

JUBM & Arcadis  
Construction Cost Handbook  
**MALAYSIA**  
**2022**

JUBM Sdn Bhd 197601001824 (27638-X)

Arcadis (Malaysia) Sdn Bhd 200001017836 (520443-H)

Arcadis Projek Sdn Bhd 199201002315 (233819-K)

KDN PP10466/05/2013(032500)

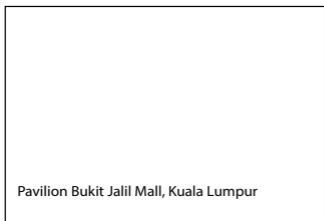


# Electronic Cost Handbook

Download the pdf version from our website by scanning the QR code below.



## Handbook Cover Photos



The following handbook of information relating to the Malaysian construction industry has been compiled by:

JUBM Sdn Bhd  
Arcadis (Malaysia) Sdn Bhd  
Arcadis Projekts Sdn Bhd

Level 6, Menara TSR  
12 Jalan PJU 7/3, Mutiara Damansara  
47810 Petaling Jaya  
Selangor

Telephone : (6 03) 2106 8000/ 2106 9000  
Fax : (6 03) 2106 9090  
Email : info-my@arcadis.com  
Website : <http://www.arcadis.com>

© Arcadis (Malaysia) Sdn Bhd

All rights reserved. No part of this publication may be reproduced or copied in any form without prior written permission from Arcadis (Malaysia) Sdn Bhd.

The information contained herein should be regarded as indicative and for general guidance only. Whilst every effort has been made to ensure accuracy, no responsibility can be accepted for errors and omissions, however caused.

Unless otherwise stated, costs reflected in this handbook are Malaysian costs at 4th Quarter 2021.



Arcadis (Malaysia) Sdn Bhd 200001017836 (520443-H)  
Arcadis Projekts Sdn Bhd 199201002315 (233819-K)



JUBM Sdn Bhd 197601001824 (27638-X)

KDN : PP10466/05/2013 (032500)

For circulation on complimentary basis to staff and business associates.

Printed: March 2022

by

Trumatch Printing & Packaging Sdn Bhd (KDN: PQ1780/4589)

No.55, Jalan PBS 14/8,

Taman Perindustrian Bukit Serdang,

43300 Seri Kembangan, Selangor Darul Ehsan

# TABLE OF CONTENTS

	Page No.
Table of Contents	2
About Us	4
Calendars	10

## 1. CONSTRUCTION COST DATA

Construction Cost Specification	12
Kuala Lumpur Construction Cost Trend (2011 - 2021)	14
Construction Costs for Kuala Lumpur	16
Construction Costs for Johor Bahru	18
Construction Costs for Penang	20
Construction Costs for Kota Kinabalu	22
Construction Costs for Kuching	24
Construction Costs for Selected Asian Cities	26
Major Rates for Malaysia	32
Major Rates for Selected Asian Cities	34
ACMV Costs for Various Designs & Developments in Kuala Lumpur	40
M&E Costs for Selected Asian Cities	42
Unit Costs for Ancillary Facilities for Kuala Lumpur	48
Fit-Out Costs for Kuala Lumpur	49

## 2. GENERAL CONSTRUCTION DATA

JUBM - Arcadis Building Works Composite Tender Price Index (BWCTPI)	52
JKR Tender Price Index	53
Value of Construction Work Done by Type of Construction Activity	54
Performance of The Construction Sector	55
Estimating Rules of Thumb	56
Technical Specifications	58
Average Unit Prices	60
Unit Price Index	62
Construction Sector Indicators	63
Commodities Price Trend (Jan to Oct 2021)	64
Malaysia Construction Sector - Employment & Gross Domestic Product	66
Progress Payments	67

## 3. PROPERTY

Residential	70
Hotel	72
Office	74
Shopping Complex	76
Shop	78
Industrial	79



#### 4. FINANCIAL

Financial Definitions & Formulae	82
Mortgage Repayment Table	83
Malaysia Balance of Payments	
- Goods & Services	84
Consumer Price Index & Producer	
Price Index	85
Prime Rates & Base Lending Rates	86
Interest Rates : Banking Institutions	87
Currency Chart	88
Exchange Rates	89

#### 5. OTHER INFORMATION

Utility Costs for Selected Asian Cities	92
Weight & Measures	96
Conversion Guide	98
Public Holidays	100
Directory of Offices	106
Telephone Directory (Malaysia)	114



Arcadis is the leading global Design & Consultancy firm for natural and built assets. Applying our deep market sector insights and collective design, consultancy, engineering, project and management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets. In Asia, we have over 4,000 people covering the Asia market across all sectors focused on improving quality of life.

As Arcadis (Malaysia) Sdn Bhd, we are one of the largest and longest established Quantity Surveying practices in the country. Together with our collaborative partner, JUBM Sdn Bhd, we offer a multi-disciplinary construction cost consultancy service and provides integrated solutions to our clientele throughout Malaysia working from five offices in Kuala Lumpur, Penang, Johor Bahru, Kota Kinabalu and Kuching.

We provide our specialist services to nearly all market segments in the construction industry from religious buildings to residential homes, hospitality to corporate headquarters, mixed use developments to master planning.

The diverse range of project experience provides us with a rich and extensive construction cost database which enables the company to handle the simplest to the most complex projects entrusted by clients who recognized our value and dynamism.

(Log on to [www.arcadis.com](http://www.arcadis.com) for more details.)

## Our Core Values

### People First

We care for each other and create a safe and respectful working environment where our people can grow, perform, and succeed.

### Client Success

We are passionate about our clients' success and bring insights, agility, and innovation to co-create value.

### Integrity

We always work to the highest professional and ethical standards and establish trust by being open, honest and responsible.

### Sustainability

We base our actions for clients and communities on environmental responsibility and social and economic advancement.

### Collaboration

We value the power of diversity and our global capabilities and deliver excellence by working as One Arcadis.

## A Selection of Our Projects

### Commercial

1. Mercu 3, KL Eco City, Kuala Lumpur 2017
2. Damansara City 2 Office Tower, Kuala Lumpur 2017
3. Etiqa Office Tower, Kuala Lumpur 2018
4. The Prime Dataran Puchong, Selangor 2018
5. Eco Galleria Nusajaya, Johor 2020
6. Eco Palladium, Johor 2019
7. HSBC Catalyst Tower, Kuala Lumpur 2021

### Retail

8. Sunway Big Box Retail Park, Johor 2019
9. Sunway Velocity, Kuala Lumpur 2016
10. Central Plaza I-City, Selangor 2019
11. Pavilion Bukit Jalil Mall, Kuala Lumpur 2021

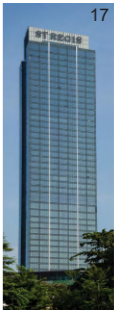
### Residential

12. Pantai Sentral Park, Kuala Lumpur 2018
13. Gravit8 Kota Bayuemas, Selangor 2020
14. Irama Wangsa Condominiums, Kuala Lumpur 2018

### Hospitality / Sports / Leisure

15. Legoland Malaysia Theme Park, Johor 2012
16. Four Seasons, Kuala Lumpur 2018
17. St. Regis, Kuala Lumpur 2017
18. Sofitel Damansara City, Kuala Lumpur 2017
19. Setia Subterranean Penang International Convention & Exhibition Centre (SPICE), Penang 2017
20. Malaysia International Trade and Exhibition Centre (MITEC), Kuala Lumpur 2016
21. Pavilion Hotel, Kuala Lumpur 2018
22. Ritz Carlton Langkawi, Kedah 2017
23. Impression Theatre, Melaka 2018





(Cont'd)

(Cont'd)

## A Selection of Our Projects

### Healthcare

- 24. Women Children Hospital, Kuala Lumpur 2017
- 25. Gleneagles Medini Specialist Centre, Johor 2015
- 26. Pantai Hospital (Extension), Kuala Lumpur 2015
- 27. UCSI Hospital, Negeri Sembilan 2020



### Educational

- 28. Tropicana International School, Selangor 2016
- 29. Asia Pacific University Campus, Kuala Lumpur 2016
- 30. Special Education School, Sabah 2019
- 31. Wesley Methodist International School, Penang 2018



### Transport / Infrastructure

- 32. UMW High Value Manufacturing (HVM) Park, Selangor 2022
- 33. 6 Stations for Kelana Jaya LRT Line Extension, Kuala Lumpur 2014
- 34. Electrified Double Track-Padang Besar to Ipoh (Station Building) 2014
- 35. Flyover Bridge Link to Bukit Jalil City 2020
- 36. Bus Rapid Transit (BRT) Sunway 2015
- 37. KVMRT Sungai Buloh - Kajang Line 2017
- 38. KVMRT Putrajaya Line 2022



### Industrial / Logistic

- 39. Lam Research, Penang 2021
- 40. Cainiao Logistic Centre, Selangor 2020



### Public / Religious Buildings

- 41. Masjid Jamek Abdullah Hukum, KL Eco City, Kuala Lumpur 2016
- 42. Church at Kuala Menggatal, Sabah 2019
- 43. Brunei Chancery, Putrajaya 2017







2022

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
30	31					1			1	2	3	4	5			1	2	3	4	5
2	3	4	5	6	7	8	6	7	8	9	10	11	12	6	7	8	9	10	11	12
9	10	11	12	13	14	15	13	14	15	16	17	18	19	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28						27	28	29	30	31		

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2	1	2	3	4	5	6	7			1	2	3	4	
3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11
10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18
17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25
24	25	26	27	28	29	30	29	30	31					26	27	28	29	30		

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
31					1	2	1	2	3	4	5	6					1	2	3	
3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10
10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17
17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
24	25	26	27	28	29	30	28	29	30	31				25	26	27	28	29	30	

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
30	31					1			1	2	3	4	5					1	2	3
2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10
9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17
16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24
23	24	25	26	27	28	29	27	28	29	30				25	26	27	28	29	30	31

2023

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7				1	2	3	4				1	2	3	4
8	9	10	11	12	13	14	5	6	7	8	9	10	11	5	6	7	8	9	10	11
15	16	17	18	19	20	21	12	13	14	15	16	17	18	12	13	14	15	16	17	18
22	23	24	25	26	27	28	19	20	21	22	23	24	25	19	20	21	22	23	24	25
29	30	31					26	27	28					26	27	28	29	30	31	

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
30						1	1	2	3	4	5	6					1	2	3	
2	3	4	5	6	7	8	7	8	9	10	11	12	13	4	5	6	7	8	9	10
9	10	11	12	13	14	15	14	15	16	17	18	19	20	11	12	13	14	15	16	17
16	17	18	19	20	21	22	21	22	23	24	25	26	27	18	19	20	21	22	23	24
23	24	25	26	27	28	29	28	29	30	31				25	26	27	28	29	30	

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
30	31					1			1	2	3	4	5					1	2	
2	3	4	5	6	7	8	6	7	8	9	10	11	12	3	4	5	6	7	8	9
9	10	11	12	13	14	15	13	14	15	16	17	18	19	10	11	12	13	14	15	16
16	17	18	19	20	21	22	20	21	22	23	24	25	26	17	18	19	20	21	22	23
23	24	25	26	27	28	29	27	28	29	30	31			24	25	26	27	28	29	30

S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7				1	2	3	4	31				1	2	
8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4	5	6	7	8	9
15	16	17	18	19	20	21	12	13	14	15	16	17	18	10	11	12	13	14	15	16
22	23	24	25	26	27	28	19	20	21	22	23	24	25	17	18	19	20	21	22	23
29	30	31					26	27	28	29	30			24	25	26	27	28	29	30



# CONSTRUCTION COST DATA

# 1

## Construction Cost Specification

Kuala Lumpur Construction Cost Trend  
(2011 - 2021)

---

Construction Costs for Kuala Lumpur

Construction Costs for Johor Bahru

Construction Costs for Penang

Construction Costs for Kota Kinabalu

Construction Costs for Kuching

Construction Costs for Selected  
Asian Cities

---

Major Rates for Malaysia

Major Rates for Selected Asian Cities

ACMV Costs for Various Designs &  
Developments in Kuala Lumpur

M&E Costs for Selected Asian Cities

Unit Costs for Ancillary Facilities  
for Kuala Lumpur

Fit-Out Costs for Kuala Lumpur

## CONSTRUCTION COST SPECIFICATION

BUILDING TYPE		OUTLINE SPECIFICATION
DOMESTIC	Apartment, high rise, average standard	Apartment units with fit-out, but <b>excluding</b> decorative light fittings and loose furniture. <b>(Malaysia only)</b> 6-12 units per floor, excluding air-conditioning, kitchen cabinets and home appliances.
	Apartment, high rise, high end	Apartment units with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but <b>excluding</b> decorative light fittings and loose furniture.
	Terraced houses, average standard	Houses with fit-out, including air-conditioning, kitchen cabinets and home appliances, but <b>excluding</b> decorative light fittings, loose furniture, garden and parking. <b>(Malaysia only)</b> <b>Excluding</b> air-conditioning, kitchen cabinets and home appliances.
	Detached houses, high end	Houses with good quality fit-out, including air-conditioning, kitchen cabinets and home appliances, but <b>excluding</b> decorative light fittings, loose furniture, garden and parking.
	Medium/high rise offices, average standard High rise offices, prestige quality	RC structure, curtain wall, including public area fit-out, tenant area with raised floor/carpet, painted wall and false ceiling. <b>(Malaysia only)</b> Average standard quality offices exclude tenant fit-out and raised floor. Prestige quality offices exclude tenant fit-out.
OFFICE/ COMMERCIAL	Out-of-town shopping centre, average standard Retail malls, high end	Including public area fit-out and M&E, but <b>excluding</b> shop fit-out.
HOTELS	Hotels - 3-star, mid market Resort hotels Luxury hotels - 5-star	1) Interior decoration 2) Furniture (fixed and movable) 3) Special light fittings (chandeliers, etc.) 4) Operating Supplies and Equipment (OS&E) <b>excluded</b> .
INDUSTRIAL	Industrial units, shell only (Conventional single storey framed units)	RC structure with steel roof and M&E, but <b>excluding</b> air-conditioning and heating.
	Owner operated factories, low rise, light weight industry	RC structure, including small office with simple fit-out and M&E, but <b>excluding</b> air-conditioning and heating.

<b>OTHERS</b>	
Underground/basement car parks (<3 levels)	RC structure
Multi storey car parks, above ground (<4 levels)	RC structure, natural ventilation, no facade enclosure.
Schools (primary and secondary)	Including fit-out and air-conditioning, but excluding educational equipment. <b>(Malaysia only)</b> Schools with standard government provisions.
Students' residences	Including fit-out, loose furniture and air-conditioning. <b>(Malaysia only)</b> Student hostels to university standard.
Sports clubs, multi purpose sports/leisure centres (dry sports)	Dry sports (no swimming pool) and are for 'leisure centre' type schemes including main sports hall, ancillary sports facilities, changing and showers, restaurant/cafe, bar, etc. Costs include a/c, Furniture, Fittings and Equipment (FF&E).
General hospitals - public sector	Excluding medical and operating equipment.

**Notes:**

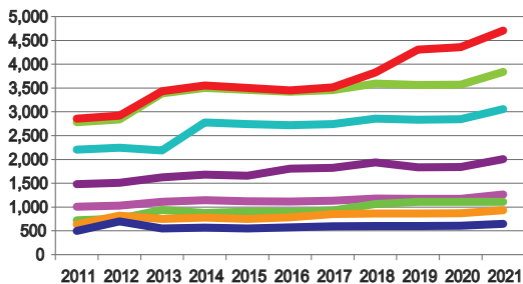
1. The costs for the respective categories given above are averages based on fixed price competitive tenders. It must be understood that the actual cost of a building will depend upon the design and many other factors and may vary from the figures shown.
2. The costs per square metre are based on Construction Floor Areas (CFA) measured to the outside face of the external walls/ external perimeter including lift shafts, stairwells, balconies, plant rooms, water tanks and the like.
3. All buildings are assumed to have no basements (except otherwise stated) and are built on flat ground, with normal soil and site condition. The cost excludes site formation works, external works, land cost, professional fees, finance and legal expenses.
4. The standard for each category of building varies from region to region and do not necessary follow that of each other.
5. All costs are in US\$/m<sup>2</sup> CFA unless otherwise stated. Fluctuation in exchange rates may lead to changes in construction costs expressed in U.S. dollars.

