



HC Precast System

(100 % Malaysia Technology With 6 IPs')

Fast . Feasible . Flexible
Economical . Eco Friendly . Quality

Comply UBBL, BSI & Bomba approval project.

Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT.pdf

http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeliling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT.pdf



2 units Single Storey Semi-D
Completed in 9 Days with 9 workers (8.00 am – 7.00 pm)

" Choose Industrialised Building System (IBS) for Economical Construction Industrialised Building System (IBS) functions as a comprehensive superstructure construction system whereby flexibility in it's customisation allows Architect's creativity to flourish."

HC Precast System

(100 % Malaysia Technology With 6 IPs')

In Line With Government's Housing 4.0 Agenda for IBS for Superstructure Works

Unique 3 in 1 System :

- Monolithic Load bearing wall**
- Modular Wet Joint System (shear keys)**
- Box system**

Customizable & Flexibility To Suit Architectural Demands

The system is a proprietary technology that has been established in accordance to British Standards (BSI) and is also a patented technology.

- United States Patent : US 6,829,870 B2**
- Malaysia Patent : MY - 124213 - A**
- Malaysia Patent : MY - 139712 - A**
- Malaysia Patent : MY - 157696 - A**
- Malaysia Patent : MY - 162115 - A**
- Republic Of Indonesia Patent : IDP 000047693**

Hence, the specifications are not to be altered without proper engineering study to ensure the safety and integrity of the precast system.

HC Precast System Comply

1. Uniform building by law.

- Page 35 section 86 (2) clearly stated the single storey house may be in load-bearing 100mm solid masonry or in-situ concrete.

2. British Standard (BSI).

- BS 8110_1:1997

- Page 21 Table 3.3 – Nominal cover to all reinforcement and Table 3.4 – Nominal cover to all reinforcement (including links) to meet specified periods of fire resistance.

* Clearly stated of these BSI code are complied with.

3. BOMBA approval project.

4. Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT(1)

http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT.pdf

Standard Building Design Requirement

- 1. Malaysia building construction using conventional method on party wall thickness.**
 - Uniform building by law
 - Page 35 section 86 (1) clearly stated the thickness is 200 millimeters total thickness of solid masonry.
- 2. Malaysia building design and construction using British Standard (BSI).**
 - BS 8110_1:1997
 - Page 21 Table 3.3 – Nominal cover to all reinforcement and Table 3.4 – Nominal cover to all reinforcement (including links) to meet specified periods of fire resistance.

* Clearly stated of these BSI code are complied with.
- 3. BOMBA requirements 2 hours fire resistance.**

“ Whom should we follow ”

 - Uniform building by law : Page 35 section 86 (1) ?
 - BS 8110 _ 1:1997 : Page 21 table 3.3 & 3.4 ?
 - Local authority ?
 - BOMBA ?

Please be fair to the house buyer.

HC Precast System Comply

1. Uniform building by law :
Page 35 section 86 (2) clearly stated the single storey house may be in load-bearing 100mm solid masonry or in-situ concrete.



[Section 84 – 86]

(3) Every brick or masonry wall of a building founded on strip footings shall be provided with a damp proof course which shall be—

(a) at a height of not less than 150 millimetres above the surface of the ground adjoining the wall; and

(b) beneath the level of the underside of the lowest timbers of the ground floor resting on the wall, or where the ground floor is a solid floor, not higher than the level of the upper surface of the concrete or other similar solid material forming the structure of the floor.

(4) Where any part of a floor of the lowest or only storey of a building is below the surface of the adjoining ground and a wall or part of a wall of the storey is in contact with the ground—

(a) the wall or part of the wall shall be constructed or provided with a vertical damp proof course so as to be impervious to moisture from its base to a height of not less than 150 millimetres above the surface of the ground; and

(b) an additional damp proof course shall be inserted in the wall or part of the wall at its base.

(5) Where the floor or any part of the walls of a building is subject to water pressure, that portion of the floor or wall below ground level shall be waterproof.

85. For the purposes of this Part wherever references are made to the thickness of any brick wall, the maximum or minimum thickness of such wall shall not exceed the nominal thickness plus or minus the maximum tolerance permissible under any standard specification.

Nominal thickness of walls.

86. (1) All party walls shall generally be of not less than 200 millimetres total thickness of solid masonry or *insitu* concrete which may be made up of two separate skins each of not less than 100 millimetres thickness if constructed at different times:

Party walls.

Provided that in multi-storeyed flats and terrace houses of reinforced concrete or of protected steel framed construction having floors and roofs constructed to the requirements of these By-laws, the party wall thereof shall not be less than 100 millimetres total thickness.

(2) Party walls in single storeyed houses may be in load-bearing 100 millimetres solid masonry or *insitu* concrete provided the requirements of Part V, VI and VII of these By-laws are complied with.

(3) All party walls shall be carried above the upper surface of the roof to a distance of not less than 230 millimetres at right angles to such upper surface.

HC Precast System Comply

2. British Standard (BSI) :

BS 8110_1:1997 : Page 21 Table 3.3 – Nominal cover to all reinforcement and Table 3.4 – Nominal cover to all reinforcement (including links) to meet specified periods of fire resistance.



BS 8110-1:1997

Table 3.3 — Nominal cover to all reinforcement (including links) to meet durability requirements (see NOTE 1)

Conditions of exposure (see 3.3.4)	Nominal cover Dimensions in millimetres				
	25	20	20 ^a	20 ^a	20 ^a
Mild	—	—	—	—	—
Moderate	—	35	30	25	20
Severe	—	—	40	30	25
Very severe	—	—	50 ^b	40 ^b	30
Most severe	—	—	—	—	50
Abrasive	—	—	—	See NOTE 3	See NOTE 3
Maximum free water/cement ratio	0.65	0.60	0.55	0.50	0.45
Minimum cement content (kg/m ³)	275	300	325	350	400
Lowest grade of concrete	C30	C35	C40	C45	C50

NOTE 1 This table relates to normal-weight aggregate of 20 mm nominal size. Adjustments to minimum cement contents for aggregates other than 20 mm nominal maximum size are detailed in Table 8 of BS 5328-1:1997.

