

Attributes of HC Precast Wall Panel

- Easy standardization
- Speedier construction
- Cost effectiveness
- High quality finish
- Suitable for existing architectural layout



Beyond Malaysian waters

Having made an impact in the local industry, with a pioneering spirit and dedicated and trained personnel, HC Precast System Sdn Bhd is poised to take its revolutionary concept in precast to neighbouring developing countries and other parts of the world and contribute effectively to the fast developing world.



Copyrights and Patent Rights
Strictly Reserved
Patented : US 6,829,870 B2
MY-124213-A



HC PRECAST SYSTEM
SDN BHD (586697-M)

No. 23B, Jalan Seri Sarawak 20B/KS2
Taman Seri Andalas, 41200 Klang
Selangor Darul Ehsan, Malaysia
Tel **603-3323 5999** Fax **603-3323 8993**
Website www.hcprecast.com.my
E-mail enquiry@hcprecast.com.my



HC PRECAST SYSTEM SDN BHD

(586697-M)

Innovative &
Revolutionary Precast System

IBS ONE STOP CENTRE



www.hcprecast.com.my



THE COMPANY

Looking Back

Incepted in July 2002, HC Precast System Sdn Bhd, a member of the HC Group of Companies is the pioneer of the HC Precast System, an industrialised building system (IBS) invented locally and has patent rights in Malaysia and the United States.

Remarkable in every respect

A revolution in the industry, the HC Precast System offers flexibility in design, distinct quality and can be installed speedily. All these attributes allow for easy standardization, speedier construction, cost effectiveness, high quality finishes and enhanced facade design.

Suitable for any development

The HC Precast System is suitable for existing architectural designs and can be used for bungalows, semi-D, double and single storey houses and in commercial buildings. This is evident as more developers everywhere come to appreciate the beauty of the HC Precast System.



Versatile and flexible advantages

- Various sizes of wall panels can be erected and the alignment of precast wall panels can be easily controlled by placing the timber markers for the precast walls to be seated. In this manner, the central line control of the precast wall panels can be achieved.
- Any slight alignment of the wall panels can be easily concealed with cast in-situ column/joints.
- The cast in-situ columns and precast wall panels form an integral and strong structural element.
- The cast in-situ columns prevent any possible ingress of water.
- The cast in-situ columns and flexibility of the wall panel make this system adaptable to most existing design and provides versatility for architects to plan the layout.
- The column moulds consist of various combination of the standard modules, allowing the flexibility of achieving various column sizes.
- The width and height of the precast wall panels can be adjusted.
- Minimal touch up is required as column and wall joints are formed with a smooth formwork system



How the HC Precast System works

Comprising of a series of precast wall panels that are generally designed as the load bearing wall system, and interconnected with cast in-situ joints or columns. The in-situ joints are reinforced in accordance to structural requirements and provide the stability to the building and eliminate the possibility of ingress of water. These in-situ joints also act as columns to support heavily loaded beams and allow a hybrid system of conventional and precast structural system to be achieved.



Distinct features of the HC Precast System

- Attractive external wall features
- Variable wall panel size
- Adjustable column size
- Flexibility of making certain openings
- Consists of Precast Wall Panels & Cast In-situ Column Joints
- Wall and columns form an integral and strong structural member

Flexibility & adaptability of HC Precast Wall Panel

- Thickness of the wall panels can be varied
- Size of the wall panels can be adjusted
- Wall panels are cast in the specially designed moulds
- Edge of the precast wall panels is cast with a shear key joint.
- The shear key, coupled with starter bars, provide strong interlocking after the columns have been cast



Features of HC Precast Column Mould

- The moulds are made from aluminium to achieve the desired pattern and make it light to handle.
- The size of the columns can be easily increased or reduced by increasing or reducing the number of modules.
- The column moulds consist of a series of standard module design of moulds, interlocked and assembled to form various shapes of columns required.

Services

- Design and build
- Provides system design service based on HC Precast System to the developer or main contractor. Furnishes the client with a complete system design and installation details and drawings.
- Renting the moulds

Main contractor and developer stand to gain substantially by using this innovative, revolutionary and cost effective HC Precast System.

LOW INVESTMENT COST REQUIRED
The main contractor or developer does not have to invest high capital cost on the moulds.