# 1 CONSTRUCTION COST DATA

## KUALA LUMPUR CONSTRUCTION COST TREND (2011 - 2021)

### Domestic

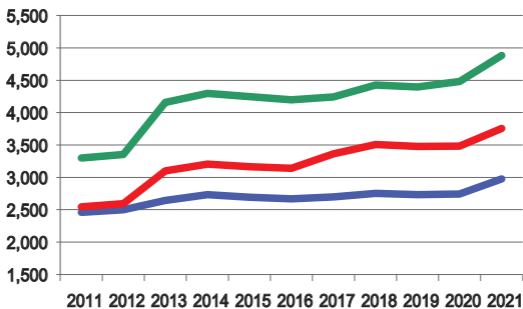
RM/m<sup>2</sup>



- Detached houses (mass housing)
- Detached houses (high end)
- Terraced houses
- Luxury apts, high rise
- Average standard apts high rise
- Low cost flats, high rise (<15 levels)
- Low cost flats, low rise (<6 levels)
- Low cost housing

### Office/Commercial

RM/m<sup>2</sup>

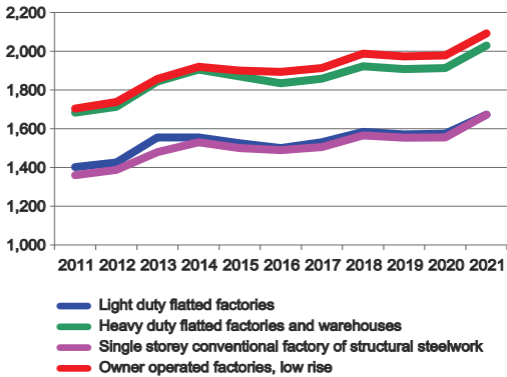


- Average standard offices, high rise
- Prestige offices, high rise
- Shopping Centres

All costs are at an average level unless otherwise stated

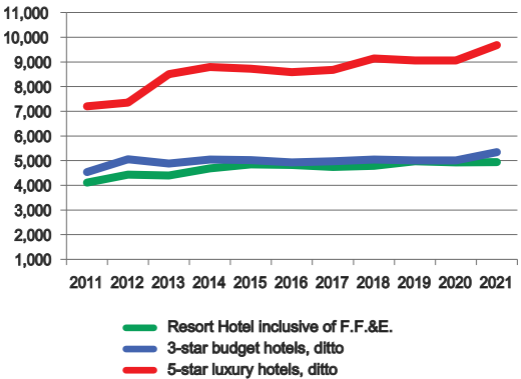
## Industrial

RM/m<sup>2</sup>



## Hotels

RM/m<sup>2</sup>



All costs are at an average level unless otherwise stated

# 1 CONSTRUCTION COST DATA

## CONSTRUCTION COSTS FOR KUALA LUMPUR

	RM/m <sup>2</sup>			
	BUILDING	SERVICES	TOTAL	
<b><u>DOMESTIC</u></b>				
Detached houses (mass housing)	1,675	870	2,545	3,565
Detached houses (high end)	2,345	885	3,230	4,450
Terraced houses	740	220	960	1,570
Average standard apartments, high rise	1,065	270	1,335	2,670
Luxury apartments, high rise	2,170	875	3,045	6,375
Low cost housing	455	125	580	715
Low cost flats, low rise (<6 levels)	640	200	840	1,020
Low cost flats, high rise (<15 levels)	750	270	1,020	1,355
<b><u>OFFICE / COMMERCIAL</u></b>				
Average standard offices, high rise	1,575	970	2,545	3,410
Prestige offices, high rise	2,350	1,630	3,980	5,785
Shopping centres	2,045	915	2,960	4,550
<b><u>HOTELS</u></b>				
Resort hotels, inclusive of F.F.&E.	3,250	1,360	4,610	5,910
3-star hotels, ditto	3,375	935	4,310	6,370
5-star luxury hotels, ditto	6,265	1,985	8,250	11,110

<b><u>INDUSTRIAL</u></b>									
Light duty flatted factories	890	-	1,115	630	-	710	1,520	-	1,825
Heavy duty flatted factories and warehouses	1,160	-	1,440	690	-	770	1,850	-	2,210
Single storey conventional factory of structural steelwork	1,000	-	1,395	380	-	570	1,380	-	1,965
Owner operated factories, low rise	1,300	-	1,670	530	-	685	1,830	-	2,355
<b><u>OTHERS</u></b>									
Basement car parks (<3 levels)	945	-	1,670	390	-	715	1,335	-	2,385
Elevated car parks (<4 levels)	735	-	1,205	195	-	355	930	-	1,560
Primary and Secondary schools	850	-	1,115	225	-	270	1,075	-	1,385
Student hostels	1,010	-	1,265	270	-	370	1,280	-	1,635
Sports clubs inclusive of F.F.&E.	1,955	-	2,510	605	-	775	2,560	-	3,285

The above costs are at 4th Quarter 2021 levels, inclusive of preliminaries (10%) but exclusive of contingencies.

## CONSTRUCTION COSTS FOR JOHOR BAHRU

	RM/m <sup>2</sup>			TOTAL					
	BUILDING	SERVICES	TOTAL						
<b><u>DOMESTIC</u></b>									
Detached houses (mass housing)	1,700	-	2,325	870	-	1,120	2,570	-	3,445
Detached houses (high end)	2,385	-	3,030	885	-	1,125	3,270	-	4,155
Terraced houses	740	-	1,250	220	-	325	960	-	1,575
Average standard apartments, high rise	1,100	-	2,120	275	-	525	1,375	-	2,645
Luxury apartments, high rise	2,325	-	3,360	880	-	1,240	3,205	-	4,600
Low cost housing	475	-	595	120	-	150	595	-	745
Low cost flats, low rise (<6 levels)	635	-	810	195	-	240	830	-	1,050
Low cost flats, high rise (<15 levels)	725	-	1,000	275	-	345	1,000	-	1,345
<b><u>OFFICE / COMMERCIAL</u></b>									
Average standard offices, high rise	1,605	-	2,000	965	-	1,250	2,570	-	3,250
Prestige offices, high rise	2,310	-	3,800	1,625	-	1,875	3,935	-	5,675
Shopping centres	2,070	-	2,700	915	-	1,500	2,985	-	4,200
<b><u>HOTELS</u></b>									
Resort hotels, inclusive of F.F.&E.	3,380	-	3,760	1,350	-	1,820	4,730	-	5,580
3-star hotels, ditto	3,470	-	4,740	930	-	1,290	4,400	-	6,030
5-star luxury hotels, ditto	6,295	-	7,905	1,985	-	2,510	8,280	-	10,415







<b><u>INDUSTRIAL</u></b>									
Light duty flatted factories	775	-	915	530	-	715	1,305	-	1,630
Heavy duty flatted factories and warehouses	925	-	1,125	595	-	760	1,520	-	1,885
Single storey conventional factory of structural steelwork	785	-	950	495	-	570	1,280	-	1,520
Owner operated factories, low rise	1,020	-	1,265	510	-	615	1,530	-	1,880
<b><u>OTHERS</u></b>									
Basement car parks (<3 levels)	845	-	1,385	325	-	565	1,170	-	1,950
Elevated car parks (<4 levels)	625	-	845	190	-	325	815	-	1,170
Primary and Secondary schools	670	-	895	200	-	255	870	-	1,150
Student hostels	870	-	985	215	-	280	1,085	-	1,265
Sports clubs inclusive of F.F.&E.	1,580	-	1,800	545	-	715	2,125	-	2,515

The above costs are at 4th Quarter 2021 levels, inclusive of preliminaries (10%) but exclusive of contingencies.





## CONSTRUCTION COSTS FOR KUCHING

	RM/m <sup>2</sup>			
	BUILDING	SERVICES	TOTAL	
<b><u>DOMESTIC</u></b>				
Detached houses (mass housing)	1,345	545	1,890	2,230
Detached houses (high end)	2,045	950	2,995	4,585
Terraced houses	1,175	225	1,400	1,540
Average standard apartments, high rise	1,390	355	1,745	2,375
Luxury apartments, high rise	2,185	1,130	3,315	4,340
Low cost housing	655	130	785	915
Low cost flats, low rise (<6 levels)	915	185	1,100	1,170
Low cost flats, high rise (<15 levels)	970	190	1,160	1,330
<b><u>OFFICE / COMMERCIAL</u></b>				
Average standard offices, high rise	1,835	1,090	2,925	3,980
Prestige offices, high rise	2,145	1,800	3,945	5,900
Shopping centres	2,015	930	2,945	3,720
<b><u>HOTELS</u></b>				
Resort hotels, inclusive of F.F.&E.	3,225	1,610	4,835	6,820
3-star hotels, ditto	3,445	1,820	5,265	5,820
5-star luxury hotels, ditto	5,505	2,790	8,295	11,035

<b><u>INDUSTRIAL</u></b>									
Light duty flatted factories	1,255	-	1,505	450	-	445	1,705	-	1,950
Heavy duty flatted factories and warehouses	1,280	-	1,795	475	-	650	1,755	-	2,445
Single storey conventional factory of structural steelwork	1,105	-	1,225	370	-	540	1,475	-	1,765
Owner operated factories, low rise	1,290	-	1,760	500	-	695	1,790	-	2,455
<b><u>OTHERS</u></b>									
Basement car parks (<3 levels)	1,230	-	1,510	415	-	445	1,645	-	1,955
Elevated car parks (<4 levels)	960	-	1,075	250	-	280	1,210	-	1,355
Primary and Secondary schools	1,115	-	1,220	240	-	390	1,355	-	1,610
Student hostels	1,325	-	1,510	275	-	360	1,600	-	1,870
Sports clubs inclusive of F.F.&E.	2,080	-	2,280	825	-	1,005	2,905	-	3,285

The above costs are at 4th Quarter 2021 levels, inclusive of preliminaries (10%) but exclusive of contingencies.

## CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

	US\$/m <sup>2</sup>				
	KUALA LUMPUR	BANGKOK*	JAKARTA**	MANILA@	SINGAPORE@@
<b>DOMESTIC</b>					
Apartments, high rise, average standard	320 - 635	714 - 846	852 - 965	1,047 - 1,384	1,665 - 1,815
Apartments, high rise, high end	725 - 1,520	952 - 1,172	1,173 - 1,324	1,427 - 2,514	2,555 - 3,780
Terraced houses, average standard	230 - 375	446 - 549	453 - 589	948 - 1,160	2,150 - 2,370
Detached houses, high end	770 - 1,060	774 - 935	1,228 - 1,372	1,841 - 3,123	2,705 - 3,630
<b>OFFICE / COMMERCIAL</b>					
Medium/high rise offices, average standard	605 - 815	790 - 937	841 - 932	968 - 1,263	2,150 - 2,370#
High rise offices, prestige quality	950 - 1,380	988 - 1,267	1,236 - 1,383	1,401 - 1,791	2,405 - 2,595#
Out-of-town shopping centre, average standard	550 - 775	674 - 873	724 - 801	824 - 1,026	2,405 - 2,480
Retail malls, high end	705 - 1,085	905 - 954	797 - 864	1,124 - 1,575	2,555 - 2,780
<b>HOTELS</b>					
Budget hotels - 3 star, mid market	1,030 - 1,520	1,234 - 1,365	1,462 - 1,727	1,229 - 1,520	2,665 - 2,965
Business hotels - 4/5 star	1,350 - 2,360	1,579 - 1,810	1,992 - 2,151	1,402 - 2,325	3,445 - 3,850
Luxury hotels - 5 star	1,970 - 2,650	1,842 - 2,139	2,113 - 2,383	1,939 - 3,683	3,445 - 3,850



<b>INDUSTRIAL</b>									
Industrial units, shell only (Conventional single storey framed units)	330 - 470	526 - 659	390 - 425	549 - 707	1,000 - 1,185				
Owner operated factories, low rise, light weight industry	435 - 560	N/A	423 - 467	737 - 927	N/A				
<b>OTHERS</b>									
Underground/basement car parks (<3 levels)	320 - 570	593 - 790	601 - 738	612 - 819	1,185 - 1,595				
Multi storey car parks, above ground (<4 levels)	220 - 370	197 - 322	390 - 425	490 - 746	850 - 1,185 <sup>a</sup>				
Schools (primary & secondary)	255 - 330	N/A	N/A	722 - 996	N/A				
Students' residences	305 - 390	N/A	N/A	763 - 982	2,000 - 2,110				
Sports clubs, multi purpose sports/leisure centres (dry sports)	610 - 785	N/A	1,224 - 1,835	1,216 - 1,771	2,445 - 2,595				
General hospitals - public sector	860 - 1,255	N/A	N/A	1,464 - 1,712	3,445 - 3,630				
Exchange Rate Used : US\$1 =	RM 4.15	BAHT 30.889	IDR 14,288	PHP 50.77	S\$ 1.35				

The above costs are at 4th Quarter 2021 levels, inclusive of preliminaries but exclusive of contingencies.

\* Rates are exclusive of VAT and contingencies.

\*\* The data for Jakarta is provided by PT Lantera Sejahtera Indonesia. Rates are exclusive of VAT and contingencies.

@ Rates are exclusive of contingencies & include 12% VAT.

@@ Rates are nett of GST and exclusive of contingencies.

# Includes raised floor and ceiling to tenanted areas but excludes office carpets (normally under tenant's fit-out)

^ Open all sides with parapet.

(Cont'd)

(Cont'd)

## CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

	US\$/m <sup>2</sup>			
	HO CHI MINH#	INDIA *	HONG KONG ^	MACAU\$
<b><u>DOMESTIC</u></b>				
Apartments, high rise, average standard	662 - 821	635 - 715	3,030 - 3,500	2,479 - 3,032
Apartments, high rise, high end	842 - 965	955 - 1,160	3,930 - 4,570	3,462 - 5,290
Terraced houses, average standard	446 - 524	440 - 465	4,170 - 4,810	4,224 - 5,041
Detached houses, high end	509 - 621	577 - 615	6,060 up	5,152 - 6,703
<b><u>OFFICE / COMMERCIAL</u></b>				
Medium/high rise offices, average standard	774 - 895	490 - 550	3,020 - 3,440	2,853 - 3,684
High rise offices, prestige quality	892 - 1,216	620 - 675	3,590 - 4,130	3,684 - 4,030
Out-of-town shopping centre, average standard	N/A	480 - 540	2,980 - 3,480	2,687 - 4,030
Retail malls, high end	723 - 946	675 - 745	3,850 - 4,580	4,224 - 5,097
<b><u>HOTELS</u></b>				
Budget hotels - 3 star, mid market	1,436 - 1,757	895 - 990	3,810 - 4,060	3,754 - 4,252
Business hotels - 4/5 star	N/A	1,395 - 1,675	3,940 - 4,600	5,097 - 6,093
Luxury hotels - 5 star	1,813 - 2,175	1,765 - 1,955	4,600 - 5,250	6,093 - 7,202

<b>INDUSTRIAL</b>						
Industrial units, shell only (Conventional single storey framed units)	317 - 400	398 - 465	N/A	N/A	N/A	N/A
Owner operated factories, low rise, light weight industry	359 - 474	420 - 495	2,310 - 2,900	N/A	N/A	N/A
<b>OTHERS</b>						
Underground/basement car parks (<3 levels)	657 - 784	315 - 345	3,260 - 3,890	2,229 - 3,268		
Multi storey car parks, above ground (<4 levels)	422 - 463	260 - 285	1,950 - 2,310	1,232 - 1,621		
Schools (primary & secondary)	555 - 606	325 - 365	2,540 - 2,730	2,465 - 2,853		
Students' residences	555 - 713	365 - 405	2,900 - 3,260	1,953 - 2,271		
Sports clubs, multi purpose sports/leisure centres (dry sports)	821 - 877	660 - 700	3,800 - 4,330	N/A		
General hospitals - public sector	N/A	700 - 800	4,830 - 5,330	N/A		
Exchange Rate Used : US\$1 =	VND 23,450	INR 74.39	HK\$ 7.79	MOP 8.01		

The above costs are at 4th Quarter 2021 levels, inclusive of preliminaries but exclusive of contingencies.

# Rates are nett of VAT and contingencies.

\* Rates are based on projects in Bangalore and are nett of GST. Mumbai costs are generally 8% higher.

The data for India is provided by Arkind LS Private Limited, an Arcadis Alliance Partner.

^ Rates are exclusive of contingencies. Offices of average standard are built to the following provisions:

(i) Curtain wall/window wall facade.

(ii) Tenant are with screeded floor, painted wall and ceiling.

Schools (primary and secondary) are of public authority standard, no a/c and complete with basic external works.

\$ Rates are exclusive of contingencies and any management contract fee.

(Cont'd)

(Cont'd)

## CONSTRUCTION COSTS FOR SELECTED ASIAN CITIES

	US\$/m <sup>2</sup>			
	BEIJING*	SHANGHAI*	SHENZHEN/ GUANGZHOU*	CHONGQING/ CHENGDU*
<b>DOMESTIC</b>				
Apartments, high rise, average standard	713 - 783	810 - 893	711 - 783	577 - 672
Apartments, high rise, high end	1,728 - 1,967	1,829 - 1,994	1,155 - 1,264	846 - 1,061
Terraced houses, average standard	1,021 - 1,106	1,119 - 1,219	1,066 - 1,236	763 - 897
Detached houses, high end	1,962 - 2,047	1,968 - 2,088	2,045 - 2,324	981 - 1,112
<b>OFFICE / COMMERCIAL</b>				
Medium/high rise offices, average standard	1,017 - 1,370	1,039 - 1,373	994 - 1,107	1,109 - 1,268
High rise offices, prestige quality	1,653 - 2,250	1,335 - 1,826	1,478 - 1,783	1,402 - 1,846
Out-of-town shopping centre, average standard	760 - 1,016	N/A	957 - 1,050	898 - 1,128
Retail malls, high end	1,375 - 1,893	1,411 - 1,902	1,416 - 1,980	1,336 - 1,825
<b>HOTELS</b>				
Budget hotels - 3 star, mid market	1,125 - 1,386	1,137 - 1,386	1,282 - 1,410	1,202 - 1,460
Business hotels - 4/5 star	1,917 - 2,531	1,832 - 2,480	2,072 - 2,958	2,154 - 2,647
Luxury hotels - 5 star	2,440 - 3,141	2,477 - 2,961	2,817 - 3,105	2,649 - 3,132

<b>INDUSTRIAL</b>					
Industrial units, shell only (Conventional single storey framed units)	314 - 383	320 - 392	371 - 442	550 - 680	
Owner operated factories, low rise, light weight industry	607 - 696	495 - 620	N/A	N/A	
<b>OTHERS</b>					
Underground/basement car parks (<3 levels)	869 - 955	849 - 1,184	657 - 1,048	514 - 710	
Multi storey car parks, above ground (<4 levels)	523 - 528	435 - 608	468 - 517	409 - 500	
Schools (primary & secondary)	605 - 781	649 - 819	521 - 573	543 - 597	
Students' residences	428 - 605	475 - 648	329 - 363	380 - 543	
Sports clubs, multi purpose sports/leisure centres (dry sports)	1,036 - 1,045	1,095 - 1,345	908 - 998	856 - 938	
General hospitals - public sector	1,362 - 1,706	1,673 - 2,157	1,375 - 1,719	1,368 - 1,692	
Exchange Rate Used : US\$1 =	RMB 6.40	RMB 6.40	RMB 6.40	RMB 6.40	

The above costs are at 4th Quarter 2021 levels, inclusive of preliminaries but exclusive of contingencies.