NOTE 2 Use of sulfate resisting cement conforming to BS 4027. These cements have lower resistance to chloride ion migration. If they are used in reinforced concrete in very severe or most severe exposure conditions, the covers in Table 3.3 should be increased by 10 mm.

NOTE 3 Cover should be not less than the nominal value corresponding to the relevant environmental category plus any allowance for loss of cover due to abrasion.

^a These covers may be reduced to 15 mm provided that the nominal maximum size of aggregate does not exceed 15 mm.

^b Where concrete is subject to freezing whilst wet, air-entrainment should be used (see 5.3.3 of BS 5328-1:1997) and the strength grade may be reduced by 5.

Table 3.4 — Nominal cover to all reinforcement (including links) to meet specified periods of fire resistance (see NOTES 1 and 2)

Fire resistance <i>h</i>	Nominal cover						Columns ^a mm	
	Beams ^a		Floors		Ribs			
	Simply supported mm	Continuous mm	Simply supported mm	Continuous mm	Simply supported mm	Continuous mm		
0.5	20 ^b	20 ^b	20 ^b	20 ^b	20 ^b	20 ^b	20 ^b	
1	20 ^b	20 ^b	20	20	20	20 ^b	20 ^b	
1.5	20	20 ^b	25	20	35	20	20	
2	40	30	35	25	45	35	25	
3	60	40	45	35	55	45	25	
4	70	50	55	45	65	55	25	

NOTE 1 The nominal covers given relate specifically to the minimum member dimensions given in Figure 3.2. Guidance on increased covers necessary if smaller members are used is given in section 4 of BS 8110-2:1985.

NOTE 2 Cases that lie below the bold line require attention to the additional measures necessary to reduce the risks of spalling (see section 4 of BS 8110-2:1985).

^a For the purposes of assessing a nominal cover for beams and columns, the cover to main bars which would have been obtained from Tables 4.2 and 4.3 of BS 8110-2:1985 has been reduced by a notional allowance for stirrups of 10 mm to cover the range 8 mm to 12 mm (see also 3.3.6).

^b These covers may be reduced to 15 mm provided that the nominal maximum size of aggregate does not exceed 15 mm (see 3.3.1.3).

*** Clearly stated of these BSI code are complied with.**

HC Precast System Comply

2. British Standard (BSI) :

BS 8110_1:1997 : Page 134.

**Table 6.2 – Minimum period before striking formwork
(concrete made with Portland cement 42.5 to BS 12:1991 or sulfate-resisting Portland cement 42.5 to BS 4027:1991).**



BS 8110-1:1997

- 2) units are not damaged by freezing;
- 3) temporary supports or connections to newly positioned units are provided as soon as practicable, these being completed before the lifting equipment is removed;
- 4) final structural connections are completed as soon as practicable;
- 5) contact surfaces intended to be bonded with in situ concrete have been properly prepared;
- 6) reinforcement is accurately located, particularly in the ends of members;
- 7) structural steel sections in ends of members and additional reinforcement needed to complete the connection, are accurately located;
- 8) joints are properly packed, particular attention being given to joints packed with concrete or mortar, especially if these are horizontal loaded-bearing joints;
- 9) all levelling devices, such as nuts and wedges, which have no load-bearing function in the finished structure should be slackened, released or removed as necessary.

Table 6.2 — Minimum period before striking formwork (concrete made with Portland cement 42.5 to BS 12:1991 or sulfate-resisting Portland cement 42.5 to BS 4027:1991)

Type of framework	Minimum period before striking	
	Surface temperature of concrete	
	16 °C and above	t °C (any temperature between 0 °C and 16 °C)
Vertical formwork to columns, walls and large beams	12 h	$\frac{300}{t + 10}$ h
Soffit formwork to slabs	4 days	$\frac{100}{t + 10}$ days
Soffit formwork to beams and props to slabs	10 days	$\frac{250}{t + 10}$ days
Props to beams	14 days	$\frac{360}{t + 10}$ days

NOTE This table can be applied to PC and SRPC of higher cement strength classes.



Unique 3 in 1 System :

- Monolithic Load bearing wall
- Modular Wet Joint System (shear keys)
- Box system

2019-01-26 19:00:01

CAM 1

2019-01-27 19:00:03

Day 1/14



CAM 1

British Standard (BSI) : BS 8110_1:1997 : Page 134.
Table 6.2 – Minimum period before striking formwork.
Props to beams 14 days

2019-01-28 19:00:06

Day 2/14



CAM 1

2019-01-29 08:00:00

Day 3/14



2019-01-30 08:00:04

Day 4/14



CAM 1

2019-01-31 08:00:03

Day 5/14



CAM 1

2019-02-01 08:00:03

Day 6/14



CAM 1

2019-02-02 08:00:02

Day 7/14



CAM 1

2019-02-03 08:00:02

Day 8/14



CAM 1

2019-02-04 08:00:03

Day 9/14



CAM 1

2019-02-05 08:00:04

Day 10/14



CAM 1

2019-02-06 08:00:01

Day 11/14



CAM 1

2019-02-07 08:00:03

Day 12/14



CAM 1

2019-02-08 08:00:37

Day 13/14



CAM 1

2019-02-09 08:09:40

Day 14/14



CAM 1

**British Standard (BSI) : BS 8110_1:1997 : Page 134.
Table 6.2 – Minimum period before striking formwork.
Props to beams dismantle 14 days**