**IBS
SYSTEM PROVIDER**

HC PRECAST SYSTEM SDN BHD

(586697-M)

Innovative &
Revolutionary Precast System

IBS ONE STOP CENTRE



www.hcprecast.com.my



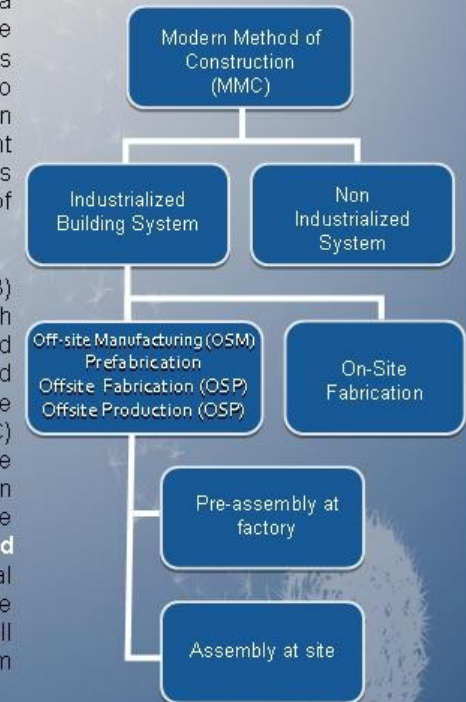
**IBS
One Stop Centre**

What is IBS?

Industrialized Building System (IBS) is a construction system using pre-fabricated components to build a building. The manufacturing of the components are systematically achieved by utilizing machine, formworks and other forms of mechanical equipment. IBS is also defined as an integrated manufacturing and construction process with well planned organization for efficient management, preparation and control over resources used, activities and results supported by the use of highly developed components.

Construction Industry Development Board (2003) defined IBS as a construction technique in which components are manufactured in a controlled environment (on or off site), transported, positioned and assembled into a structure with minimal additional site works. Modern Method of Construction (MMC) (other term for IBS) is a term adopted as a collective description for both offsite based construction technologies and innovative onsite technologies. The systems and products of **HC Precast System Sdn Bhd** are classified as IBS. Non-structural and structural panels are cast off-site and during assembly of the building components the main structural members shall form the joining parts fabricated using innovative system formwork.

A generic classification of IBS in MMC



" Innovative & Revolutionary Precast System "



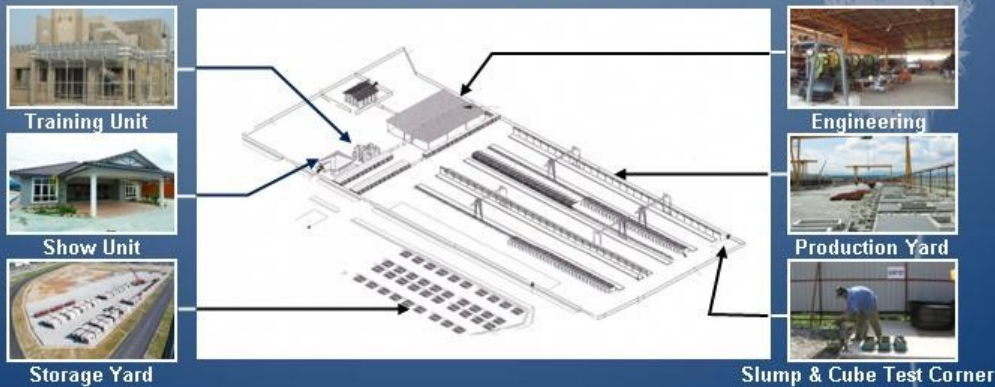
IBS One Stop Centre

HC Precast System Factory



- The factory comprises 21 acres of land in Rasa, Rawang.
- The current facilities is able to produce 2,000 units of single storey house a year.
- Additional land space to expand the present facility based on project needs.

Factory Layout



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

Advantages of HC Precast System

- Various sizes of wall panels can be erected and the alignment of precast wall panels can be easily controlled by placing the timber markers for the precast walls to be seated. In this manner, the central line control of the precast wall panels can be achieved
- Any slight out of alignment of the wall panels can be easily concealed with the cast-in-situ columns/joints
- The cast in-situ columns and precast wall panels form an integral and strong structural element .
- The cast in-situ columns prevent any possible ingress of water
- The cast in-situ columns and flexibility of the wall panel make this system adaptable to all conventional design and hence provide versatility for architects to plan the layout and for the structural engineer to design for HC Precast System to suit
- The column moulds consist of various combination of the standard modules – hence allowing the flexibility of achieving various column sizes
- The width and height of the precast wall panels can be adjusted
- Minimal touching up is required as columns and wall joints are formed with smooth formwork system

HC PRECAST SYSTEM INTERIOR DESIGN



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

Adding Value

Added Value to the Client / Customer

- Early delivery
- Cost benefit to early possession & function
- Less defects, reduce maintenance cost
- Reduce risk of delay and variations



Added Value to the Consultant Team

- Time saving for early production of design due to useable conventional design methodology
- HC Precast System can suit to any conventional design without limitation, unlike the standard production system which requires designer to suit the design
- Production of 3 dimensional (3D) drawing by the system can detect early problems, reduce risk of variations
- Minimum supervision