\* Schools (primary and secondary) are of public authority standard, no a/c and complete with basic external works.

## MAJOR RATES FOR MALAYSIA

	RM				
	KUALA LUMPUR	PENANG	JOHOR BAHRU	KOTA KINABALU	KUCHING
1. Excavating basement ≤ 2m deep	m <sup>3</sup> 16.0 - 27.0	18.0 - 30.0	18.0 - 30.0	15.0	22.0
2. Excavating for footings ≤ 1.5m deep	m <sup>3</sup> 16.0 - 27.0	18.0 - 25.0	18.0 - 25.0	20.0	22.0
3. Remove excavated materials off site	m <sup>3</sup> 18.0 - 35.0	15.0 - 30.0	18.0 - 30.0	18.5	24.0
4. Hardcore bed blinded with fine materials	m <sup>3</sup> 72.0 - 110.0	80.0 - 100.0	80.0 - 100.0	100.0	105.0
5. Mass concrete grade 15	m <sup>3</sup> 230.0 - 300.0	250.0 - 300.0	225.0 - 265.0	370.0	370.0
6. Reinforced concrete grade 30	m <sup>3</sup> 250.0 - 310.0	290.0 - 310.0	235.0 - 300.0	425.0	430.0
7. Mild steel rod reinforcement	kg 4.00 - 5.50	3.50 - 4.70	4.40 - 5.00	5.20	4.8 - 5.25
8. High tensile rod reinforcement	kg 4.00 - 5.50	3.50 - 4.70	4.40 - 5.00	5.20	4.8 - 5.25
9. Sawn formwork to soffits of suspended slabs	m <sup>2</sup> 40.0 - 50.0	40.0 - 50.0	36.0 - 46.0	50.0	50.0
10. Sawn formwork to columns and walls	m <sup>2</sup> 40.0 - 50.0	40.0 - 50.0	36.0 - 46.0	48.0	50.0
11. 112.5mm thick brick walls	m <sup>2</sup> 43.0 - 52.0	45.0 - 55.0	42.0 - 52.0	58.0	55.0
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m <sup>2</sup> 72.0 - 100.0	80.0 - 100.0	80.0 - 100.0	100.0	105.0
13. Aluminium casement windows, single glazed	m <sup>2</sup> 390.0 - 680.0	300.0 - 450.0	300.0 - 450.0	300.0 - 350.0	370.0

14. Structural steelwork - beams, stanchions and the like	kg	7.20 - 11.0	8.00 - 10.0	7.00 - 12.0	8.00 - 9.00	9.50
15. Steelwork - angles, channels, flats and the like	kg	7.20 - 11.0	8.00 - 10.0	7.00 - 12.0	7.00 - 8.00	9.50
16. 25mm cement and sand (1:3) paving	m <sup>2</sup>	18.0 - 27.0	20.0 - 28.0	18.0 - 25.0	25.0	26.0
17. 20mm cement and sand (1:4) plaster to walls	m <sup>2</sup>	19.0 - 30.0	22.0 - 28.0	30.0 - 35.0	25.0	26.0
18. Ceramic tiles bedded to floor screed (measured separately)	m <sup>2</sup>	60.0 - 100.0	60.0 - 90.0	65.0 - 85.0	85.0	100.0
19. 12mm fibrous plasterboard ceiling lining	m <sup>2</sup>	36.0 - 50.0	35.0 - 45.0	35.0 - 45.0	50.0	62.0
20. Two coats of emulsion paint to plastered surfaces	m <sup>2</sup>	3.50 - 5.50	4.00 - 8.50	3.50 - 4.50	8.50	10.0
Average expected preliminaries	%	6 - 15	6 - 10	6 - 12	5 - 8	10 - 11

The above costs are at 4th Quarter 2021 levels, exclusive of contingencies and preliminaries.

## MAJOR RATES FOR SELECTED ASIAN CITIES

	KUALA LUMPUR RM	BANGKOK# BAHT	JAKARTA## IDR'000	MANILA PHP	SINGAPORE® S\$
1. Excavating basement ≤ 2m deep	m <sup>3</sup> 16 - 27	120 - 150	70	300	26
2. Excavating for footings ≤ 1.5m deep	m <sup>3</sup> 16 - 27	140 - 180	105	538	26
3. Remove excavated materials off site	m <sup>3</sup> 18 - 35	120 - 150	50	350	20 - 26
4. Hardcore bed blinded with fine materials	m <sup>3</sup> 72 - 110	650 - 750	680	1,400 - 1,600	63
5. Mass concrete grade 15	m <sup>3</sup> 230 - 300	2,300 - 2,500	1,100	4,500	235 - 248+
6. Reinforced concrete grade 30	m <sup>3</sup> 250 - 310	2,800 - 3,200	1,140	6,300	159 - 165
7. Mild steel rod reinforcement	kg 4.0 - 5.5	25 - 28	14.3	63 - 65	1.95 - 2.05
8. High tensile rod reinforcement	kg 4.0 - 5.5	25 - 28	14.5	64 - 67	1.95 - 2.05
9. Sawn formwork to soffits of suspended slabs	m <sup>2</sup> 40 - 50	450 - 500	250	950 - 1,200	51
10. Sawn formwork to columns and walls	m <sup>2</sup> 40 - 50	450 - 500	200	1,200	51
11. 112.5mm thick brick walls	m <sup>2</sup> 43 - 52	650 - 850	250	N/A	41.5 - 47.0
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m <sup>2</sup> 72 - 100	1,200	350	1,500	50.5
13. Aluminium casement windows, single glazed	m <sup>2</sup> 390 - 680	7,200	1,650	12,500*	340
14. Structural steelwork - beams, stanchions and the like	kg 7.2 - 11	55 - 70	33	180	6.0 - 6.7
15. Steelwork - angles, channels, flats and the like	kg 7.2 - 11	55 - 70	33	160	6.0 - 6.7
16. 25mm cement and sand (1:3) paving	m <sup>2</sup> 18 - 27	200 - 260	90	650	25



17. 20mm cement and sand (1:4) plaster to walls	m <sup>2</sup>	19 - 30	220 - 280	100	500 - 700	26
18. Ceramic tiles bedded to floor screed (measured separately)	m <sup>2</sup>	60 - 100	1,200	200	1,800	85
19. 12mm fibrous plasterboard ceiling lining	m <sup>2</sup>	36 - 50	750 - 850	215	1,400 - 1,700	35.5
20. Two coats of emulsion paint to plastered surfaces	m <sup>2</sup>	3.5 - 5.5	140 - 180	35	500 - 800	4.1 - 4.7
Average expected preliminaries	%	6 - 15	12 - 18	8 - 10	12 - 18	14 - 18

The above costs are based on lump sum fixed price contract rate exclusive of preliminaries and contingencies unless otherwise stated.

# Rates are nett of VAT.

## The data for Jakarta is provided by PT Lantera Sejahtera Indonesia. Rates are exclusive of VAT and contingencies.

\* Aluminium with anodized finish; 6mm thick.

@ Rates are nett of GST.

+ Rate for lean concrete blinding.

(Cont'd)

(Cont'd)

## MAJOR RATES FOR SELECTED ASIAN CITIES

	HO CHI MINH <sup>A</sup> VND	INDIA* INR	HONG KONG HK\$	MACAU MOP
1. Excavating basement ≤ 2m deep	m <sup>3</sup> 72,400	255	220	150
2. Excavating for footings ≤ 1.5m deep	m <sup>3</sup> 72,400	235	200	180
3. Remove excavated materials off site	m <sup>3</sup> 84,700	N/A	290 <sup>#</sup>	150
4. Hardcore bed blinded with fine materials	m <sup>3</sup> 280,900	4,800 - 5,000	940	1,300
5. Mass concrete grade 15	m <sup>3</sup> 1,606,400	6,735	1,150	1,500
6. Reinforced concrete grade 30	m <sup>3</sup> 1,912,291	8,430	1,250	1,400
7. Mild steel rod reinforcement	kg 23,480	75	12	7.5
8. High tensile rod reinforcement	kg 23,480	68 - 71	12	7.5
9. Sawn formwork to soffits of suspended slabs	m <sup>2</sup> 235,000	700 - 750	400	280
10. Sawn formwork to columns and walls	m <sup>2</sup> 280,000	780 - 825	400	280
11. 112.5mm thick brick walls	m <sup>2</sup> 312,780	1,240 - 1,250	400	450
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	m <sup>2</sup> 480,000 - 680,000	1,900 - 1,950	1,100	N/A
13. Aluminium casement windows, single glazed	m <sup>2</sup> 6,630,750	6,500 - 6,790	4,000	4,000
14. Structural steelwork - beams, stanchions and the like	kg 53,515	145	37	30
15. Steelwork - angles, channels, flats and the like	kg 53,515	145	45	40
16. 25mm cement and sand (1:3) paving	m <sup>2</sup> 94,000	500 - 550	155	120

17. 20mm cement and sand (1:4) plaster to walls	m <sup>2</sup>	144,000	400 - 450	160	150
18. Ceramic tiles bedded to floor screed (measured separately)	m <sup>2</sup>	674,180	1,800 - 1,925	400	450
19. 12mm fibrous plasterboard ceiling lining	m <sup>2</sup>	255,700	1,450 - 1,550	570	650
20. Two coats of emulsion paint to plastered surfaces	m <sup>2</sup>	96,000	220 - 250	120	200
Average expected preliminaries	%	8 - 12	9 - 13	10 - 15	10

The above costs are based on lump sum fixed price contract rate exclusive of preliminaries and contingencies unless otherwise stated.

<sup>^</sup> Rates are nett of VAT.

\* Rates are supply & fix based on projects in Bangalore and are nett of GST. Mumbai costs are generally 8% higher.

The data for India is provided by Arkind LS Private Limited, an Arcadis Alliance Partner.

# Rate including dumping charges.

(Cont'd)

(Cont'd)

## MAJOR RATES FOR SELECTED ASIAN CITIES

	BEIJING RMB	SHANGHAI RMB	SHENZHEN/ GUANGZHOU RMB	CHONGQING/ CHENGDU RMB
1. Excavating basement ≤ 2m deep	35	30	40	35
2. Excavating for footings ≤ 1.5m deep	40	30	40	35
3. Remove excavated materials off site	160	160	150	65
4. Hardcore bed blinded with fine materials	220	210	210	180
5. Mass concrete grade 15	750	800	740	580
6. Reinforced concrete grade 30	850	850	800	610
7. Mild steel rod reinforcement	7.6	6.5	7.5	6.2
8. High tensile rod reinforcement	7.6	6.5	7.5	6.2
9. Sawn formwork to soffits of suspended slabs	90	95	90	75
10. Sawn formwork to columns and walls	85	90	85	75
11. 112.5mm thick brick walls	80	105*	100	80
12. "Kliplok Colorbond" 0.64mm profiled steel sheeting	N/A	N/A	N/A	N/A
13. Aluminium casement windows, single glazed	850*	780	700	800*
14. Structural steelwork - beams, stanchions and the like	14.5	11	14	10
15. Steelwork - angles, channels, flats and the like	13	9.5	12	9.0
16. 25mm cement and sand (1:3) paving	34	36	36	35

17. 20mm cement and sand (1:4) plaster to walls	m <sup>2</sup>	34	36	36	35
18. Ceramic tiles bedded to floor screed (measured separately)	m <sup>2</sup>	155	160	155	150
19. 12mm fibrous plasterboard ceiling lining	m <sup>2</sup>	162	160	165	150
20. Two coats of emulsion paint to plastered surfaces	m <sup>2</sup>	34	42	35	35
Average expected preliminaries	%	5 - 12	6 - 12	7 - 10	6 - 12

The above costs are based on lump sum fixed price contract rate exclusive of preliminaries and contingencies unless otherwise stated.

\* Rate for 120mm thick concrete block walls.

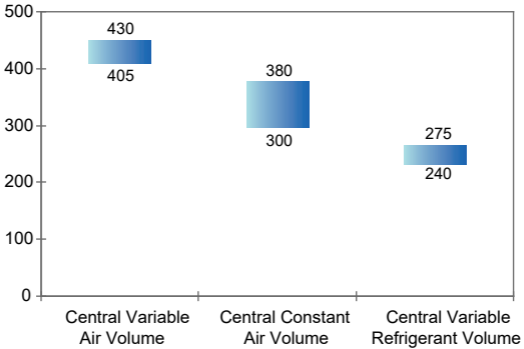
+ Rate for double glazed window.

# 1 CONSTRUCTION COST DATA

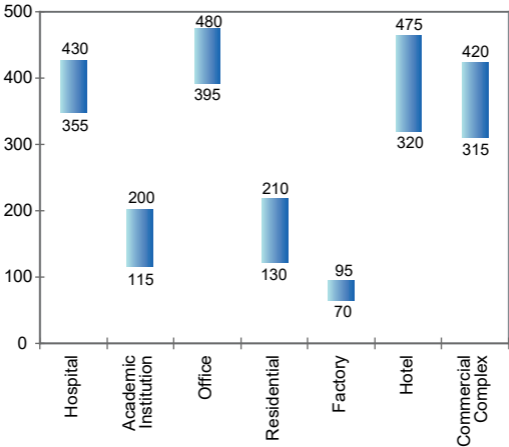
## ACMV COSTS FOR VARIOUS DESIGNS & DEVELOPMENTS IN KUALA LUMPUR

ACMV : Air Conditioning & Mechanical Ventilation System

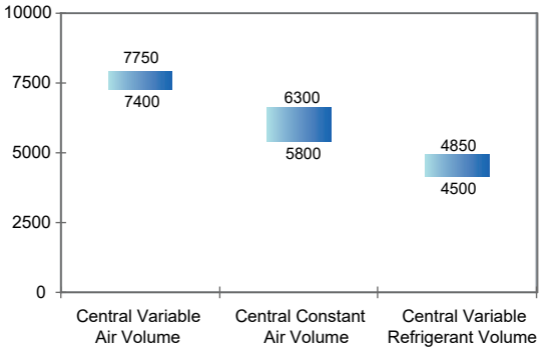
### RM/m<sup>2</sup> of Construction Floor Area



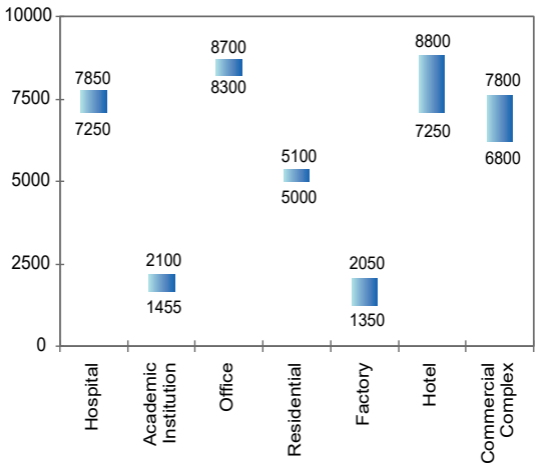
### RM/m<sup>2</sup> of Construction Floor Area



### RM/Tonne of Refrigeration



### RM/Tonne of Refrigeration



## M&amp;E COSTS FOR SELECTED ASIAN CITIES

	KUALA LUMPUR RM/m <sup>2</sup>	BANGKOK® BAHT/m <sup>2</sup>	JAKARTA* IDR'000/m <sup>2</sup>	MANILA <sup>§</sup> PHP/m <sup>2</sup>	SINGAPORE <sup>^</sup> S\$/m <sup>2</sup>
<b><u>MECHANICAL SERVICES</u></b>					
Offices	360 - 530	4,400 - 4,800	1,022 - 1,177	4,000 - 8,030	194 - 300
Industrial*	100 - 200	1,550 - 1,600	463 - 740	800 - 1,600	38 - 137
Hotels	345 - 640	4,600 - 5,200	1,054 - 1,369	3,500 - 12,350	251 - 324
Shopping Centres	340 - 510	4,600 - 4,800	900 - 1,081	2,890 - 7,070	170 - 284
Apartments	135 - 220	4,300 - 4,500	1,006 - 1,278	1,390 - 4,940	105 - 198
<b><u>ELECTRICAL SERVICES</u></b>					
Offices	330 - 495	3,400 - 3,800	826 - 1,054	3,500 - 8,140	180 - 329
Industrial**	170 - 205	1,950 - 2,200	585 - 729	2,000 - 3,500	63 - 157
Hotels	340 - 580	3,800 - 4,500	851 - 1,172	4,900 - 10,200	322 - 427
Shopping Centres	335 - 490	2,800 - 3,200	719 - 905	3,060 - 6,600	185 - 354
Apartments	125 - 225	2,800 - 3,400	948 - 1,107	3,600 - 6,300	127 - 274
<b><u>HYDRAULIC SERVICES</u></b>					
Offices	50 - 75	780 - 950	208 - 293	1,260 - 2,260	30 - 64
Industrial	50 - 60	750 - 790	138 - 213	820 - 1,440	21 - 42
Hotels	200 - 290	1,400 - 1,750	995 - 1,172	2,310 - 7,010	141 - 198
Shopping Centres	40 - 45	790 - 950	197 - 304	1,250 - 1,650	53 - 93
Apartments	60 - 105	1,200 - 1,450	1,006 - 1,192	2,310 - 4,210	91 - 166



<b><u>FIRE SERVICES</u></b>									
Offices	70 - 90	780 - 850	283 - 373	1,180 - 2,070	36 - 80				
Industrial	60 - 75	730 - 750	149 - 213	1,080 - 3,000	26 - 58				
Hotels	70 - 105	780 - 890	330 - 410	1,320 - 2,630	32 - 63				
Shopping Centres	65 - 85	780 - 850	277 - 324	1,310 - 2,080	42 - 63				
Apartments	25 - 35	750 - 890	314 - 341	1,140 - 1,550	27 - 60				
<b><u>LIFTS / ESCALATORS</u></b>									
Offices	150 - 375	1,100 - 1,400	441 - 1,059	1,800 - 4,930	74 - 188				
Industrial	60 - 185	N/A	N/A	0 - 730	47 - 121				
Hotels	120 - 310	1,100 - 1,400	703 - 1,097	1,800 - 3,500	57 - 95				
Shopping Centres	110 - 125	300 - 500	324 - 873	1,600 - 3,010	65 - 104				
Apartments	75 - 115	600 - 800	714 - 889	850 - 3,440	47 - 130				

The above costs are at 4th Quarter 2021 levels, exclusive of contingencies unless otherwise stated.