2019-02-09 19:00:01

Day 14



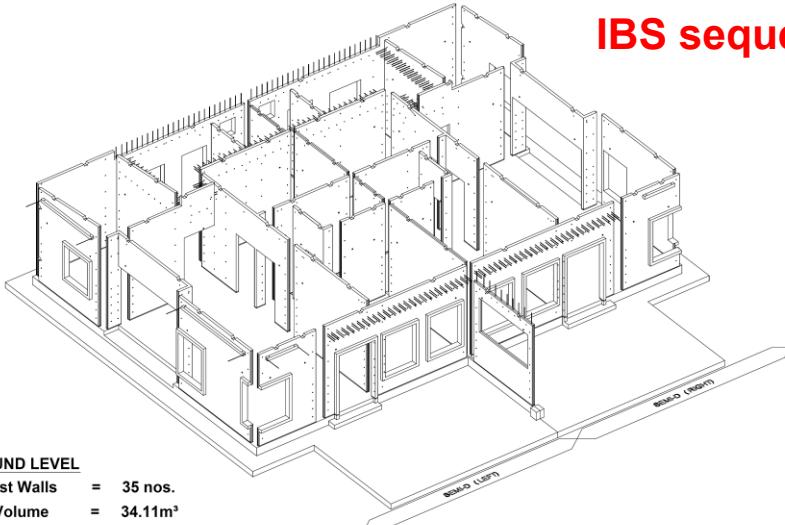
CAM 1

British Standard (BSI) : BS 8110_1:1997 : Page 134.
Table 6.2 – Minimum period before striking formwork.
Props to beams 14 days

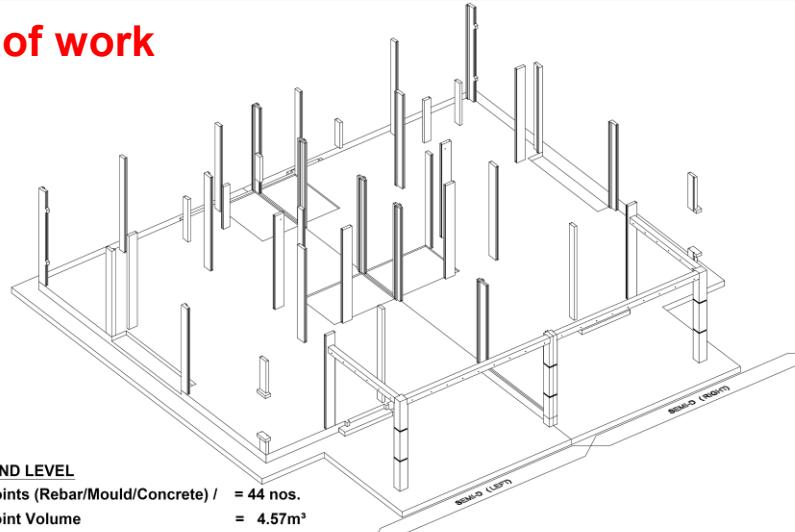
9 DAYS WITH 9 WORKERS (8.00am – 7.00pm)

- 1. Mobilisation (3 days) :**
 - a) Site Office Setup
 - b) Precast elements delivery
 - c) Setting-out for panel installation
- 2. Day 1 (18/01/2019)** : - Grd level precast wall panel installation & filling of expenditure cement
- 3. Day 2 (19/01/2019)** : - Grd level expenditure cement filling, wet joint rebar, aluminium mould installation & concreting
- 4. Day 3 (20/01/2019)** : - Grd level wet joint rebar, aluminium mould installation
- 5. Day 4 (21/01/2019)** : - Car porch column rebar, aluminium mould and precast beam installation
 - Grd level wet joint concreting
- 6. Day 5 (22/01/2019)** : - Grd level wet joint mould dismantle
 - Precast half slab & in-situ aluminium mould at water tank area installation
- 7. Day 6 (23/01/2019)** : - Grd level wet joint mould dismantle
 - Car porch precast half slab & in-situ aluminium mould installation
 - Roof level precast wall panel installation
- 8. Day 7 (24/01/2019)** : - Grd level wet joint mould dismantle
 - Car porch in-situ slab rebar & BRC installation
 - Roof level precast wall panel installation
 - Roof level wet joint rebar & aluminium mould installation
- 9. Day 8 (25/01/2019)** : - Roof level wet joint rebar & aluminium mould installation
- 10. Day 9 (26/01/2019)** : **LAST DAY**
 - Roof level wet joint concreting
 - Car porch in-situ slab concreting Aluminium mould will be dismantle after 14 days (09/02/2019) as comply to BSI code.

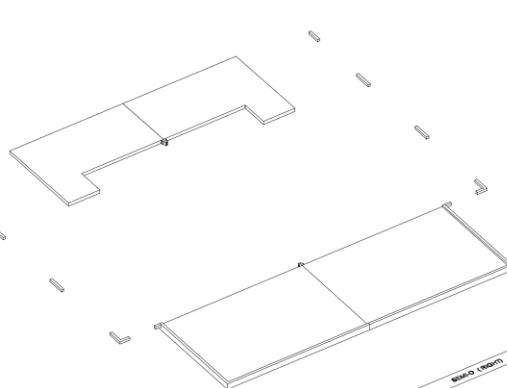
IBS sequence of work


GROUND LEVEL

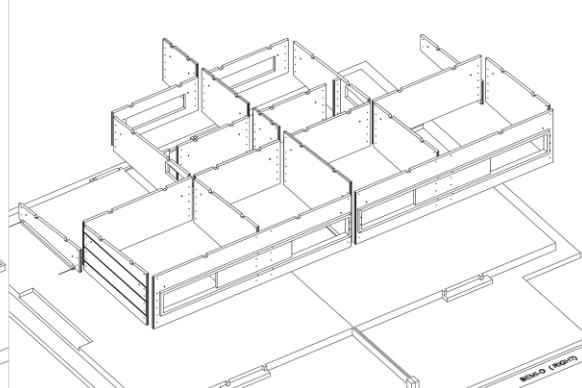
Precast Walls = 35 nos.
 Wall Volume = 34.11m³
 Height of Wall = 2940 / 3075 / 3375 / 3673 / 3690mm
 Built-up Area = 186.74m²


