KC
DATE :	DEC 2015
CHECKED :	3993
EXAM'D :	3993
APPR'D :	3993
SCALE :	1:75

SINGLE STOREY BUNGALOW,
JALAN KEBUN, KLANG.

WALL HEIGHT: 3850mm
BUILT UP AREA: 2467.20 ft2

DRAWING TITLE :
ARCHITECTURAL DRAWING
GROUND FLOOR COLUMN LAYOUT

DRAWING NO : HC/SSBJK/2D-01 REV : -
SYSTEM : - REV : -

Lowering Of Building Cost .
The best way is to build faster and cheaper .

- One of the ways is by using Industrial Building Systems (IBS) .
- System Provider or Manufacturer should provide installer of the Building Precast Element .

Completed in 7 days with 6 workers :

- Precast Element	: 88 %			
- Wet Work	: 12 %			
Ex-Factory	:	RM	900.00	per m3
Volume	:		13.16	m3 / unit
Amount	:	RM	11,844.00	per unit
GFA	:		800	ft2
Cost	:	RM	14.805	per ft2 GFA

Note :

All works below lowest floor finish, ground floor slab & footing by other .

All walls & common party walls at 100 mm thick .

Responsibility :

- System Provider or Manufacturer should provide installer of the Building Precast Element .
- The wall is designed to provide adequate fire resistance according to demand (with minimum 2 hours as per BS8110) .

2

PROJECT USING HC PRECAST SYSTEM

Project Using HC Precast System

- **Sales Revenue**

Total Sales : RM219,163,983.20

Quantity :

- Single Storey	:	1,163	units
- Double Storey	:	451	units
- 3 Storey	:	1	unit
- 3 Shop Lot	:	42	units
Total	:	1,657	units

PROJECT USING HC PRECAST SYSTEM

3 Storey Shop Office, Klang

Shop Lot, Kota Putri

PROJECT USING HC PRECAST SYSTEM

Bungalow, Shah Alam

Bungalow, Jalan Kebun

PROJECT USING HC PRECAST SYSTEM

Semi-D, Shah Alam

Semi-D, Bukit Botak

PROJECT USING HC PRECAST SYSTEM

Double Storey, Shah Alam

Double Storey, Kota Putri

PROJECT USING HC PRECAST SYSTEM

Single Storey, Kota Putri

Single Storey, Bernam Jaya

PROJECT USING HC PRECAST SYSTEM

Show Unit, Rasa

Training Unit, Rasa

3

FUTURE PLAN

Future Plan

- **Licensing Agreement**

  We are ready to engage and cooperate with all parties government and private sector

- **Royalty**

  In discussion on technology transfer to China and Indonesia

- **Strategic Planning**

  Setup 4 production plant to access the entire Malaysia strategically.

  Existing

  Rasa, Hulu Selangor (Main Plant)

  Future Plan

  1) Melaka
  2) Pahang
  3) Perak
  4) Kedah

Future Plan

HCPS IBS Factory : Capacity

- Existing production : 1,800 – 2,500 units of single storey (1000 ft2) per year
- Supply & Install : RM900/m3 ex-factory

- Future development 13 acres : 2,500 to 3,500 units of single storey (1000 ft2) per year

- Existing production 8 acres : 1,800 to 2,500 units

Intervention / Facilitation Required

PROPOSE TO GOVERNMENT & PRIVATE DEVELOPER

Invite industrialized building system provider with manufacturing facility (flexibility to suit all architectural demands) to participate to built the show unit with work below and superstructure without finishing for the Government & Private Developer to identify the system in terms of green, environment, quality and speed for supply in its development.

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1. Architect
   - Appointed by the Government & Private Developer .
   - Design of single storey bungalow of 1,000 ft2 (affordable home), up to superstructure without finishing.
   - With M&E requirement.
   - Wall finishing with plaster or skim coat only.
   - Door and window frame opening.
   - Ground floor without tiling.
2. Industrialized building system manufacturer have formed their BQ for superstructure (in terms of wall area) and to submit work program with sequence of work for record purposes.
3. Proper record by the Government & Private representative during construction, in terms of labour and machinery involved per day up to completion (superstructure only).
4. Cost Comparison for each Industrialized Building System Manufacturer by the Government & Private Developer (for superstructure only). Cost will be fixed for the selected manufacturer and supply to its development .

4

CONCLUSION

CONCLUSION

- **Out flow currency**
- **Reduce foreign worker - 40%**
- **Built faster & cheaper**
- **Saving up to 15% - 30% (superstructure / frame & wall)**
- **Suite 100% architect demands**
- **Full responsibility of building**

Innovative
&
Revolutionary
Precast System

THANK YOU