\* Generally without air condition.

\*\* Excludes special power supply.

@ Based upon nett enclosed area and nett of VAT.

# The data for Jakarta is provided by PT Lantera Sejahtera Indonesia. Rates are exclusive of VAT and contingencies.

\$ Transformer included in Electrical Services.

^ Rates are nett of GST and excluding BAS.

(Cont'd)

## M&amp;E COSTS FOR SELECTED ASIAN CITIES

	HO CHI MINH VND('000)/m <sup>2</sup>	INDIA# INR/m <sup>2</sup>	HONG KONG HK\$/m <sup>2</sup>	MACAU MOP/m <sup>2</sup>
<b><u>MECHANICAL SERVICES</u></b>				
Offices	2,390 - 3,400	5,366 - 7,485	2,000 - 2,600	N/A
Industrial*	N/A	2,520 - 4,778	300 - 450	N/A
Hotels	N/A	6,216 - 7,490	2,200 - 2,600	2,590 - 2,990
Shopping Centres	2,690 - 3,580	5,476 - 7,629	2,100 - 2,600	2,350 - 2,940
Apartments	1,790 - 2,460	2,825 - 4,029	800 - 2,000up	900 - 1,200
<b><u>ELECTRICAL SERVICES</u></b>				
Offices	2,470 - 2,960	4,851 - 7,415	2,000 - 2,400	N/A
Industrial**	N/A	2,856 - 5,270	750 - 900	N/A
Hotels	N/A	5,381 - 8,159	2,000 - 2,600	2,590 - 3,090
Shopping Centres	2,240 - 2,800	4,625 - 6,880	1,700 - 2,500	2,590 - 2,940
Apartments	2,170 - 2,740	2,447 - 3,563	1,000 - 2,200up	1,000 - 1,290
<b><u>HYDRAULIC SERVICES</u></b>				
Offices	380 - 710	840 - 1,439	700 - 850	N/A
Industrial	N/A	578 - 1,124	500 - 650	N/A
Hotels	N/A	4,421 - 7,394	1,800 - 2,700	1,790 - 2,190
Shopping Centres	310 - 560	1,260 - 2,531	700 - 900	600 - 790
Apartments	740 - 860	1,995 - 3,066	1,350 - 2,000	1,490 - 1,990

<b><u>FIRE SERVICES</u></b>					
Offices	735 - 1,210	1,355 - 1,963	600 - 750	N/A	N/A
Industrial	N/A	620 - 947	450 - 600	N/A	N/A
Hotels	N/A	1,575 - 2,236	600 - 850	910 - 1,120	
Shopping Centres	670 - 820	1,297 - 1,664	600 - 750	610 - 810	
Apartments	580 - 720	725 - 958	100 - 600	250 - 300	
<b><u>LIFTS / ESCALATORS</u></b>					
Offices	730 - 1,400	1,071 - 1,434	700 - 1,100	N/A	
Industrial	N/A	714 - 942	550 - 750	N/A	
Hotels	N/A	1,607 - 2,381	550 - 850	610 - 810	
Shopping Centres	1,500 - 2,100	1,880 - 2,450	850 - 1,000	460 - 710	
Apartments	820 - 1,200	966 - 1,284	450 - 850	460 - 610	

The above costs are at 4th Quarter 2021 levels, exclusive of contingencies unless otherwise stated.

\* Generally without air condition.

\*\* Excludes special power supply.

# Rates are based on projects in Bangalore and are nett of GST. Mumbai costs are generally 8% higher.

The data for India is provided by Arkind LS Private Limited, an Arcadis Alliance Partner.

(Cont'd)

## M&amp;E COSTS FOR SELECTED ASIAN CITIES

	BEIJING RMB/m <sup>2</sup>	SHANGHAI RMB/m <sup>2</sup>	SHENZHEN/ GUANGZHOU RMB/m <sup>2</sup>	CHONGQING/ CHENGDU RMB/m <sup>2</sup>
<b><u>MECHANICAL SERVICES</u></b>				
Offices	783 - 1,212	838 - 1,055	783 - 1,162	778 - 1,050
Industrial*	172 - 283	185 - 310	157 - 288	155 - 252
Hotels	960 - 1,236	1,060 - 1,370	1,070 - 1,364	991 - 1,355
Shopping Centres	814 - 980	820 - 985	722 - 920	930 - 1,060
Apartments	144 - 464	336 - 440	154 - 414	161 - 317
<b><u>ELECTRICAL SERVICES</u></b>				
Offices	494 - 893	658 - 735	545 - 803	518 - 734
Industrial**	342 - 483	330 - 462	323 - 464	287 - 388
Hotels	755 - 1,011	717 - 906	722 - 960	643 - 900
Shopping Centres	515 - 725	572 - 710	505 - 697	572 - 729
Apartments	271 - 426	277 - 403	288 - 505	246 - 363
<b><u>HYDRAULIC SERVICES</u></b>				
Offices	98 - 144	117 - 172	104 - 186	95 - 132
Industrial	98 - 144	94 - 136	90 - 125	100 - 137
Hotels	381 - 495	397 - 540	394 - 505	387 - 514
Shopping Centres	144 - 206	148 - 197	115 - 170	110 - 161
Apartments	175 - 236	180 - 242	152 - 283	108 - 189

<b><u>FIRE SERVICES</u></b>						
Offices	186 - 273	245 - 341	232 - 354	261 - 314		
Industrial	155 - 232	170 - 280	144 - 275	147 - 253		
Hotels	226 - 387	312 - 416	288 - 429	293 - 394		
Shopping Centres	226 - 387	278 - 411	250 - 387	284 - 405		
Apartments	72 - 139	60 - 110	79 - 204	66 - 121		
<b><u>LIFTS / ESCALATORS</u></b>						
Offices	297 - 583	294 - 578	295 - 517	313 - 576		
Industrial	146 - 404	142 - 410	150 - 440	157 - 364		
Hotels	234 - 525	230 - 520	250 - 480	261 - 449		
Shopping Centres	330 - 525	342 - 520	325 - 470	317 - 474		
Apartments	177 - 292	173 - 306	130 - 450	146 - 253		

The above costs are at 4th Quarter 2021 levels, exclusive of contingencies unless otherwise stated.

\* Generally without air condition.

\*\* Excludes special power supply.

## UNIT COSTS FOR ANCILLARY FACILITIES FOR KUALA LUMPUR

DESCRIPTION	UNIT	RM
<p><b><u>SAUNAS</u></b>                      Sauna room complete with timber finishes, sauna heater and standard accessories.</p> <p>Size: 2.4 x 2.4 x 2.286m</p>	per room	15,400
<p><b><u>SWIMMING POOLS</u></b>                      Shape : Rectangle                      Size : Approx. 262.5m<sup>2</sup>                      Depth : Approx. 1.5m (average)                      Capacity : 393,750 litres                      System : Overflow system</p> <p>Outdoor swimming pool with reinforced concrete in ground constructed by conventional method. 45mm x 45mm mosaic tile for pool interior and pebble washed for pool coping. Inclusive of heating system.</p>	per pool	1,236,000
<p><b><u>SQUASH COURTS</u></b>                      Single court with glass back wall including associated mechanical and electrical services but excluding any public facilities (enclosing structure not included).</p>	per court	70,100
<p><b><u>TENNIS COURTS</u></b>                      Single court on grade with acrylic surfacing. Inclusive of PVC chain link fence and permanent net post and netting.</p>	per court	113,000

## FIT-OUT COSTS FOR KUALA LUMPUR

DESCRIPTION	RM/m <sup>2</sup>
<b><u>HOTELS</u></b>	
Public Area (Front of House):	
3 - star Hotel	2,450 - 3,650
4 - star Hotel	3,200 - 4,400
5 - star Hotel	4,100 - above
Guest Rooms:	
3 - star Hotel	1,220 - 1,900
4 - star Hotel	1,680 - 2,900
5 - star Hotel	2,700 - above
Notes:	
1. Includes furniture, floor, wall and ceiling finishes, drapery, sanitary fittings and light fittings.	
2. Excludes partitioning, M&E works, chandelier, building shell, operational items and equipment (e.g. bed, cutlery, crockery, linen, television, refrigerator etc.), opening expenses, stage equipment and computer systems.	
<b><u>OFFICES</u></b>	
General Office	470 - 700
Executive Office	650 - 1,150
Prestige Office	1,100 - above
Notes:	
1. Local furniture allowed for general offices.	
2. Includes furniture, partitioning, minor alteration to fire services, air-conditioning and suspended ceiling to suit layout.	
3. Excludes telephones, Local Area Network, office equipment (e.g. computers, photocopies, fax machines, UPS, etc).	
<b><u>RESTAURANTS</u></b>	
General dining restaurant	2,420 - 3,950
Fine dining restaurant	5,600 - above
Notes:	
1. Includes furniture, floor, wall and ceiling finishes, minor alteration to air-conditioning and fire services installation to suit layout, exhaust for kitchen but excludes exhaust flue, operational items (e.g. cutlery, crockery, linen, utensils, etc.)	







# GENERAL CONSTRUCTION DATA **2**

JUBM - Arcadis Building Works  
Composite Tender Price Index (BWCTPI)

JKR Tender Price Index

Value of Construction Work Done by  
Type of Construction Activity

Performance of The Construction Sector

Estimating Rules of Thumb

Technical Specifications

Average Unit Prices

Unit Price Index

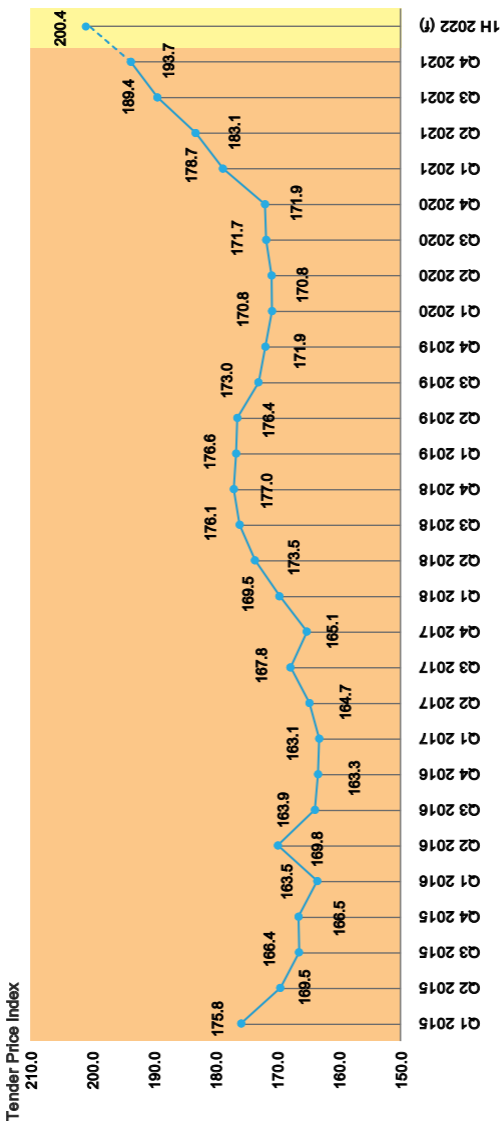
Construction Sector Indicators

Commodities Price Trend  
(Jan to Oct 2021)

Malaysia Construction Sector  
- Employment & Gross Domestic Product

Progress Payments

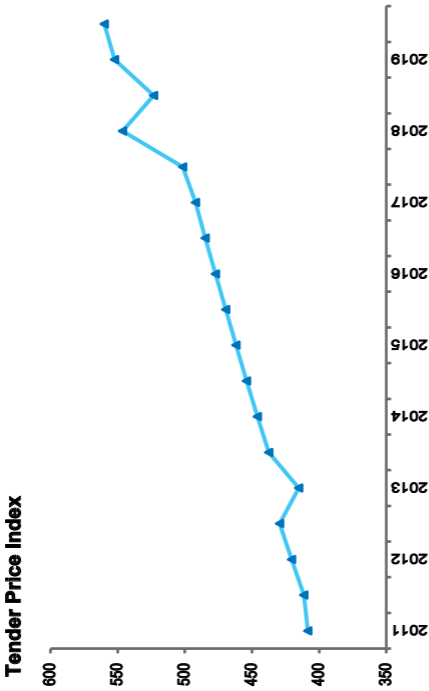
## JUBM - ARCADIS BUILDING WORKS COMPOSITE TENDER PRICE INDEX (BWCTPI)



Source: JUBM &amp; Arcadis

Base Year = 2000

## JKR TENDER PRICE INDEX



TENDER PRICE INDEX		
Year	1/2	2/2
2011	408.49	411.36
2012	420.49	429.32
2013	415.24	437.35
2014	446.03	453.99
2015	461.82	469.54
2016	477.15	484.69
2017	491.96	501.62
2018	546.30	523.22
2019	552.29	559.80

Base Year = 1980

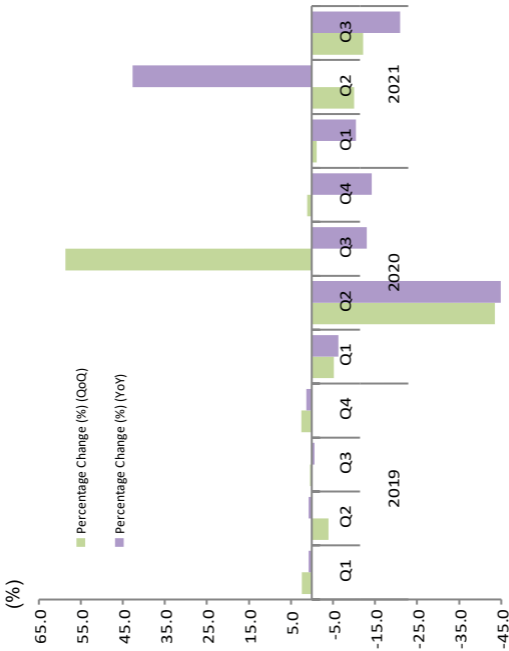
Source: The Public Works Department, Malaysia

## VALUE OF CONSTRUCTION WORK DONE BY TYPE OF CONSTRUCTION ACTIVITY

Quarter / Year	Residential Buildings		Non-residential Buildings		Civil Engineering		Special Trades		Total	
	RM million	(%)	RM million	(%)	RM million	(%)	RM million	(%)	RM million	(%)
Q1/2017	10,220	29.2	10,817	30.9	12,314	35.1	1,702	4.9	35,053	100.0
Q2/2017	9,639	28.5	10,546	31.2	12,018	35.5	1,622	4.8	33,825	100.0
Q3/2017	9,729	28.2	10,080	29.2	13,142	38.1	1,544	4.5	34,495	100.0
Q4/2017	9,728	27.7	10,109	28.8	13,613	38.8	1,627	4.6	35,078	100.0
Q1/2018	9,876	26.6	10,685	28.8	14,715	39.6	1,848	5.0	37,124	100.0
Q2/2018	8,906	25.0	10,036	28.2	14,855	41.7	1,827	5.1	35,625	100.0
Q3/2018	8,981	24.7	10,118	27.9	15,463	42.6	1,726	4.8	36,287	100.0
Q4/2018	8,829	24.2	10,362	28.4	15,560	42.6	1,760	4.8	36,511	100.0
Q1/2019	9,144	24.5	10,210	27.3	16,117	43.1	1,927	5.2	37,398	100.0
Q2/2019	8,807	24.5	9,103	25.3	16,075	44.8	1,934	5.4	35,919	100.0
Q3/2019	8,735	24.2	8,945	24.8	16,622	46.1	1,775	4.9	36,077	100.0
Q4/2019	9,066	24.5	9,300	25.1	16,785	45.4	1,827	4.9	36,978	100.0
Q1/2020	8,448	24.1	9,087	25.9	15,745	44.9	1,761	5.0	35,040	100.0
Q2/2020	5,398	27.3	5,809	29.4	7,194	36.4	1,379	7.0	19,780	100.0
Q3/2020	7,689	24.5	7,517	24.0	14,358	45.8	1,803	5.7	31,367	100.0
Q4/2020	8,075	25.4	8,713	27.5	12,581	39.6	2,362	7.4	31,731	100.0
Q1/2021	8,095	25.8	8,604	27.4	12,241	39.0	2,429	7.7	31,369	100.0
Q2/2021	6,369	22.6	7,958	28.2	11,472	40.7	2,413	8.6	28,212	100.0
Q3/2021	5,772	23.3	6,734	27.2	10,089	40.7	2,181	8.8	24,776	100.0

Source: Quarterly Construction Statistics, Department of Statistics, Malaysia

## PERFORMANCE OF THE CONSTRUCTION SECTOR



	No. of Projects	Value of Work Done (RM'000)	Percentage Change (%) (QoQ)	Percentage Change (%) (YoY)
<b>2019</b>	Q1	37,397,513	2.4	0.7
	Q2	35,919,139	-4.0	0.8
	Q3	36,076,604	0.4	-0.6
	Q4	36,978,460	2.5	1.3
<b>2020</b>	Q1	35,040,152	-5.2	-6.3
	Q2	19,780,063	-43.6	-44.9
	Q3	31,367,003	58.6	-13.1
	Q4	31,730,846	1.2	-14.2
<b>2021</b>	Q1	31,369,047	-1.1	-10.5
	Q2	28,211,661	-10.1	42.6
	Q3	24,775,795	-12.2	-21.0

Source: Quarterly Construction Statistics, Department of Statistics, Malaysia

### ESTIMATING RULES OF THUMB

#### Composition of Concrete (per m<sup>3</sup>)

Mix	Cement	Sand	Aggregate
1:3:6	216kg	0.45m <sup>3</sup>	0.90m <sup>3</sup>
1:2:4	308kg	0.43m <sup>3</sup>	0.86m <sup>3</sup>
1:1:2	540kg	0.38m <sup>3</sup>	0.75m <sup>3</sup>

#### Weight of Concrete Items

Item	Weight
Concrete	2,400 kg/m <sup>3</sup>
Cement	1,441 kg/m <sup>3</sup>
Sand	1,600 kg/m <sup>3</sup>
Aggregate	1,350 kg/m <sup>3</sup>
Steel	7,843 kg/m <sup>3</sup>

#### Average Loads

	Volume
Lorry	10.0 m <sup>3</sup>
Concrete truck (24 ton)	5.5 m <sup>3</sup>
Barge	200 - 1,450 m <sup>3</sup>

#### Dimensions for Standard Parking Space, Loading/Unloading Bays and Lay-bys

	Length	Width	Minimum Headroom
Private Cars, Taxis and Light Vans	5 m	2.5 m	2.4 m
Coaches and Buses	12 m	3.0 m	3.8 m
Lorries	11 m	3.5 m	4.1 m
Container Vehicles	16 m	3.5 m	4.5 m

Minimum headroom means the clearance between the floor and the lower most projection from the ceiling including any lighting units, ventilation duct, conduits or similar.