GROUND LEVEL

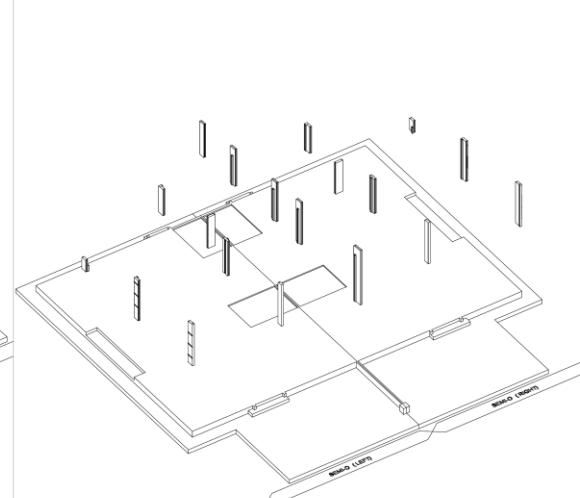
Wet Joints (Rebar/Mould/Concrete) / = 44 nos.
 Wet Joint Volume = 4.57m³
 Precast Beams = 4 nos.
 Precast Beams Volume = 0.71m³


ROOF LEVEL

Precast Half Slabs = 4 nos.
 Precast Half Slabs Volume = 1.78m³
 Cast in-situ R.C. Flat Roofs = 4 nos.
 Cast in-situ R.C. Flat Roofs Volume = 12.06m³
 Cast in-situ Copings = 10 nos.
 Cast in-situ Copings Volume = 0.07m³


ROOF LEVEL

Precast Walls = 22 nos.
 Precast Walls Volume = 14.42m³
 Height of Wall = 614~2522mm


ROOF LEVEL

Wet Joints (Rebar/Mould/Concrete) = 19 nos.
 Wet Joints Volume = 1.19m³

SYSTEM PROVIDER


HC PRECAST SYSTEM SDN. BHD. (586697-M)
 No.236, Jalan Seri Sarawak 209/KS2, Taman Seri Andals,
 41200 Klang, Selangor D.E. Tel:03-3323 7999 Fax:03-3323 8993
 e-mail:enquiry@hpcrs.com.my, http://www.hpcrs.com.my

DETAILS SHOWN IN THIS DRAWING ARE PROPERTY OF HC PRECAST SYSTEM & PROTECTED BY PATENTS. ALL COPYRIGHT ARE RESERVED. (U.S. 6,29,670, 82) & (WI-124213-A)

MANUFACTURER

HC MANUFACTURING SDN. BHD. (585570-T)
 No.23-1, Jalan Seri Sarawak 209/KS2, Taman Seri Andals,
 41200 Klang, Selangor D.E.
 Tel:03-3323 7999 Fax:03-3323 8993

DRAWN :

KC

DATE :

NOV 2018

CHEKED :

MENG

EWNO :

MENG

APPRO :

MENG

SCALE :

NIS

CADANGAN SKIM PERUMAHAN RAKYAT I MALAYSIA
 (PRIMA) BAGI RUMAH BERKEMBAR 1 TINGKAT

DI ATAS TANAH KERAJAAN DI PAMAH KASIH,
 CHARUK PUTING, MUKIM PERAK, DAERAH TEMERLOH,
 PAHANG.

UNTUK TETUAN:
 BERGAMO DESIGN (M) SDN. BHD.

DRAWING TITLE :

SINGLE STOREY SEMI-D (LEFT & RIGHT UNIT)
 SEQUENCE OF WORKS

DRAWING NO.:

HC/BD/SD/SOW-01

REV. :

C

SYSTEM :

-

REV. :

-

2019-01-17 16:25:59



2019-01-17 16:58:02



CAM 1



Unique 3 in 1 System :

- Monolithic Load bearing wall
- Modular Wet Joint System (shear keys)
- Box system

2019-01-18 08:52:54

Day 1/9

CAM 1

2 units Single Storey Semi-D completed in 9 Days with 9 workers (8.00 am - 7.00 pm)