Added Value to the Construction Team

- Leaner project chart – project is divided into sub-projects, less time of construction
- Project is structured for easy to monitor
- Does not require special grade of concrete at the wet joint areas
- Less cold-joints increase benefits to structural integrity
- Does not require grouting to increase structural joints integrity
- Minimum mistakes due to early detection before construction
- Reduce manual labor requirement and less depended foreign workers
- Reduce overhead cost
- Environmental friendly

" Innovative & Revolutionary Precast System "



IBS One Stop Centre

How the System Works

Comprising of a series of precast wall panels, which are generally designed as load bearing wall system, and interconnected with cast in-situ joints or columns. The in-situ joints are reinforced in accordance to structural requirement and provide the stability to the building and eliminate the possibility of ingress of water. These in-situ joints can also act as columns to support heavily loaded beams and allow a hybrid system of conventional and precast structural system to be achieved.



Services

We provides following engineering supporting services :

- Design and build
- Provides system design service based on HC Precast System to the developer or main contractor. Furnishes the client with a complete system design and installation details and drawings
- Rental of HC Precast System Formwork Mould are available
- HC Precast System will provide **2 days practical training** at our HC Precast System Factory for those using HC Precast System at **NO cost** for :-
 - a)Panel installation
 - b)Beam & Column Joint moulding installation
 - c)Slab System Formwork installation
 - d)Staircase installation



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

Range of Products

Precast wall Panel

- The thickness of the precast wall panels can be varied, depending on the structural engineering requirements by changing the height of the side formwork
- The size of wall panels can be adjusted in terms of both height and width to satisfy architectural requirements and functional purpose of the building
- The wall panels are cast in the specially designed mould
- The edge of the precast wall panels is cast with a shear key joint. This shear key, coupled with starter bars, provides very strong interlocking and strength after the columns have been cast



160mm x 5.8m
150mm/160mm



Standard Panels

All design panel wall height as per table below :-

| Item | Panel Wall Thickness (mm) | Panel Wall Height (m) |
|------|---------------------------|-----------------------|
| 1 | 100 mm | 3.0 m |
| | | 3.5 m |
| | | 4.0 m |
| 2 | 120 mm | 3.0 m |
| | | 3.5 m |
| | | 4.0 m |
| | | 4.5 m |
| 3 | 150 mm / 160 mm | 4.0 m |
| | | 4.5 m |
| | | 5.0 m |

Panel thickness, breadth and height can be varied to suit project requirements. However the panel height above 3.7m must be cast at site due to the restriction of height at the highway.

" Innovative & Revolutionary Precast System "



IBS One Stop Centre

Columns

- Various column or joint shapes are formed as a result of the intersection of the different wall panels. The columns are formed by basically clamping the various wall panels with specially designed moulds
- Standalone columns can also be constructed with the same mould
- The column moulds consist of a series of standard module design of moulds, interlocked and assembled to form various shapes of columns required
- The size of the columns can be easily increased or reduced by increasing or reducing the number modules
- The moulds are made from aluminium to achieve the desired pattern and to make it light to handle



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

Slab Panels

The slab can be either carried out as in-situ construction or precast planks with concrete topping. It is highly recommended the toilet area to be done as in-situ construction to negate any water leakage problem.

For precast planks and with concrete topping construction :-

- The precast plank are precast in sleeping moulds
- Starter bars are left at the edges for interconnection of cast in-situ beams and columns



Baywindow, Groove Line And Set In Profile



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

Arch And Precast Beam



Staircase



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

Quality Assurance

- Ready Mixed Concrete – Concrete Grade To Comply Engineer's Requirements
- Slump Test Carried Out On Every Delivery
- Cube Test Taken For Every 20m³



- Rebound Hammer Test Carried Out Daily & on Selected Panel



- Lifting Of Panel Only After Minimum 18 Hours Or As Specified By Engineer
- Panels Stored In Stock Yard For 7 Days Or As Specified By Engineer For Curing Before Delivery To Site
- Panels Stack Individually As Opposed To One On Top Of Another To Prevent Cracks



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

List of Projects

42 Units 3 & 5 Storey Shop Office, Taman Seri Andalas, Klang



70 Units Double Storey House Semi-D , Section 7, Shah Alam



119 Units Double Storey Link House, Section 24, Shah Alam



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

List of Projects

112 Units Single Storey House, Kota Puteri



493 units Single Storey House Semi D, Bukit Botak, Selayang



10 units Exco Bungalow and Club House, Section 7, Shah Alam



" Innovative & Revolutionary Precast System "



IBS One Stop Centre

List of Projects

119 Units Single Storey Terrace House, Bernam Jaya



118 Units Double Story Terrace House, Kota Puteri



156 Units Single Storey Terrace House, Kota Puteri



" Innovative & Revolutionary Precast System "