## **Structure Design - Concrete Ratios**

The following is a range of concrete ratios for building superstructure design:

Concrete/floor area	0.3 m <sup>3</sup> /m <sup>2</sup>	to	0.6 m <sup>3</sup> /m <sup>2</sup>
Formwork/floor area	2.2 m <sup>2</sup> /m <sup>2</sup>	to	3.0 m <sup>2</sup> /m <sup>2</sup>
Reinforcement/concrete vol.	160 kg/m <sup>3</sup>	to	250 kg/m <sup>3</sup>

## **Average External Wall/Floor Ratio**

Residential Apartments	1.0 m <sup>2</sup> /m <sup>2</sup>
Office, Hotel	0.4 m <sup>2</sup> /m <sup>2</sup>
Industrial	0.4 m <sup>2</sup> /m <sup>2</sup>

## **Average Internal Wall/Floor Ratio**

Residential Apartments	1.0 m <sup>2</sup> /m <sup>2</sup>
Office	0.5 m <sup>2</sup> /m <sup>2</sup>
Hotel	1.5 m <sup>2</sup> /m <sup>2</sup>

## **Air - Conditioning**

Average	0.05 tonne/m <sup>2</sup> of floor area
---------	---

The above ratios are indicative and for reference purposes only. They do not account for buildings with special shapes, configurations or particular small foot prints.

## **Indicative Dimensions for Sports Grounds**

	Length	Width
Tennis Court	40 m	20 m
Squash Court	13 m	6 m
Basketball Court	38 m	23 m
Volleyball Court	30 m	20 m
Badminton Court	20 m	10 m
Rink	61 m	26 m
Soccer Playing Field	110 - 120 m	70 - 80 m
Futsal	25 - 42 m	15 - 25 m

The above dimensions are for a single court with appropriate clearance. No spectator seating or support area has been allowed.

## TECHNICAL SPECIFICATIONS

Table for Standard BRC Fabrics

BRC Ref. No.	BS 4483 or SS-32 Ref No.	Main Wire		Cross Wire		Cross-Sectional Area		Mass Per Unit Area Kg/m <sup>2</sup>
		Size mm	Spacing mm	Size mm	Spacing mm	Main mm <sup>2</sup> /m	Cross mm <sup>2</sup> /m	
<b>SQUARE MESHES</b>								
A 10	A 393	10.0	200	10.0	200	393	393	6.16
A 9	-	9.0	200	9.0	200	318	318	4.99
A 8	A 252	8.0	200	8.0	200	252	252	3.95
A 7	A 193	7.0	200	7.0	200	193	193	3.02
A 6/5	-	6.5	200	6.5	200	166	166	2.61
A 5	A 142	6.0	200	6.0	200	142	142	2.22
A 4	A 98	5.0	200	5.0	200	98	98	1.54
	-	4.0	200	4.0	200	63	63	0.99
<b>RECTANGULAR MESHES</b>								
B 12	B 1131	12.0	100	8.0	200	1,131	252	10.90
B 10	B 385	10.0	100	8.0	200	785	252	8.14
B 9	-	9.0	100	8.0	200	636	252	6.97
B 8	B 503	8.0	100	8.0	200	503	252	5.93
B 7	B 385	7.0	100	7.0	200	385	193	4.53
B 6	B 283	6.0	100	7.0	200	283	193	3.73
B 5	B 196	5.0	100	7.0	200	196	193	3.05
C 10	C 785	10.0	100	6.0	400	785	71	6.72
C 9	C 636	9.0	100	6.0	400	636	71	5.55
C 8	C 503	8.0	100	5.0	400	503	49	4.34
C 7	C 385	7.0	100	5.0	400	385	49	3.41
C 6	C 283	6.0	100	5.0	400	283	49	2.61
C 5	-	5.0	100	5.0	400	196	49	1.93

**STANDARD SIZES****Rolls**

(Ref. No's: A4, A5, A6, A6/5 only)

Length : 40.0 metres

Width : 2.0 metres

**Sheets**

(all Ref. No's)

Length : 6.0 metres

Width : 2.2 metres



## Weight Tables for Mild Steel Round Bar & High Tensile Deformed Bar

Std. Size (mm) High Yield Deformed	Std. Size (mm)		Cross Sectional Area (mm <sup>2</sup> )	Unit Weight (kg/m)	No. of Pcs. 12m Length Per Bundle	Weight Per Bundle (MT)
	High Yield Deformed	Mild Steel Round				
D 6	Ø 6		28.3	0.222	376	1.002
D 8	Ø 8		50.3	0.395	210	0.995
D 9	Ø 9		63.6	0.499	168	1.006
D 10	Ø 10		78.5	0.616	138	1.020
D 12	Ø 12		113.1	0.888	96	1.023
D 16	Ø 16		201.1	1.579	54	1.023
D 20	Ø 20		314.2	2.466	34	1.006
D 22	Ø 22		380.1	2.984	28	1.003
D 25	Ø 25		490.9	3.854	22	1.017
D 28	Ø 28		615.8	4.834	18	1.044
D 32	Ø 32		804.2	6.313	14	1.061
D 35	Ø 35		962.1	7.553	12	1.088
D 38	Ø 38		1,134.1	8.903	10	1.068
D 40	-		1,256.6	9.864	9	1.065

\* High Yield Deformed Bar Standard Length : 12 metres straight.

\* Mild Steel Round Bar Standard Length : 12 metres straight or 12 metres once folded.

\* Special cut length can be produced from 6m to 15m on a certain min. quality per size per order upon request.

## AVERAGE UNIT PRICES

2021	Automotive Gas Oil RM/Litre			Sand RM/Metric Ton			Cement RM/50 kg Bag		
	A	B	C	A	B	C	A	B	C
Region	Diesel Retail Price			River Sand			Ordinary Portland		
Jan	2.04	2.04	2.04	53.86	42.00	46.00	17.83	17.57	19.33
Feb	2.13	2.13	2.13	53.86	42.00	46.00	17.86	17.71	19.33
Mar	2.15	2.15	2.15	53.86	42.00	46.00	17.97	17.71	19.25
Apr	2.15	2.15	2.15	53.86	42.00	43.50	18.00	17.71	19.25
May	2.15	2.15	2.15	53.86	42.00	43.50	18.00	17.71	18.83
Jun	2.15	2.15	2.15	52.53	42.00	43.50	17.90	17.71	18.83
Jul	2.15	2.15	2.15	51.63	42.00	43.50	17.90	18.14	19.08
Aug	2.15	2.15	2.15	51.31	42.00	43.50	17.90	18.54	19.08
Sep	2.15	2.15	2.15	51.31	42.00	43.50	17.96	18.54	19.08
Oct	2.15	2.15	2.15	54.40	42.00	43.50	17.99	18.54	19.08

Region: A = Central Peninsular Malaysia; B = Kota Kinabalu; C = Kuching

November & December rates are not available at time of printing.

Source: Special Release 1, For Civil Engineering Works, Department of Statistics, Malaysia.

2021	Aggregates RM/Metric Ton											
	Granite 10mm (3/8")			Granite 20mm (3/4")			Granite 40mm (1 1/2")			Crusher run		
	A	B	C	A	B	C	A	B	C	A	B	C
Region												
Jan	30.50	29.00	26.20	31.94	65.89	29.25	29.52	31.00	25.40	24.20	29.33	26.50
Feb	30.50	29.00	26.20	31.94	65.89	29.25	29.52	31.00	25.40	24.20	29.33	26.50
Mar	30.50	29.00	26.20	31.94	65.89	29.25	29.52	31.00	25.40	24.20	29.33	26.50
Apr	31.00	29.00	26.20	33.21	65.89	29.25	29.52	31.00	25.40	24.65	29.33	26.50
May	31.00	29.00	27.70	33.21	65.89	32.50	29.55	31.00	25.40	23.59	29.33	26.50
Jun	29.95	29.00	27.70	32.04	65.89	32.50	29.97	32.00	25.40	21.81	29.33	26.50
Jul	29.95	29.00	27.70	32.83	65.89	32.50	29.72	32.00	25.40	23.09	29.33	26.50
Aug	29.97	29.00	27.70	33.03	65.89	32.50	29.72	32.00	25.40	23.34	29.33	26.50
Sep	29.97	29.00	27.70	33.03	57.50	32.50	29.72	32.00	25.40	23.34	29.33	26.50
Oct	30.96	32.33	27.70	33.17	57.50	32.50	29.72	32.00	25.40	24.54	32.00	26.50

Region: A = Central Peninsular Malaysia; B = Kota Kinabalu; C = Kuching  
 November & December rates are not available at time of printing.

Source: Special Release 1, For Civil Engineering Works, Department of Statistics, Malaysia.

## UNIT PRICE INDEX

2021	Bricks & Wall	Glass	Ceiling Materials	Roofing Materials	Timber	Plywood	Sanitary Fittings	Floor & Wall Tiles	Plumbing Materials	Steel & Metal Sections	Paints
Jan	102.7	101.0	98.2	95.7	101.1	92.1	96.0	99.4	97.9	114.0	101.8
Feb	102.9	100.3	98.2	95.3	103.0	92.1	96.0	98.6	97.9	117.9	101.8
Mar	102.9	104.9	97.9	95.0	105.0	92.1	96.0	98.1	97.8	118.3	101.8
Apr	102.8	108.4	98.3	94.8	105.0	92.1	96.0	98.2	98.5	120.9	101.7
May	102.8	111.6	98.3	94.5	105.1	92.1	96.0	98.5	99.9	123.4	101.4
Jun	102.6	111.6	98.3	94.5	105.6	93.8	96.0	98.5	100.7	124.4	101.4
Jul	102.6	111.6	98.3	94.5	104.9	93.8	96.2	98.5	101.0	124.4	101.6
Aug	102.7	111.6	98.1	94.3	105.1	93.8	96.2	98.1	101.1	124.2	101.8
Sep	103.2	111.6	100.3	94.2	105.1	93.8	96.2	98.1	101.1	124.5	102.3
Oct	103.4	111.6	100.6	94.2	105.1	93.8	96.4	98.4	101.8	124.5	103.4

Note: July 2017 = 100

Unit Price Index above are applicable for Wilayah Persekutuan Kuala Lumpur, Melaka, Negeri Sembilan and Selangor region.  
November & December rates are not available at time of printing.

Source: Special Release 2, For Building and Structural Works, Department of Statistics, Malaysia.

## CONSTRUCTION SECTOR INDICATORS

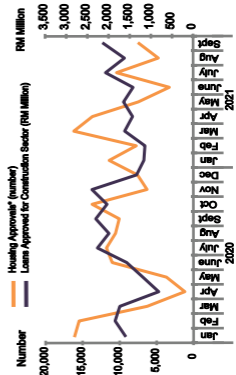
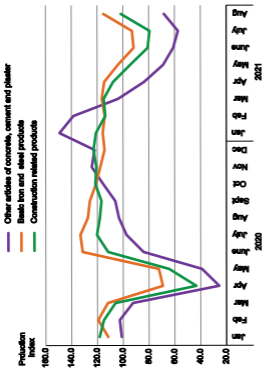
2021	Production Index <sup>#</sup>				Housing Approvals* (number)	Loans Approved for Construction Sector (RM million)
	Other Articles of Concrete, Cement & Plaster	Basic Iron and Steel Products	Construction Related Products			
Jan	149.2	115.7	121.0	11,362	1,171	
Feb	138.5	114.2	113.7	7,718	1,143	
Mar	103.9	116.5	115.0	16,142	1,621	
Apr	83.7	114.6	107.7	13,636	1,436	
May	68.9	104.0	94.5	7,417	1,647	
Jun	61.1	91.7	80.9	3,231	1,425	
Jul	57.4	93.0	79.4	10,352	2,072	
Aug	68.2	115.2	101.7	4,710	1,626	
Sep	N/A	N/A	N/A	7,305	2,116	

Note: <sup>#</sup> Based on Industrial Production Index (2015 = 100).

\* Number of housing units by private developers approved for construction in Peninsular Malaysia by the Ministry of Housing and Local Government.

N/A: Not available

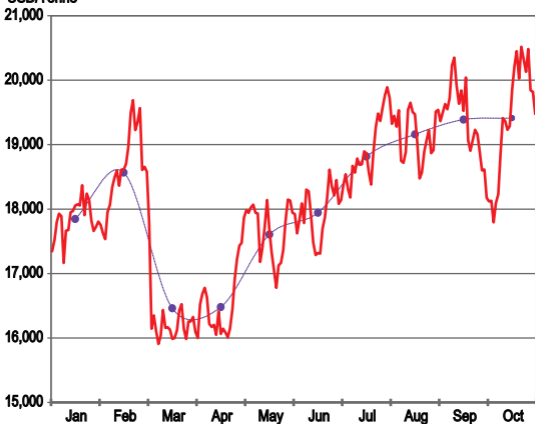
Source: Central Bank of Malaysia.



## COMMODITIES PRICE TREND (JAN TO OCT 2021)

### Nickel

USD/Tonne



### Copper (Grade A)

USD/Tonne



## Aluminium

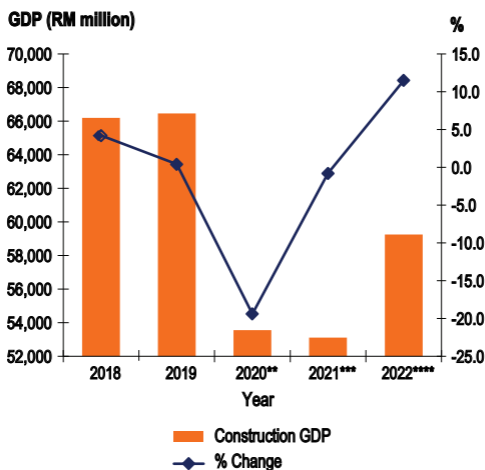
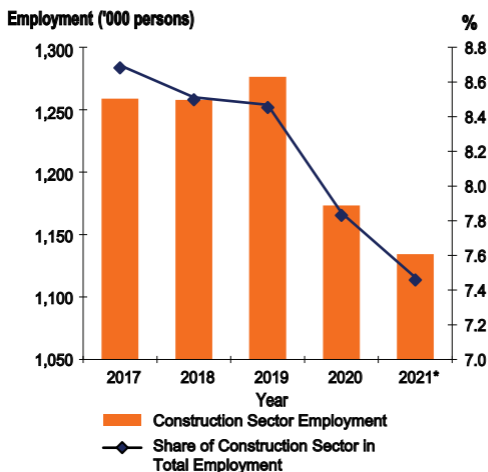
USD/Tonne



Year 2021	Aluminium	Copper (Grade A)	Nickel
	Monthly Average (USD / Tonne)		
Jan	2,004	7,971	17,848
Feb	2,080	8,460	18,568
Mar	2,192	9,005	16,461
Apr	2,324	9,336	16,481
May	2,434	10,184	17,606
Jun	2,439	9,612	17,943
Jul	2,492	9,434	18,817
Aug	2,611	9,357	19,160
Sep	2,839	9,323	19,389
Oct	2,954	9,776	19,412

Source: London Metal Exchange

## MALAYSIA CONSTRUCTION SECTOR - EMPLOYMENT & GROSS DOMESTIC PRODUCT



Note: \* For the first half of 2021

\*\* Preliminary

\*\*\* Estimate

\*\*\*\* Forecast

Source: Economic Outlook 2022, Ministry of Finance Malaysia

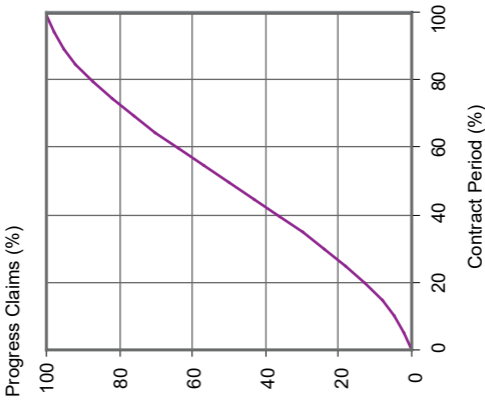


## PROGRESS PAYMENTS

The following graph and table are an indication of the rate of expenditure for construction projects.