2019-01-18 18:15:11

Day 1/9



- Monolithic Load bearing wall

2019-01-19 08:00:02

Day 2/9



2019-01-19 19:00:07

Day 2/9



2019-01-20 08:12:46

Day 3/9



CAM 1

2019-01-20 19:09:36

Day 3/9



CAM 1

2019-01-21 08:01:31

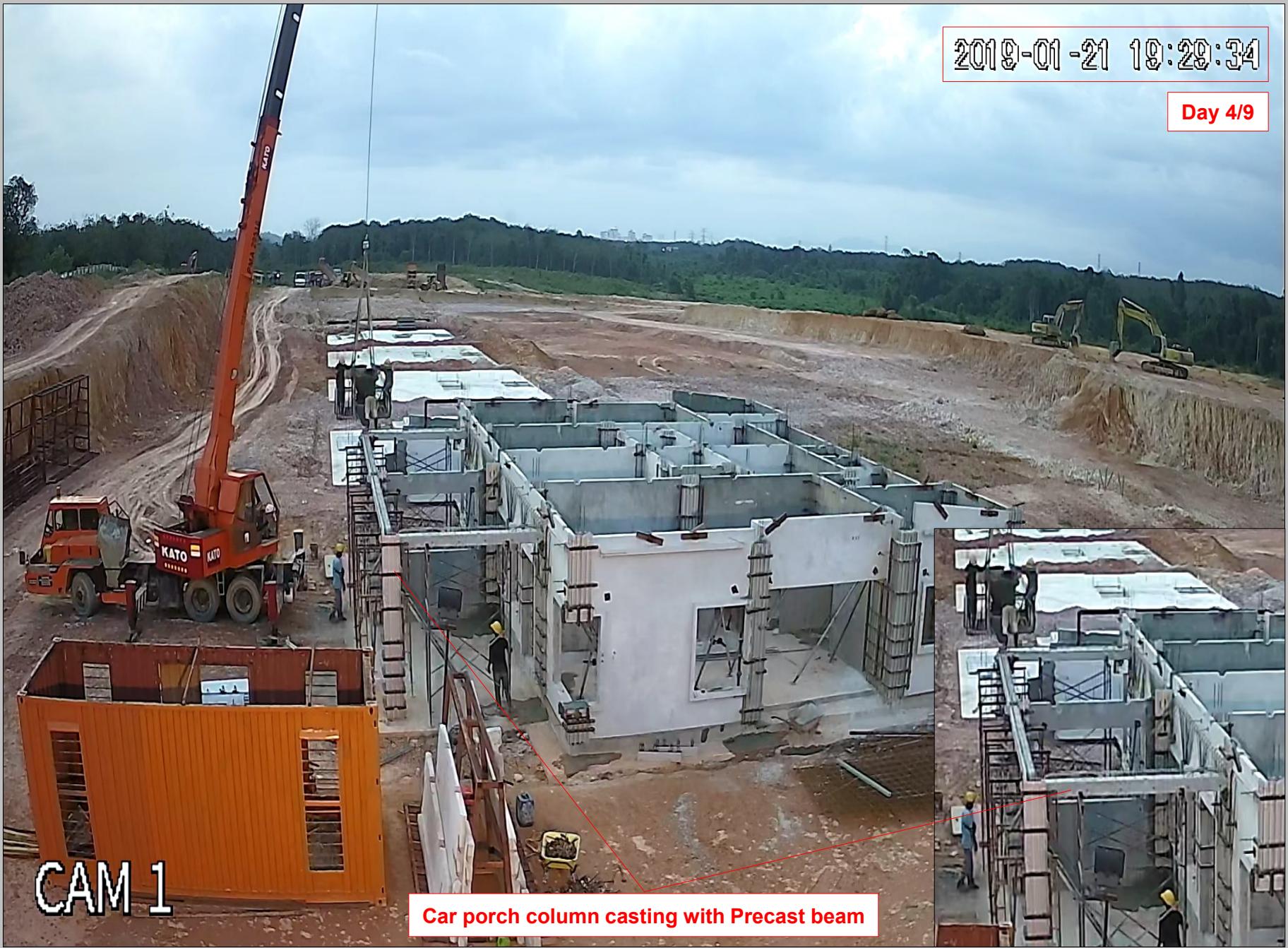
Day 4/9



CAM 1

2019-01-21 19:20:34

Day 4/9



2019-01-22 08:08:29

Day 5/9



CAM 1

2019-01-22 10:15:49

Day 5/9



Water tank RC flat roof casting

2019-01-22 19:56:24

Day 5/9



2019-01-23 08:04:07

Day 6/9



CAM 1

2019-01-23 18:58:12

Day 6/9



2019-01-24 08:05:28

Day 7/9



CAM 1

2019-01-24 19:04:04

Day 7/9



CAM 1

2019-01-25 08:08:23

Day 8/9



CAM 1

- Modular Wet Joint System (shear keys)

2019-01-25 19:13:06

Day 8/9



CAM 1

2019-01-26 08:05:17

Day 9/9



CAM 1

2019-01-26 18:10:52

Day 9/9



CAM 1

2 units Single Storey Semi-D completed in 9 Days with 9 workers (8.00 am - 7.00 pm)

2019-02-11 11:00:08



CAM 1

Unique 3 in 1 System :
- Monolithic Load bearing wall
- Modular Wet Joint System (shear keys)
- Box system



3. BOMBA approval project.



JABATAN BOMBA DAN PENYELAMAT MALAYSIA

ZON 2 PAHANG

d/a BALAI BOMBA DAN PENYELAMAT TEMERLOH,

JALAN AHMAD SHAH,

28000 TEMERLOH,

PAHANG DARUL MAKMUR

Telefon : 09-2716999

Faks :

Laman Web : www.bomba.gov.my

E-mail : zon-temerloh.bomba@1govuc.gov.my



Ruj.Tuan: 100600-1

Ruj. Kami: JBPM/PH/Z2PH:700-2/1/1514(2)

Tarikh : 23 Januari 2018

Yang Dipertua
Majlis Perbandaran Temerloh
Jalan Ahmad Shah
28000 Temerloh
(u.p: Urusetia Pusat Setempat)

Dato' / Tuan,

CADANGAN SKIM PERUMAHAN RAKYAT 1 MALAYSIA (PRIMA) BAGI 316 UNIT RUMAH BERKEMBAR 1 TINGKAT I PLOT 3-214, 218-233 & 236-323, DI ATAS TANAH KERAJAAN, DI PAMAH KASIH, CHARUK PUTING, MUKIM PERAK, DAERAH TEMERLOH, PAHANG DARUL MAKMUR UNTUK TETUAN BERGAMO DESIGN (M) SDN. BHD.

Merujuk kepada surat tuan bertarikh 9 Januari berhubung perkara di atas, bersama-sama ini dikembalikan (1) salinan pelan yang telah diperakurkan untuk tindakan tuan selanjutnya. Manakala (1) salinan lagi untuk rekod jabatan ini.

2. Bersama-sama ini juga dilampirkan kehendak-kehendak kelengkapan menentang kebakaran atau pepasangan keselamatan kebakaran yang perlu dipatuhi oleh tuan bagi projek di atas.

3. Pihak tuan dikehendaki hadir ke pejabat ini untuk mengambil pelan berkenaan. Sekiranya pelan ini tidak diambil dalam masa 7 hari dari tarikh surat ini, pihak jabatan berhak melupuskan dokumen-dokumen yang berkaitan mengikut tatacara yang sesuai dan tidak akan bertanggungjawab di atas sebarang masalah yang timbul.

Sekian, terima kasih.

2/...

'CEPAT DAN MESRA'



3. BOMBA approval project.



JBPM/PH/Z2PH:700-2/1/1/1514

kenendak-kehendak kelengkapan menentang kelakuan

TAJUK PROJEK:

CADANGAN SKIM PERUMAHAN RAKYAT 1 MALAYSIA (PRIMA) BAGI 316 UNIT RUMAH BERKEMBAR 1 TINGKAT I PLOT 3-214, 218-233 & 236-323, DI ATAS TANAH KERAJAAN, DI PAMAH KASIH, CHARUK PUTING, MUKIM PERAK, DAERAH TEMERLOH, PAHANG DARUL MAKMUR UNTUK TETUAN BERGAMO DESIGN (M) SDN. BHD.

Pelan Tapak

1. Adakan 16 buah pili bomba jenis tiang pengeluaran dua hala dengan pengeluaran air sebanyak 1135 liter seminit bagi setiap pili bomba sepertimana yang ditandakan di dalam pelan.
2. Adakan jalan akses perkakas bomba (access road) dengan kelebaran tidak kurang 6 meter yang boleh menanggung beban 25 tan sepertimana yang ditandakan di dalam pelan.

Kehendak-Kehendak Pasif

1. Dinding pemisah hendaklah dari jenis batu bata setebal 100 mm jenis yang menanggung beban. Dinding ini hendaklah dinaikan 230 mm melebihi paras bumbung atau mematuhi rekabentuk yang dipersetujui oleh Jabatan Bomba dan Penyelamat Malaysia.

Peringatan

1. Segala syarat-syarat yang dikemukakan adalah tertakluk kepada rekabentuk dan kegunaan serta lokasi bangunan tersebut. Sekiranya sebarang perubahan yang dilakukan ke atas rekabentuk atau kegunaannya seperti yang dicatatkan di atas pelan maka hendaklah dirujuk ke jabatan ini untuk dikaji semula.
2. Pengesahan pelan ini adalah tidak tertakluk kepada penyimpanan, penggunaan, pemprosesan dan penghasilan bahan berbahaya atau kimia berbahaya. Sekiranya terdapat sebarang penyimpanan, penggunaan, pemprosesan dan penghasilan bahan berbahaya atau kimia berbahaya setelah pelan disahkan maka pelan bangunan tersebut hendaklah dirujuk kembali ke jabatan ini untuk dikaji semula.
3. Mana-mana premis yang mengendalikan, memproses atau menyimpan bahan-bahan berbahaya hendaklah diadakan tanda khas mengikut simbol 'Hazchem Code'. Tanda-tanda ini hendaklah mudah dilihat.

(SHAHRIN YUSMAR BIN MAT YUSOF)

Ketua Zon 2 Pahang.

Jabatan Bomba dan Penyelamat Malaysia,

3. BOMBA approval project.



-2-

"BERKHIDMAT UNTUK NEGARA"
"1 Malaysia" Rakyat Didahulukan. Pencapaian Diutamakan."

Saya yang menurut perintah,

(SHAHRIN YUSMAR BIN MAT YUSOF)

Ketua Zon 2 Pahang.
Jabatan Bomba dan Penyelamat Malaysia,
Negeri Pahang.

s.k : - Pengarah JBPM
Ibu Pejabat
Jabatan Bomba dan Penyelamat Negeri Pahang
25150 KUANTAN.
(u.p. Bahagian Keselamatan Kebakaran)

Yang Dipertua
Majlis Perbandaran Temerloh
Jalan Ahmad Shah
28000 Temerloh
(u.p: Jab. Kawalan bangunan)

Nathan Jones Architect
Suite 163E-01, Level 16, Hunza Tower
Gurney Paragon, Jalan Kelawai
10250 George Town, Penang

Tetuan Bergamo Design (M) Sdn. Bhd.
No. 33, Jalan Industri Mas 5, Taman Mas Sepang
47100 Puchong

3. Penggunaan Kaedah IBS Sebagai Syarat Kelulusan Pelan Bangunan oleh PBT(1)

http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeliling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT.pdf



KEMENTERIAN KESEJAHTERAAN BANDAR, PERUMAHAN DAN KERAJAAN TEMPATAN
NO. 51, PERSIARAN PERDANA, PRESINT 4,
PUSAT PENTADBIRAN KERAJAAN PERSEKUTUAN
62100 PUTRAJAYA

Telefon : 03 - 8891 5003
Faksimili : 03 - 8891 5558

Rujukan Kami : JKT.D.100-1/3/2 Jld.8(18)
Tarikh : 10 Januari 2018

**PEKELILING KETUA SETIAUSAHA
KEMENTERIAN KESEJAHTERAAN BANDAR,
PERUMAHAN DAN KERAJAAN TEMPATAN
BILANGAN 1 TAHUN 2017**

**MEWAJIBKAN PENGGUNAAN KAEADAH IBS
SEBAGAI SALAH SATU SYARAT KELULUSAN
PELAN BANGUNAN OLEH PIHAK BERKUASA TEMPATAN**

TUJUAN

Pekeliling ini bertujuan memberi penjelasan serta panduan kepada Pihak Berkusa Negeri (PBN) dan Pihak Berkusa Tempatan (PBT) mengenai mekanisme mewajibkan penggunaan kaedah Sistem Binaan Berindustri (*Industrialised Building System – IBS*) sebagai salah satu syarat kelulusan Kebenaran Merancang / Perintah Pembangunan dan Pelan Bangunan serta pemakaian Garis Panduan Pelaksanaan IBS Bagi Projek Swasta yang bernilai RM50 juta dan ke atas.

3. Penggunaan Kaedah IBS Sebagai Syarat Kelulusan Pelan Bangunan oleh PBT(1)

http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeliling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT.pdf

LATAR BELAKANG

2. Mesyuarat Jemaah Menteri pada **9 September 2015** telah bersetuju dengan cadangan **Mempertingkatkan Penggunaan Sistem Binaan Berindustri Dalam Industri Pembinaan** melalui polisi mewajibkan pelaksanaan penggunaan kaedah IBS bagi projek bernilai RM50 juta dan ke atas untuk projek dalam sektor swasta dengan minima skor IBS sebanyak **50**. Ianya mampu meningkatkan tahap pencapaian penggunaan kaedah IBS dalam sektor swasta yang akan memainkan peranan sebagai pemacu pertumbuhan industri IBS.
3. Seterusnya, Mesyuarat Majlis Negara Bagi Kerajaan Tempatan (MNKT) Ke-71 yang bersidang pada **10 Julai 2017** telah menimbang dan bersetuju dengan cadangan cadangan **Mewajibkan Penggunaan Kaedah IBS Sebagai Salah Satu Syarat Kelulusan Kebenaran Merancang / Perintah Pembangunan Dan Pelan Bangunan Oleh Pihak Berkuasa Tempatan** serta kaedah pelaksanaannya yang diperincikan dalam **Garis Panduan Pelaksanaan IBS Bagi Projek Swasta** oleh PBN dan PBT.