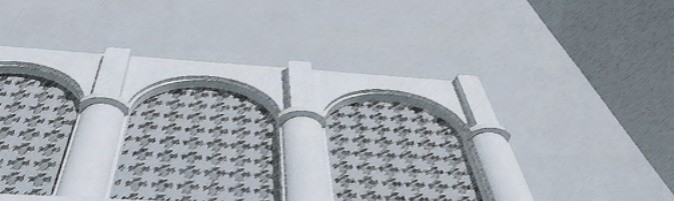
The rate of expenditure is an average rate and will vary from project to project when specific project circumstances are taken into account.

No account has been made for retention.



Contract Period	Cumulative Progress Claims	Contract Period	Cumulative Progress Claims	Contract Period	Cumulative Progress Claims
5%	2%	40%	36%	75%	82%
10%	5%	45%	43%	80%	87%
15%	8%	50%	50%	85%	92%
20%	13%	55%	57%	90%	95%
25%	18%	60%	64%	95%	98%
30%	24%	65%	70%	100%	100%
35%	30%	70%	76%		





# PROPERTY 3



Residential

Hotel

Office

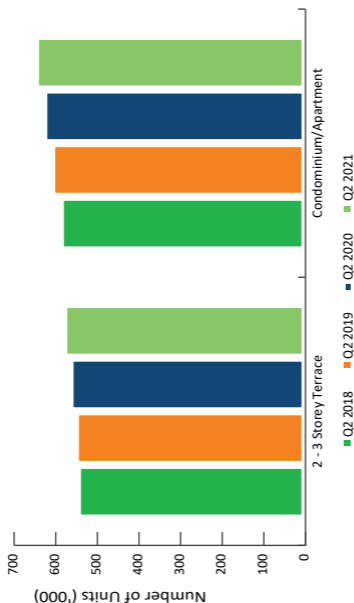
Shopping Complex

Shop

Industrial

## RESIDENTIAL

Existing Stock of Residential by Type in Kuala Lumpur and Selangor

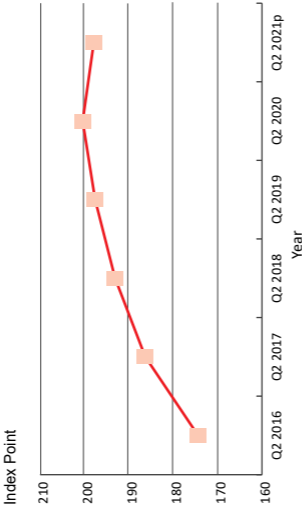


Source: Residential Property Stock Report 2Q 2018 - 2Q 2021, Valuation & Property Services Department

Residential Q2 2021	Existing Stock (unit)	Incoming Supply (unit)
WP Kuala Lumpur	502,168	52,877
WP Putrajaya	16,782	4,424
WP Labuan	12,805	1,291
Selangor	1,613,669	103,220
Johor	867,070	49,192
Pulau Pinang	537,207	32,785
Perak	503,003	39,532
Negeri Sembilan	291,095	18,270
Melaka	205,035	22,869
Kedah	341,789	16,523
Pahang	291,534	16,329
Terengganu	104,978	18,526
Kelantan	86,210	11,559
Perlis	26,433	1,552
Sabah	227,339	24,972
Sarawak	277,048	15,238
<b>MALAYSIA</b>	<b>5,904,165</b>	<b>429,159</b>

Source: Residential Property Stock Report 2Q 2021, Valuation & Property Services Department

### Malaysia House Price Index



Base Year = 2010

Note: p = Preliminary

Source: Malaysian House Price Index, Valuation & Property Services Department

### Rentals and Prices of Selected Existing High End Condominiums/Service Apartments (1H2021)

Locality	Average Asking Rental (RM psf/month)	Average Price (RM psf)
KL City	2.00 - 5.00	1,000 - 1,040
Ampang Hilir / U-Thant	1.80 - 2.90	720 - 750
Bangsar	2.30 - 3.80	800 - 1,040
Damansara Heights	2.20 - 4.20	820 - 940
Mont' Kiara	2.00 - 3.80	580 - 730

Note: p = Preliminary

Source: Knight Frank Real Estate Highlights 1st Half 2021

## HOTEL

## Tourist Arrivals &amp; Receipts to Malaysia

Year	Arrivals (million)	Receipts (RM billion)
2020	4.33	12.7
2019	26.10	86.1
2018	25.83	84.1
2017	25.95	82.1
2016	26.76	82.1
2015	25.72	69.1
2014	27.44	72.0
2013	25.72	65.4
2012	25.03	60.6
2011	24.71	58.3
2010	24.58	56.5

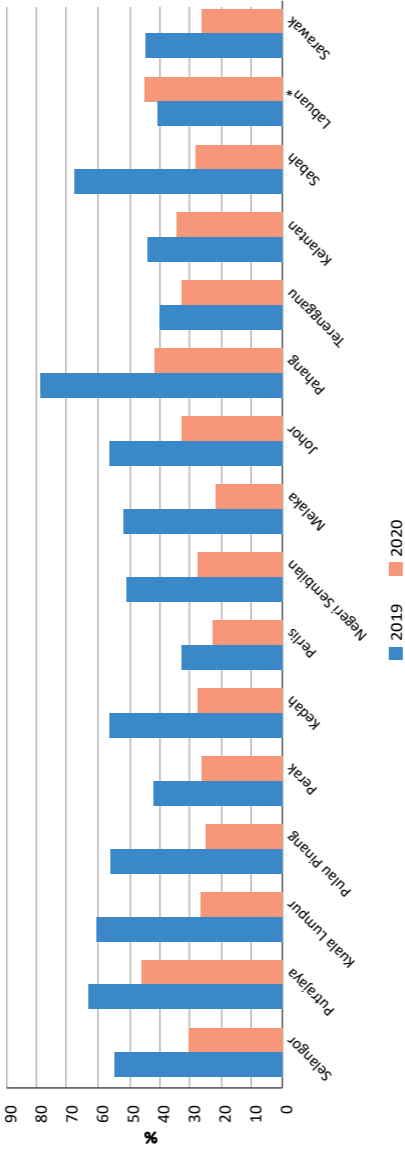
Source: Tourism Malaysia

## No of Hotel Rooms in Malaysia

Hotel Q2 2021	Existing Stock (Rooms)	Incoming Supply (Rooms)
WP Kuala Lumpur	40,897	8,396
WP Putrajaya	1,769	0
WP Labuan	1,697	264
Selangor	23,002	2,143
Johor	31,066	3,154
Pulau Pinang	22,406	5,921
Perak	16,313	865
Negeri Sembilan	9,396	1,588
Melaka	17,031	1,456
Kedah	13,154	756
Pahang	25,375	222
Terengganu	10,718	767
Kelantan	4,360	144
Perlis	1,245	120
Sabah	22,799	1,975
Sarawak	19,954	318
<b>MALAYSIA</b>	<b>261,182</b>	<b>28,089</b>

Source: Leisure Property Stock Table Q2 2021,  
Valuation & Property Services Department

**Performance of Hotels - Average Occupancy Rates (January to September 2019/2020)**



\* Higher in year 2020 due to quarantine hotels

**Source: Tourism Malaysia**

## OFFICE

## Purpose-Built Office Rental Index

State / Sub-Region	Q2 2020	Q2 2021 <sup>p</sup>	% Change (Y-o-Y)
Klang Valley	130.9	130.8	-0.1
Kuala Lumpur	140.1	140.6	0.4
City Centre	140.9	141.3	0.3
Outside City Centre	137.7	138.5	0.6
Selangor	125.2	124.5	-0.6
Petaling Jaya / Subang Jaya	130.4	129.4	-0.8
Shah Alam	120.0	119.2	-0.7
Seri Kembangan	125.2	125.1	-0.1
Johor Bahru	130.6	129.7	-0.7
George Town	127.0	126.9	-0.1

p = Preliminary, 2010=100

Source: Purpose-Built Office Rental Index (PBO-RI) Klang Valley, Johor Bahru & George Town Q1 - Q2 2021<sup>p</sup>, Valuation & Property Services Department

## Asking Rentals of Selected Grade A Offices (1H2021)

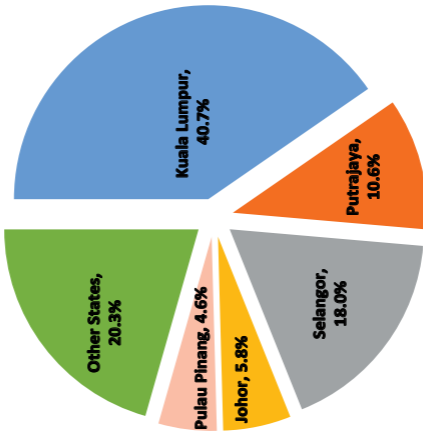
	Asking Gross Rental <sup>p</sup> (RM psf/month)
<b>KL City</b>	
Integra Tower	11.00
Menara Binjai	8.80
The Exchange 106	10.00 - 12.00
G Tower	7.50 - 8.50
Menara Maxis	8.00 - 12.00
Menara Hap Seng 3	8.00
<b>KL Fringe</b>	
Menara Shell	8.50
Menara Etiqa	7.50 - 8.00
Nu Tower 2	7.50
The Gardens North & South Towers	7.80
UOA Corporate Tower A	6.20
Mercu 2	7.50
<b>Selangor</b>	
1 First Avenue	6.00
The Pinnacle	6.00 - 7.50
Surian Tower	5.50
Nucleus Tower	5.60
Plaza 33	5.50
The Ascent @ Paradigm	5.50 - 6.00

p = Preliminary

Source: Knight Frank Real Estate Highlights 1st Half 2021



**Distribution of Existing Stock of Purpose Built Office in Malaysia as at Q2 2021**

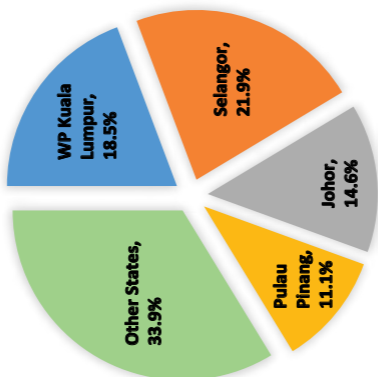


Purpose Built Office Q2 2021	Existing Stock Total Space (m <sup>2</sup> )	Incoming Supply Total Space (m <sup>2</sup> )
WP Kuala Lumpur	9,697,823	1,094,717
WP Putrajaya	2,525,253	75,540
WP Labuan	67,051	0
Selangor	4,286,806	412,668
Johor	1,373,483	214,141
Pulau Pinang	1,103,533	4,590
Perak	646,045	25,912
Negeri Sembilan	342,435	8,831
Melaka	411,050	0
Kedah	432,312	0
Pahang	420,570	36,375
Terengganu	360,738	63,767
Kelantan	391,077	0
Perlis	131,038	25,085
Sabah	827,992	6,963
Sarawak	818,073	56,952
<b>MALAYSIA</b>	<b>23,835,279</b>	<b>2,025,541</b>

Source: Commercial Property Stock Table Q2 2021, Valuation & Property Services Department

## SHOPPING COMPLEX

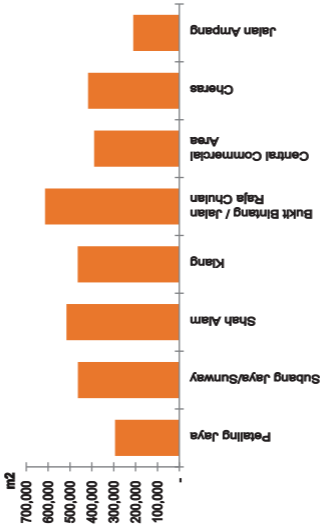
Distribution of Existing Stock of Shopping Complex in Malaysia as at Q2 2021



Shopping Complex Q2 2021	Existing Stock Total Space (m <sup>2</sup> )	Incoming Supply (m <sup>2</sup> )
WP Kuala Lumpur	3,125,392	645,850
WP Putrajaya	86,017	0
WP Labuan	28,614	0
Selangor	3,710,416	478,097
Johor	2,470,736	50,911
Pulau Pinang	1,879,054	168,321
Perak	956,321	154,039
Negeri Sembilan	597,350	5,534
Melaka	635,388	128,465
Kedah	582,256	0
Pahang	428,437	21,101
Terengganu	193,166	126,520
Kelantan	381,280	69,168
Perlis	55,872	17,764
Sabah	760,166	35,743
Sarawak	1,043,301	41,676
<b>MALAYSIA</b>	<b>16,933,866</b>	<b>1,943,189</b>

Source: Commercial Property Stock Table 2Q 2021, Valuation & Property Services Department

### Shopping Complex's Existing Stock in Kuala Lumpur & Selangor (By Location) as at Q2 2021



Source: Commercial Property Stock Table Q2 2021, Valuation & Property Services Department

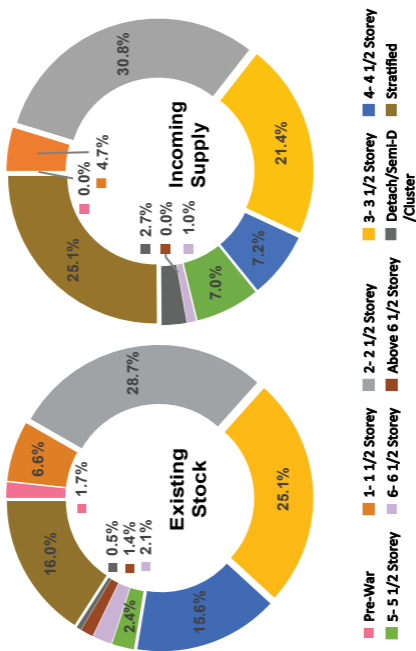
### Klang Valley: Incoming Retail Supply, 2H 2021

Projects	Estimate Area (sf)
Retail Component of Pacific Star, Petaling Jaya	240,000
EcoHill Walk Mall, Semenyih	170,000
IOI City Mall Phase 2, Putrajaya	1,000,000
Retail Component of Datum Jelatek, Ampang	317,000
Retail Component of Lot 91 @ KLCC, KL City	73,000
Retail Component of 8 Conlay, KL City	120,000
Mitsui Shopping Park Lalaport, KL City	861,000
Pavilion Bukit Jalil, KL Fringe	1,840,000

Source: Knight Frank Real Estate Highlights 1st Half 2021

## SHOP

**Distribution of Existing and Incoming Supply of Shop in Kuala Lumpur and Selangor as at Q2 2021**



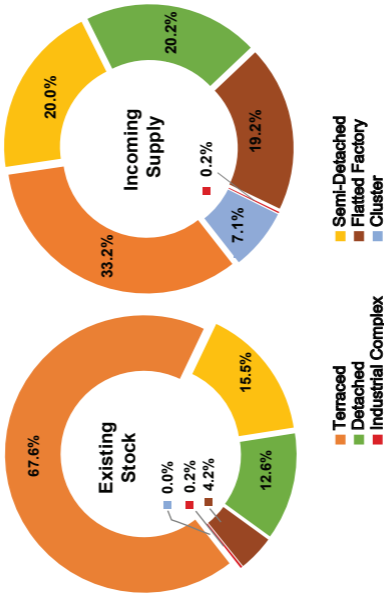
Shop Q2 2021	Existing Stock (unit)	Incoming Supply (unit)
WP Kuala Lumpur	32,105	1,555
WP Putrajaya	538	0
WP Labuan	1,003	64
Selangor	109,737	6,012
Johor	91,664	8,044
Pulau Pinang	38,769	1,109
Perak	62,930	2,964
Negeri Sembilan	27,161	894
Melaka	23,059	1,407
Kedah	32,232	1,031
Pahang	25,608	1,323
Terengganu	8,461	1,081
Kelantan	14,094	1,300
Perlis	5,677	394
Sabah	32,157	2,434
Sarawak	36,868	1,398
<b>MALAYSIA</b>	<b>542,063</b>	<b>31,010</b>

Source: Commercial Property Stock Table Q2 2021, Valuation & Property Services Department

## INDUSTRIAL

Industrial Q2 2021	Existing Stock (unit)	Incoming Supply (unit)
WP Kuala Lumpur	5,138	0
WP Putrajaya	48	0
WP Labuan	641	8
Selangor	41,178	1,289
Johor	18,179	1,070
Pulau Pinang	9,597	151
Perak	8,471	119
Negeri Sembilan	5,528	105
Melaka	7,158	799
Kedah	3,858	80
Pahang	3,578	106
Terengganu	866	76
Kelantan	613	25
Perlis	296	29
Sabah	6,212	301
Sarawak	7,347	230
<b>MALAYSIA</b>	<b>118,708</b>	<b>4,388</b>

Distribution of Existing and Incoming Supply of Industrial Units in Kuala Lumpur and Selangor as at Q2 2021



Source: Industrial Property Stock Table Q2 2021, Valuation & Property Services Department



Financial Definitions & Formulae

Mortgage Repayment Table

Malaysia Balance of Payments  
- Goods & Services

Consumer Price Index & Producer  
Price Index

Prime Rates & Base Lending Rates

Interest Rates : Banking Institutions

Currency Chart

Exchange Rates

## FINANCIAL DEFINITIONS

### Discount Rate

The rate of return a developer expects when investing in a project. i.e. opportunity cost

### Internal Rate of Return (IRR)

The IRR may be defined as the interest rate that equates the present value of expected future cash flows to the cost of the investment.