PELAKSANAAN IBS DALAM PERMOHONAN KEBENARAN PELAN BANGUNAN

4. Projek pembinaan dalam sektor swasta **DIWAJIBKAN** menggunakan kaedah IBS sekiranya ia memenuhi kriteria yang telah ditetapkan seperti berikut :

3. Penggunaan Kaedah IBS Sebagai Syarat Kelulusan Pelan Bangunan oleh PBT(1)

http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeliling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT.pdf

- (i) projek pembinaan bangunan yang dilaksanakan oleh pihak sektor swasta yang secara keseluruhannya bernilai RM50 juta dan ke atas;
- (ii) penggunaan terma atau takrifan nilai projek "RM50 juta dan ke atas" dalam Garis Panduan ini adalah merujuk jumlah keseluruhan Keluasan Lantai Kasar (gross floor area – GFA) bangunan;
- (iii) jumlah keseluruhan Keluasan Lantai Kasar yang ditetapkan adalah dengan keluasan 50,000 m² (meter persegi) dan ke atas; dan
- (iv) projek pembinaan yang hanya melibatkan projek bangunan sahaja dengan kategori bangunan ditafsirkan sebagai rumah kediaman, rumah kediaman bertingkat, bangunan komersil dan industri.

GARIS PANDUAN PELAKSANAAN IBS BAGI PROJEK SWASTA

5. Garis panduan ini menjadi rujukan utama dalam pelaksanaan syarat wajib penggunaan kaedah IBS bagi projek swasta melalui permohonan Kebenaran Merancang atau Perintah Pembangunan dan proses permohonan Pelan Bangunan di peringkat Pihak Berkuasa Tempatan.
6. Garis panduan ini hendaklah dibaca bersama dengan peruntukan undang-undang sedia ada khususnya Akta Perancangan Bandar dan Desa 1976 (Akta 172), Akta Jalan, Parit dan Bangunan 1974 (Akta 133) dan Undang-undang Kecil Bangunan Seragam (UKBS), 1984.

3. Penggunaan Kaedah IBS Sebagai Syarat Kelulusan Pelan Bangunan oleh PBT(1)

http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeliling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_BT.pdf

7. Pelaksanaan dan penguatkuasaan kepada garis panduan umum dan garis panduan khusus yang terkandung di dalam garis panduan ini perlu merujuk kepada dasar-dasar, pekeliling-pekeliling, arahan-arahan dan piawaian-piawaian yang digubal dan dikuatkuasakan oleh pihak-pihak berkuasa berpandukan kepada skop kuasa yang diperuntukkan oleh undang-undang, serta garis panduan-garis panduan perancangan lain. Maklumat lengkap garis panduan tersebut adalah seperti di **Lampiran**.

TARIKH KUATKUASA

8. Pekeliling ini berkuatkuasa mulai tarikh ianya dikeluarkan.

PERTANYAAN

9. Sebarang pertanyaan dan penjelasan lanjut berhubung pekeliling ini boleh dikemukakan kepada:

Ketua Eksekutif

Lembaga Pembangunan Industri Pembinaan Malaysia (CIDB)

Aras 25A, Menara Dato' Onn

Pusat Dagangan Dunia Putra

No. 45 Jalan Tun Ismail

50480 KUALA LUMPUR

(u.p: Bahagian Teknologi Pembinaan)

No. Tel : 03- 9281 6909

No. Faks : 03- 9281 5870

3. Penggunaan Kaedah IBS Sebagai Syarat Kelulusan Pelan Bangunan oleh PBT(1)

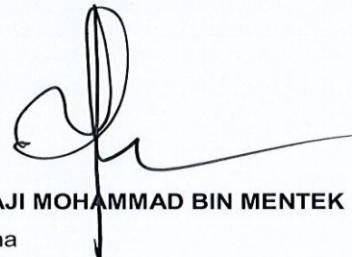
http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeliling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_PBT.pdf

PENUTUP

10. Pekeliling ini dipanjangkan kepada semua PBN dan PBT untuk perhatian dan tindakan sewajarnya.

"BERKHIDMAT UNTUK NEGARA"

"1MALAYSIA: RAKYAT DIDAHULUKAN, PENCAPAIAN DIUTAMAKAN"



(DATO' SRI HAJI MOHAMMAD BIN MENTEK)

Ketua Setiausaha

Kementerian Kesejahteraan Bandar, Perumahan dan
Kerajaan Tempatan.

10 Januari 2018

s.k :

Semua YB Setiausaha Kerajaan Negeri

Semua Datuk Bandar / Yang Dipertua

Pihak Berkuasa Tempatan

3. Penggunaan Kaedah IBS Sebagai Syarat Kelulusan Pelan Bangunan oleh PBT(1)

http://jkt.kpkt.gov.my/jkt/resources/PDF/Pekeliling%20JKT/2017/Penggunaan_Kaedah_IBS_Sebagai_Syarat_Kelulusan_Pelan_Bangunan_oleh_BT.pdf

GARIS PANDUAN PELAKSANAAN IBS BAGI PROJEK SWASTA



LEMBAGA PEMBANGUNAN INDUSTRI PEMBINAAN
KEMENTERIAN KERJA RAYA



Standard Building Design Requirement

- 1. Malaysia building construction using conventional method on party wall thickness.**
 - Uniform building by law
 - Page 35 section 86 (1) clearly stated the thickness is 200 millimeters total thickness of solid masonry.
- 2. Malaysia building design and construction using British Standard (BSI).**
 - BS 8110_1:1997
 - Page 21 Table 3.3 – Nominal cover to all reinforcement and Table 3.4 – Nominal cover to all reinforcement (including links) to meet specified periods of fire resistance.

* Clearly stated of these BSI code are complied with.
- 3. BOMBA requirements 2 hours fire resistance.**

“ Whom should we follow ”

 - Uniform building by law : Page 35 section 86 (1) ?
 - BS 8110 _ 1:1997 : Page 21 table 3.3 & 3.4 ?
 - Local authority ?
 - BOMBA ?