The IRR can be compared to the Discount Rate.

### Net Present Value (NPV)

The NPV is the present value of all future cash flows, discounted back to today's values at the Discount Rate.

The NPV indicates in today's dollars the profit or loss a developer makes above or below his required profit (based on a nominated Discount Rate).

### 72 Rule

The approximate number of years required to double your capital can be calculated by dividing the interest rate into 72.

e.g. If interest rate = 10% p.a.  
Then  $72 \div 10 = 7.2$  years  
It will take approximately 7.2 years to double your capital if it is invested at 10% p.a.

## FINANCIAL FORMULAE

Future value of \$1	$FV = PV (1+i)^n$
Future value of \$1 per period	$FV = PMT [((1+i)^n - 1) \div i]$
Sinking fund (the amount required to be put away periodically to realise some future sum)	$PMT = FV [i \div ((1+i)^n - 1)]$
Present value of \$1	$PV = FV [1 \div (1+i)^n]$
Present value of \$1 per period	$PV = PMT [((1+i)^n - 1) \div (i(1+i)^n)]$
Annuity with a PV of \$1 (Mortgage bond formula)	$PMT = PV[i(1+i)^n \div ((1+i)^n - 1)]$

PV = present value  
 FV = future value  
 PMT = payment amount  
 n = period (e.g. 10 years with monthly payments,  $n = 10 \times 12 = 120$ )  
 i = interest rate per period  
 (e.g. 12% p.a. compounded monthly;  
 $i = 12\% \div 12 \text{ month} = 1\% \text{ per period}$ )



## MORTGAGE REPAYMENT TABLE

Based on:

\* 1,000 units of currency

\* Interest compounded monthly

\* Equal monthly repayments

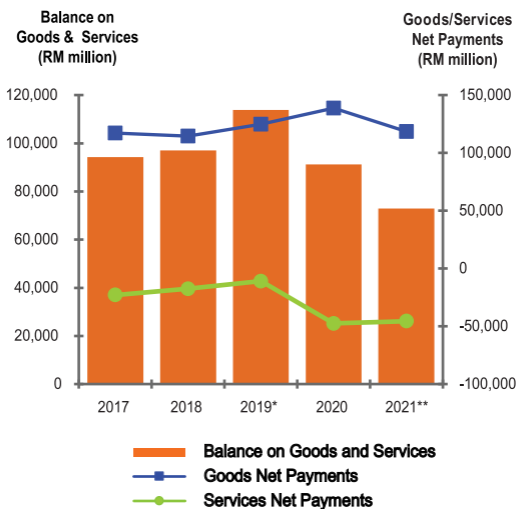
Interest p.a.	REPAYMENT (years)			
	5	10	15	20
5%	18.87	10.61	7.91	6.60
6%	19.33	11.10	8.44	7.16
7%	19.80	11.61	8.99	7.75
8%	20.28	12.13	9.56	8.36
9%	20.76	12.67	10.14	9.00
10%	21.25	13.22	10.75	9.65
11%	21.74	13.78	11.37	10.32
12%	22.24	14.35	12.00	11.01
13%	22.75	14.93	12.65	11.72
14%	23.27	15.53	13.32	12.44
15%	23.79	16.13	14.00	13.17
16%	24.32	16.75	14.69	13.91
17%	24.85	17.38	15.39	14.67
18%	25.39	18.02	16.10	15.43
19%	25.94	18.67	16.83	16.21
20%	26.49	19.33	17.56	16.99
21%	27.05	19.99	18.31	17.78
22%	27.62	20.67	19.06	18.57
23%	28.19	21.35	19.82	19.37
24%	28.77	22.05	20.58	20.17
25%	29.35	22.75	21.36	20.98

### Example

Borrow \$1,000,000 to be repaid monthly at 10% p.a. over 10 years.

$$\begin{aligned} \text{Repayments} &= 1,000,000 / 1,000 \times \$13.22 \\ &= \$13,220 \text{ per month} \end{aligned}$$

## MALAYSIA BALANCE OF PAYMENTS - GOODS & SERVICES



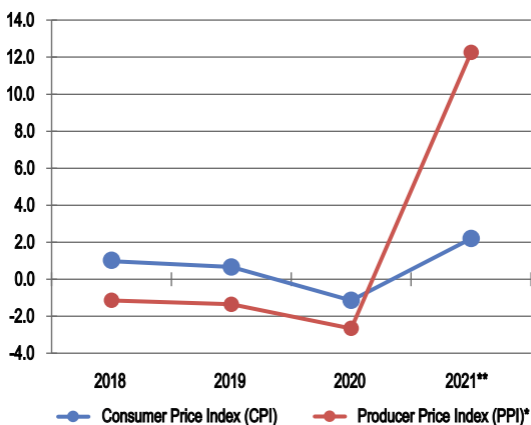
Year	Balance on Goods & Services (RM mil)	Goods Net Payments (RM mil)	Services Net Payments (RM mil)
2017	94,255	117,113	-22,858
2018	97,106	114,621	-17,515
2019*	113,864	124,739	-10,875
2020	91,261	138,709	-47,447
2021**	72,866	118,455	-45,590

Note: \* Revised

\*\* 1Q 2021 to 3Q 2021

Source: Central Bank of Malaysia

## CONSUMER PRICE INDEX & PRODUCER PRICE INDEX



Year	Annual Change (%)	
	CPI	PPI*
2018	1.0 %	-1.1 %
2019	0.7 %	-1.4 %
2020	-1.2 %	-2.7 %
2021**	2.2 %	12.3 %

Note: Year 2010=100

\* Local Production

\*\* September 2021

Source: Central Bank of Malaysia

## PRIME RATES &amp; BASE LENDING RATES

as at 4th Quarter 2021

Country	Rate (%)
China*	4.75
Hong Kong	5.00
India <sup>§</sup>	8.80
Macau	5.25
Malaysia <sup>^</sup>	5.49
Philippines	6.03
Singapore	5.25
Thailand <sup>#</sup>	6.15
United Kingdom**	0.10
United States of America	3.25
Vietnam <sup>##</sup>	6.00
Jakarta <sup>**</sup>	4.25

\* 5-Year Benchmark Lending Rate

\$ The data is provided by Arkind LS Private Limited, an Arcadis Alliance Partner

^ Base Lending Rate (September 2021)

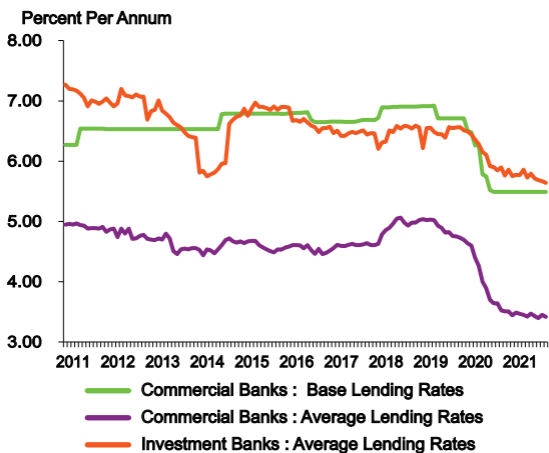
# Minimum Loan Rate % per annum (average based on local bank)

\*\* Bank Rate (Bank of England base rate)

## Min and in VND per year

\$\$ The data is provided by PT Lantera Sejahtera Indonesia

## INTEREST RATES: BANKING INSTITUTIONS

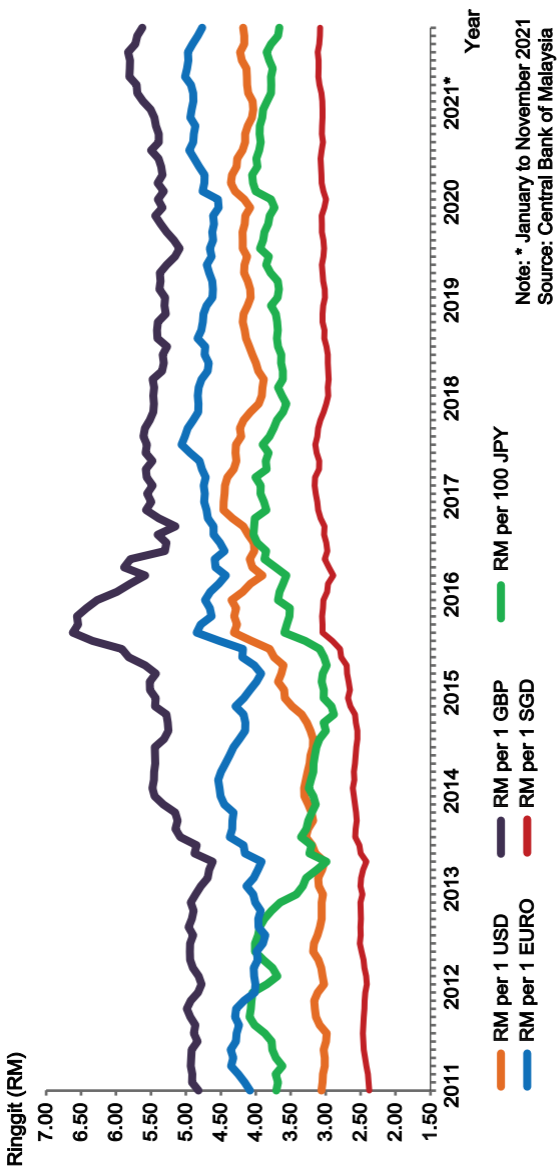


2021	Commercial Banks		Investment Banks
	Base Lending Rates (%)	Average Lending Rates (%)	Average Lending Rates (%)
Jan	5.49	3.44	5.75
Feb	5.49	3.49	5.77
Mar	5.49	3.47	5.77
Apr	5.49	3.45	5.86
May	5.49	3.42	5.73
Jun	5.49	3.47	5.80
Jul	5.49	3.43	5.72
Aug	5.49	3.40	5.69
Sep	5.49	3.45	5.67
Oct	5.49	3.42	5.64

Note: Only Jan till Oct rates are available at time of publication

Source: Central Bank of Malaysia

CURRENCY CHART



## EXCHANGE RATES

as at 29 December 2021

Country/Region	Currency	RM1	US \$1
Australia	dollar	0.3301	1.3815
Bahrain	dinar	0.0895	0.3747
Brunei	dollar	0.3236	1.3546
China	rmb	1.5212	6.3669
Egypt	pound	3.7490	15.6918
European Union	eur	0.2111	0.8834
Hong Kong	dollar	1.8633	7.7989
India	rupees	17.8420	74.6788
Indonesia	rupiah	3,398	14,221
Japan	yen	27.4322	114.8190
Kenya	shillings	26.8357	112.3220
Lebanon	pound	360.1670	1,507.500
Malaysia	ringgit	1.0000	4.1807
New Zealand	dollar	0.3509	1.4686
Pakistan	rupee	42.3904	177.4270
Philippines	peso	12.0485	50.4297
Qatar	riyal	0.8641	3.6169
Singapore	dollar	0.3236	1.3546
South Africa	rand	3.7418	15.6614
South Korea	won	283.591	1,186.990
Sri Lanka	rupee	48.0807	201.2440
Thailand	baht	8.0007	33.4875
United Arab Emirates	dirham	0.8774	3.6725
United Kingdom	pound	0.1778	0.7442
United States of America	dollar	0.2389	1.0000
Vietnam	dong	5,456	22,836

Source: [www.oanda.com](http://www.oanda.com)





A photograph of a modern building with a glass facade and a yellow banner at the bottom. The banner contains the text 'OTHER INFORMATION' and a large number '5'.

## OTHER INFORMATION

# 5

Utility Costs for Selected Asian Cities

Weight & Measures

Conversion Guide

Public Holidays

Directory of Offices

Telephone Directory (Malaysia)

## UTILITY COSTS FOR SELECTED ASIAN CITIES as at 4th Quarter 2021

COUNTRY	Exchange Rate US \$1 =	ELECTRICITY (US\$/kwh)		WATER (US\$/m <sup>3</sup> )		FUEL (US\$/litre)		
		Domestic	Commercial/ Industrial	Domestic	Commercial/ Industrial	Diesel	Leaded	Unleaded
<b>KUALA LUMPUR</b>	RM 4.15	0.053 - 0.138	0.092 - 0.123	0.137 - 0.482	0.499 - 0.549	0.518	N/A	0.494
FUEL: Rates for 11-17 Nov 2021. Unleaded petrol RON 95								
ELECTRICITY (Commercial / Industrial): Low voltage								
<b>BEIJING</b>	RMB 6.40	0.068 - 0.110	0.190 - 0.192 (peak) 0.118 - 0.120 (normal)	0.694 - 1.251	1.251 - 1.319	1.300	N/A	1.460
ELECTRICITY (Domestic / month) (below 1kV): 1 - 240kWh = US\$0.068; 241 - 400kWh = US\$0.075; 400kWh above = US\$0.110								
ELECTRICITY (Commercial / Industrial) (1 - 10kV): Central Districts - Peak = US\$0.192, Normal = US\$0.120; Other Districts - Peak = US\$0.190, Normal = US\$0.118								
WATER (Domestic / year): 1 - 180m <sup>3</sup> = US\$0.694; 181 - 260m <sup>3</sup> = US\$0.972; 261m <sup>3</sup> above = US\$1.251								
WATER (Commercial / Industrial): Central Districts = US\$1.319; Other Districts = US\$1.251								
<b>GUANGZHOU</b>	RMB 6.40	0.091 - 0.138	0.091 - 0.105	0.309 - 0.619	0.790	1.130	N/A	1.180
UNLEADED FUEL: Unleaded gasoline 92# (Unleaded 95# = US\$1.283/litre, Unleaded 98# = US\$1.461/litre)								
<b>HONG KONG</b>	HK\$ 7.79	0.110	0.130	0.830	0.590	2.250	N/A	2.620
ELECTRICITY (Domestic): 0 - 400 kWh = US\$0.11; 400 - 1,000kWh = US\$0.13; 1,000 - 1,800kWh = US\$0.15; 1,800 - 2,600kWh = US\$0.19; 2,600 - 3,400kWh = US\$0.22; 3,400 - 4,200kWh = US\$0.23; Above 4,200 kWh = US\$0.23 (Based on tariff scheme of CLP Holding Limited and is charged on bi-monthly consumption)								
WATER (Domestic): 0 - 12 m <sup>3</sup> = F.O.C.; 12 - 43m <sup>3</sup> = US\$0.53/m <sup>3</sup> ; 43 - 62m <sup>3</sup> = US\$0.83/m <sup>3</sup> ; Above 62m <sup>3</sup> = US\$1.16/m <sup>3</sup> .								

COUNTRY	Exchange Rate US \$1 =	ELECTRICITY (US\$/kwh)		WATER (US\$/m <sup>3</sup> )		FUEL (US\$/litre)		
		Domestic	Commercial/ Industrial	Domestic	Commercial/ Industrial	Diesel	Leaded	Unleaded
<b>MACAU</b>	MOP 8.01	0.170	0.170	0.560 - 0.910	0.750	1.770	N/A	1.590
<p><b>ELECTRICITY:</b> Electricity tariff are composition of demand charges, consumption charges, fuel clause adjustment and government tax. Charges for ordinary users (e.g. business, government buildings, schools, associations, hospitals and others) only. Special users (e.g. gaming industries, hotels, saunas, golf courses, construction, public infrastructures and other temporary consumption) are excluded.</p> <p><b>WATER</b> : Consumption charge = US\$0.56/m<sup>3</sup> for 28m<sup>3</sup> or below; US\$0.64/m<sup>3</sup> for 29m<sup>3</sup> to 60m<sup>3</sup>; US\$0.75/m<sup>3</sup> for 61m<sup>3</sup> to 79m<sup>3</sup> and US\$0.90/m<sup>3</sup> for 80m<sup>3</sup> or above. Other charges (Depending on meter size 15mm - 200mm) : Meter Rental = US\$0.34 - 57.64/month.</p>								
<b>SHANGHAI</b>	RMB 6.40	0.048 - 0.153	5.316 (Basic Tariff) 0.092 (summer) 0.087 (non-summer)	0.539 - 0.911	0.780	1.120	N/A	1.250
<p><b>ELECTRICITY (Domestic):</b> 0 - 3,120 kWh = US\$0.096 (peak) / US\$0.048 (normal); 3,120- 4,800kWh = US\$0.106 (peak) / US\$0.053 (normal); Above 4,800 kWh = US\$0.153 (peak) / US\$0.076(normal). Charged on yearly consumption.</p> <p><b>ELECTRICITY (Commercial/Industrial):</b> In dual tariff system, Rate of 10kVA</p> <p><b>UNLEADED FUEL:</b> Unleaded 95.</p>								
<b>CHONGQING</b>	RMB 6.40	0.080 - 0.128	0.087 - 0.102	0.520 - 0.877	0.680	1.130	N/A	1.245
<p><b>UNLEADED FUEL:</b> Unleaded 92# = US\$1.178/litre, Unleaded 95# = US\$1.245/litre</p>								

## 5 OTHER INFORMATION

(Cont'd)

### UTILITY COSTS FOR SELECTED ASIAN CITIES as at 4th Quarter 2021

COUNTRY	Exchange Rate US \$1 =	ELECTRICITY (US\$/kwh)		WATER (US\$/m <sup>3</sup> )		FUEL (US\$/litre)		
		Domestic	Commercial/ Industrial	Domestic	Commercial/ Industrial	Diesel	Leaded	Unleaded
<b>BANGALORE</b>	INR 74.39	0.075 - 0.107	0.092 - 0.135	0.590 - 0.738	1.480	1.155	N/A	1.385
The data is provided by Arkind LS Private Limited, an Arcadis Alliance Partner.								
<b>NEW DELHI</b>	INR 74.39	0.021 - 0.108	0.161	0.07 - 0.590	0.500 - 2.360	1.167	N/A	1.398
The data is provided by Arkind LS Private Limited, an Arcadis Alliance Partner.								
<b>BANGKOK</b>	BAHT 33.889	0.069 - 0.130	0.091 - 0.094	0.251 - 0.426	0.280 - 0.467	0.874	N/A	0.930
UNLEADED FUEL: Gasohol 95 ELECTRICITY (Domestic): For normal tariff with consumption not exceeding 150kWh/month.								
<b>HO CHI MINH</b>	VND 23,450	0.120	0.110 / 0.060	0.270	0.840 / 0.520	0.880	N/A	1.140
All rates are VAT inclusive.								