Please be fair to the house buyer.

Standard Building Design Requirement

1. Malaysia building construction using conventional method on party wall thickness.

- Uniform building by law :
Page 35 section 86 (1) clearly stated the thickness is 200 millimeters total thickness of solid masonry.

[Section 84 – 86]

(3) Every brick or masonry wall of a building founded on strip footings shall be provided with a damp proof course which shall be—

(a) at a height of not less than 150 millimetres above the surface of the ground adjoining the wall; and

(b) beneath the level of the underside of the lowest timbers of the ground floor resting on the wall, or where the ground floor is a solid floor, not higher than the level of the upper surface of the concrete or other similar solid material forming the structure of the floor.

(4) Where any part of a floor of the lowest or only storey of a building is below the surface of the adjoining ground and a wall or part of a wall of the storey is in contact with the ground—

(a) the wall or part of the wall shall be constructed or provided with a vertical damp proof course so as to be impervious to moisture from its base to a height of not less than 150 millimetres above the surface of the ground; and

(b) an additional damp proof course shall be inserted in the wall or part of the wall at its base.

(5) Where the floor or any part of the walls of a building is subject to water pressure, that portion of the floor or wall below ground level shall be waterproof.

85: For the purposes of this Part wherever references are made to the thickness of any brick wall, the maximum or minimum thickness of such wall shall not exceed the nominal thickness plus or minus the maximum tolerance permissible under any standard specification.

Nominal thickness of walls.

86. (1) All party walls shall generally be of not less than 200 millimetres total thickness of solid masonry or *in situ* concrete which may be made up of two separate skins each of not less than 100 millimetres thickness if constructed at different times:

Party walls.

Provided that in multi-storeyed flats and terrace houses of reinforced concrete or of protected steel framed construction having floors and roofs constructed to the requirements of these By-laws, the party wall thereof shall not be less than 100 millimetres total thickness.

(2) Party walls in single storeyed houses may be in load-bearing 100 millimetres solid masonry or *in situ* concrete provided the requirements of Part V, VI and VII of these By-laws are complied with.

(3) All party walls shall be carried above the upper surface of the roof to a distance of not less than 230 millimetres at right angles to such upper surface.

Standard Building Design Requirement

2. Malaysia building design and construction using British Standard (BSI).

- BS 8110_1:1997

- Page 21 Table 3.3 – Nominal cover to all reinforcement and Table 3.4 – Nominal cover to all reinforcement (including links) to meet specified periods of fire resistance.

* Clearly stated of these BSI code are complied with.

Table 3.3 — Nominal cover to all reinforcement (including links) to meet durability requirements (see NOTE 1)

Conditions of exposure (see 3.3.4)	Nominal cover Dimensions in millimetres				
	Mild	25	20	20 ^a	20 ^a
Moderate	—	35	30	25	20
Severe	—	—	40	30	25
Very severe	—	—	50 ^b	40 ^b	30
Most severe	—	—	—	—	50
Abrasives	—	—	—	See NOTE 3	See NOTE 3
Maximum free water/cement ratio	0.65	0.60	0.55	0.50	0.45
Minimum cement content (kg/m ³)	275	300	325	350	400
Lowest grade of concrete	C30	C35	C40	C45	C50

NOTE 1 This table relates to normal-weight aggregate of 20 mm nominal size. Adjustments to minimum cement contents for aggregates other than 20 mm nominal maximum size are detailed in Table 8 of BS 5328-1:1997.

NOTE 2 Use of sulfate resisting cement conforming to BS 4027. These cements have lower resistance to chloride ion migration. If they are used in reinforced concrete in very severe or most severe exposure conditions, the covers in Table 3.3 should be increased by 10 mm.

NOTE 3 Cover should be not less than the nominal value corresponding to the relevant environmental category plus any allowance for loss of cover due to abrasion.

^a These covers may be reduced to 15 mm provided that the nominal maximum size of aggregate does not exceed 15 mm.

^b Where concrete is subject to freezing whilst wet, air-entrainment should be used (see 5.3.3 of BS 5328-1:1997) and the strength grade may be reduced by 5.

Table 3.4 — Nominal cover to all reinforcement (including links) to meet specified periods of fire resistance (see NOTES 1 and 2)

Fire resistance <i>h</i>	Nominal cover						
	Beams ^a		Floors		Ribs		Columns ^a mm
	Simply supported mm	Continuous mm	Simply supported mm	Continuous mm	Simply supported mm	Continuous mm	
0.5	20 ^b	20 ^b	20 ^b	20 ^b	20 ^b	20 ^b	20 ^b
1	20 ^b	20 ^b	20	20	20	20 ^b	20 ^b
1.5	20	20 ^b	25	20	35	20	20
2	40	30	35	25	45	35	25
3	60	40	45	35	55	45	25
4	70	50	55	45	65	55	25

NOTE 1 The nominal covers given relate specifically to the minimum member dimensions given in Figure 3.2. Guidance on increased covers necessary if smaller members are used is given in section 4 of BS 8110-2:1985.

NOTE 2 Cases that lie below the bold line require attention to the additional measures necessary to reduce the risks of spalling (see section 4 of BS 8110-2:1985).

^a For the purposes of assessing a nominal cover for beams and columns, the cover to main bars which would have been obtained from Tables 4.2 and 4.3 of BS 8110-2:1985 has been reduced by a notional allowance for stirrups of 10 mm to cover the range 8 mm to 12 mm (see also 3.3.6).

^b These covers may be reduced to 15 mm provided that the nominal maximum size of aggregate does not exceed 15 mm (see 3.3.1.3).

* Clearly stated of these BSI code are complied with.

3. BOMBA requirements 2 hours fire resistance.

“ Whom should we follow ”

- Uniform building by law :**
Page 35 section 86 (1) ?
- BS 8110 _ 1:1997 : Page 21 table 3.3 & 3.4 ?**
- Local authority ?**
- BOMBA ?**

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THANK YOU