COUNTRY	Exchange Rate US \$1 =	ELECTRICITY (US\$/kwh)		WATER (US\$/m <sup>3</sup> )		FUEL (US\$/litre)		
		Domestic	Commercial/ Industrial	Domestic	Commercial/ Industrial	Diesel	Leaded	Unleaded
<b>MANILA</b>	PHP 50.77	0.142 - 0.210	0.177	0.474 - 0.707	2.409	1.030	N/A	1.162
ELECTRICITY (Domestic): 50 kWh - 652 kWh; ELECTRICITY (Commercial / Industrial): 34,351 kWh; WATER (Domestic): 17m <sup>3</sup> - 35m <sup>3</sup> ; WATER (Commercial / Industrial): 13m <sup>3</sup>								
<b>SINGAPORE</b>	S\$ 1.35	0.180	0.180	2.03* 2.73**	2.030	1.570	N/A	2.340
All rates are nett of GST. ELECTRICITY: Tariff is based on low tension power supply. WATER (Domestic): * Effective from 1 July 2018. Rate includes water conservation tax, water-borne fee, sanitary appliance fee and is an average for ≤ 40m <sup>3</sup> . ** Effective from 1 July 2018. Rate includes water conservation tax, water-borne fee, sanitary appliance fee and is an average for > 40m <sup>3</sup> . WATER (Commercial / Industrial): Effective from 1 July 2018. Rate includes water conservation tax, water borne fee & sanitary appliance fee. FUEL (Diesel & 98 Unleaded Petrol) - As at 27 October 2021.								
<b>JAKARTA</b>	IDR 14,288	0.101*	0.101**	0.073 - 0.521*	0.477 - 1.025**	0.910	N/A	0.630
ELECTRICITY / WATER: * Domestic group in Indonesia will cover residence, religion building, non-profit organization building and government hospital. ** Commercial group in Indonesia will cover luxury residence, apartment, offices, hotel, commercial building and factories The data is provided by PT Lantera Sejahtera Indonesia.								

## WEIGHT & MEASURES

### Metric Measures and Equivalents

<b>LENGTH</b>		
1 millimetre (mm)		= 0.0394 in
1 centimetre (cm)	= 10 mm	= 0.3937 in
1 metre (m)	= 100 cm	= 1.0936 yd
1 kilometre (km)	= 1,000 m	= 0.6214 mile
<b>AREA</b>		
1 sq cm (cm <sup>2</sup> )	= 100 mm <sup>2</sup>	= 0.1550 in <sup>2</sup>
1 sq metre (m <sup>2</sup> )	= 10,000 cm <sup>2</sup>	= 1.1960 yd <sup>2</sup>
1 hectare (ha)	= 10,000 m <sup>2</sup>	= 2.4710 acres
1 sq km (km <sup>2</sup> )	= 100 ha	= 0.3861 mile <sup>2</sup>
<b>VOLUME / CAPACITY</b>		
1 cu cm (cm <sup>3</sup> )		= 0.0610 in <sup>3</sup>
1 cu decimetre (dm <sup>3</sup> )	= 1,000 cm <sup>3</sup>	= 0.0353 ft <sup>3</sup>
1 cu metre (m <sup>3</sup> )	= 1,000 dm <sup>3</sup>	= 1.3080 yd <sup>3</sup>
1 litre (l)	= 1 dm <sup>3</sup>	= 1.76 pt
1 hectolitre (hl)	= 100 l	= 21.997 gal
<b>MASS (WEIGHT)</b>		
1 milligram (mg)		= 0.0154 grain
1 gram (g)	= 1,000 mg	= 0.0353 oz
1 kilogram (kg)	= 1,000 g	= 2.2046 lb
1 tonne (t)	= 1,000 kg	= 0.9842 ton
<b>USA MEASURES AND EQUIVALENTS</b>		
<b>USA Dry Measure Equivalents</b>		
1 pint	= 0.9689 UK pint	= 0.5506 l
<b>USA Liquid Measure Equivalents</b>		
1 fluid ounce	= 1.0408 UK fl oz	= 29.574 ml
1 pint (16 fl oz)	= 0.8327 UK pt	= 0.4723 l
1 gallon	= 0.8327 UK gal	= 3.7854 l

## Imperial Measures and Equivalents

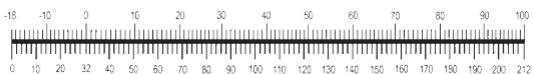
LENGTH		
1 inch (in)		= 2.54 cm
1 foot (ft)	= 12 in	= 0.3048 m
1 yard (yd)	= 3 ft	= 0.9144 m
1 mile	= 1,760 yd	= 1.6093 km
1 int. nautical mile	= 2,025.4 yd	= 1.853 km
AREA		
1 sq inch (in <sup>2</sup> )		= 6.4516 cm <sup>2</sup>
1 sq foot (ft <sup>2</sup> )	= 144 in <sup>2</sup>	= 0.0929 m <sup>2</sup>
1 sq yard (yd <sup>2</sup> )	= 9 ft <sup>2</sup>	= 0.8361 m <sup>2</sup>
1 acre	= 4,840 yd <sup>2</sup>	= 4,046.9 m <sup>2</sup>
1 sq mile (mile <sup>2</sup> )	= 640 acres	= 2.59 km <sup>2</sup>
VOLUME / CAPACITY		
1 cu inch (in <sup>3</sup> )		= 16.387 cm <sup>3</sup>
1 cu foot (ft <sup>3</sup> )	= 1,728 in <sup>3</sup>	= 0.0283 m <sup>3</sup>
1 fluid ounce (fl oz)		= 28.413 ml
1 pint (pt)	= 20 fl oz	= 0.5683 l
1 gallon (gal)	= 8 pt	= 4.5461 l
MASS (WEIGHT)		
1 ounce (oz)	= 437.5 grains	= 28.35 g
1 pound (lb)	= 16 oz	= 0.4536 kg
1 stone	= 14 lb	= 6.3503 kg
1 hundredweight (cwt)	= 112 lb	= 50.802 kg
1 ton	= 20 cwt	= 1.016 t

### Temperature Conversion

$$^{\circ}\text{C} = 5/9 (^{\circ}\text{F} - 32)$$

$$^{\circ}\text{F} = (9/5 ^{\circ}\text{C}) + 32$$

$^{\circ}\text{C}$



$^{\circ}\text{F}$

## CONVERSION GUIDE

### Conversion Formulae

To use the conversion formulae simply multiply the Imperial measurement by the factor beside the conversion you wish to make. For example 6 inches into millimetres. 6 inches multiplied by 25.4 equals 152.4 millimetres. Conversely if you wish to convert Metric measure into Imperial measure simply divide by the same factor.

<b>LENGTH</b>	
<i>To Convert</i>	<i>Multiply by</i>
mili-inches into micrometres	25.4
inches into millimetres	25.4
inches into centimetres	2.54
inches into metres	0.0254
feet into millimetres	304.8
feet into centimetres	30.48
feet into metres	0.3048
yards into metres	0.9144
fathoms into metres	1.8288
chains into metres	20.1168
furlongs into metres	201.168
miles, statute into kilometres	1.609344
miles, nautical into kilometres	1.852
<b>VOLUME &amp; CAPACITY</b>	
<i>To Convert</i>	<i>Multiply by</i>
cubic inches into cubic centimetres	16.387064
cubic inches into litres	0.016387
cubic feet into cubic metres	0.0283168
cubic feet into litres	28.316847
UK pints into litres	0.5682613
UK quarts into litres	1.1365225
cubic yards into cubic metres	0.7645549
UK gallons into litres	4.54609
UK gallons into cubic metres	0.0045461
UK fluid ounces into cubic centimetres	28.413063



## AREA

<i>To Convert</i>	<i>Multiply by</i>
square inches into square millimetres	645.16
square inches into square centimetres	6.4516
square feet into square centimetres	929.0304
square feet into square metres	0.092903
square yards into square metres	0.836127
square yards into (0.01 hectare)	0.0083613
acres into square metres	4046.8564
acres into hectares	0.4046856
square miles into square kilometres	2.589988

## MASS

<i>To Convert</i>	<i>Multiply by</i>
grains into miligrams	64.79891
grains into metric carats	0.323995
grains into grams	0.064799
pennyweights into grams	1.555174
ounces into grams	28.349523
ounces troy into grams	31.103477
ounces into kilograms	0.0283495
pounds into kilograms	0.4535924
stones into kilograms	6.35023932
hundredweights into kilograms	50.802345
tons into kilograms	1016.0469
tons into metric tonnes	1.01605
tahils into grams	37.799
kati into kilograms	0.60479

## POWER

<i>To Convert</i>	<i>Multiply by</i>
foot pounds-force per second into watts	1.35582
horsepower into watts	745.7
foot pounds-force per second into kilowatts	0.001356
horsepower into kilowatts	0.7457
horsepower into metric horsepower	1.01387

## PUBLIC HOLIDAYS

		2022	
<b>MALAYSIA</b>			
New Year's Day*	01	Jan	
Chinese New Year	01 - 02	Feb <sup>^</sup>	
Labour Day	01	May	
Hari Raya Aidilfitri**	03 - 04	May	
Wesak Day	15	May	
King/Agong's Birthday	06	Jun	
Hari Raya Qurban**	10	Jul	
Awal Muharam	30	Jul	
National Day	31	Aug	
Malaysia Day	16	Sep	
Prophet Muhammad's Birthday	09	Oct	
Deepavali**	24	Oct <sup>^^</sup>	
Christmas Day	25	Dec	
<p>* <i>Except Johor, Kelantan, Kedah, Perlis &amp; Terengganu</i></p> <p>** <i>Subject to change</i></p> <p><sup>^</sup> <i>Except Kelantan &amp; Terengganu</i></p> <p><sup>^^</sup> <i>Except Sarawak</i></p>			
<b>VIETNAM (Normal Scheduled Holidays)</b>			
New Year's Day	01 - 03	Jan <sup>^</sup>	
Lunar New Year	29 - 31	Jan	
Hung Vuong King Celebration	10 - 11	Apr <sup>^^</sup>	
Liberation Day of Saigon	30	Apr	
International Labour Day	01 - 03	May*	
National Day	01 - 02	Sep	
Christmas Day	24 - 25	Dec	
<p><sup>^</sup> <i>As New Year's Day falls on Saturday, Monday is designated as a general holiday in substitution</i></p> <p><sup>^^</sup> <i>As Hung Vuong King Celebration falls on Sunday, Monday is designated as a general holiday in substitution</i></p> <p>* <i>As Liberation Day of Saigon falls on Saturday, and International Labour Day falls on Sunday, Monday and Tuesday are designated as a general holiday in substitution</i></p>			

**2022**
**HONG KONG**

New Year's Day	01	Jan
Lunar New Year (Day 1)	01	Feb
Lunar New Year (Day 2)	02	Feb
Lunar New Year (Day 3)	03	Feb
Ching Ming Festival	05	Apr
Good Friday	15	Apr
The day following Good Friday	16	Apr
Easter Monday	18	Apr
The day following Labour Day	02	May*
The day following Birthday of the Buddha	09	May*
Tuen Ng / Dragon Boat Festival	03	Jun
HKSAR Establishment Day	01	Jul
The 2nd day Following Chinese Mid-Autumn Festival	12	Sep*
National Day	01	Oct
Chung Yeung Festival	04	Oct
The 1st weekday after Christmas Day	26	Dec
The 2nd weekday after Christmas Day	27	Dec*

\* As the festivals falls on Sunday, the day following it is designated as a general holiday in substitution

**CHINA**

New Year's Day	01 - 03	Jan
Chinese New Year's Eve	31	Jan
Chinese New Year	01 - 06	Feb
Ching Ming Festival	03 - 05	Apr
Labour Day*	30 - 04	Apr/May
Tuen Ng / Dragon Boat Festival	03 - 05	Jun
Mid-Autumn Festival	10 - 12	Sep
National Day	01 - 07	Oct

\* 30 Apr - 04 May 2022 are holidays

# 5 OTHER INFORMATION

(Cont'd)

## PUBLIC HOLIDAYS

	2022	
<b>MACAU</b>		
New Year's Day	01	Jan
Lunar New Year's Eve (Afternoon)	31	Jan*
Lunar New Year's Day	01	Feb
The 2nd day of Lunar New Year	02	Feb
The 3rd day of Lunar New Year	03	Feb
Cheng Ming Festival	05	Apr
Good Friday	15	Apr
The day before Easter	16	Apr
The rest day for Easter	18	Apr@
Labour Day	01	May
The rest day for Labour Day	02	May@
Birthday of the Buddha	08	May
The rest day of Birthday of the Buddha	09	May
Tuen Ng / Dragon Boat Festival	03	Jun
The day following Chinese Mid-Autumn Festival	12	Sep@
National Day	01	Oct
The rest day for National Day	03	Oct
Chung Yeung Festival	04	Oct
The rest day for the day following National Day	05	Oct@
All Soul's Day	02	Nov
Feast of Immaculate Conception	08	Dec
Macau SAR Establishment Day	20	Dec
Winter Solstice	22	Dec
Christmas Eve	24	Dec
Christmas Day	25	Dec
The rest day for Christmas Day	26 - 27	Dec@

\* *Special Holiday Granted by Chief Executive for staff in Public Administration*

@ *As the festivals falls on Saturday / Sunday, the day following it is designated as a general holiday in substitution*

**2022**
**INDIA**

New Year's Day	01	Jan
Chandrama Ugadi	02	Apr
May Day	01	May
Ramzan	03	May
Ganesh Chaturthi	31	Aug
Gandhi Jayanti	02	Oct
Vijay Dashmi	05	Oct
Diwali	24	Oct
Christmas Day	25	Dec

*\* The data is provided by Arkind LS Private Limited,  
an Arcadis Alliance Partner*

**INDONESIA**

New Year's Day	01	Jan
Chinese New Year (Imlek)	01	Feb
Ascension of Prophet Muhammad	28	Feb
Hindu Day of Quiet (Nyepi)	03	Mar
Good Friday	15	Apr
International Labour Day	01	May
Idul Fitri	02 - 03	May
Waisak Day	16	May
Ascension Day of Jesus Christ	26	May
Pancasila Day	01	Jun
Idul Adha Day	09	Jul
Hijriyah New Year	30	Jul
National Independence Day	17	Aug
Prophet Muhammad's Birthday	08	Oct
Christmas Day	25	Dec

## 5 OTHER INFORMATION

(Cont'd)

### PUBLIC HOLIDAYS

	2022	
<b>PHILIPPINES</b>		
New Year's Day	01	Jan*
Chinese New Year	01	Feb <sup>#</sup>
EDSA People Power Revolution	25	Feb <sup>#</sup>
Araw ng Kagitingan	09	Apr*
Maundy Thursday	14	Apr*
Good Friday	15	Apr*
Black Saturday	16	Apr <sup>#</sup>
Labor Day	01	May*
End of Eid-ul-Fitre (Feast of Ramadhan)	02 - 03	May*
Independence Day	12	Jun*
Eid-ul-Adha	09 - 10	Jul*
Ninoy Aquino Day	21	Aug <sup>#</sup>
National Heroes Day	29	Aug*
All Saint's Day	01	Nov <sup>#</sup>
Bonifacio Day	30	Nov*
Feast of the Immaculate Conception of Mary	08	Dec <sup>#</sup>
Christmas Day	25	Dec*
Rizal Day	30	Dec*
<i>* Regular Holidays</i>		
<i># Special Non-Working Holidays</i>		
<b>SINGAPORE</b>		
New Year's Day	01	Jan
Chinese New Year	01 - 02	Feb
Good Friday	15	Apr
Labour Day	01	May <sup>#</sup>
Hari Raya Puasa	03	May
Vesak Day	15	May <sup>#</sup>
Hari Raya Haji	10	Jul <sup>#</sup>
National Day	09	Aug
Deepavali	24	Oct
Christmas Day	25	Dec <sup>#</sup>
<i># The following Monday will be a public holiday</i>		

2022

**THAILAND**

New Year	03	Jan <sup>1</sup>
Makha Bucha Day	16	Feb
Chakri Memorial Day	06	Apr
Songkran Festival	13 - 15	Apr
Labour Day	02	May <sup>2</sup>
Coronation Day	04	May
Wisakha Bucha Day	16	May <sup>3</sup>
H.M. Queen Suthida Bajrasudhabimalalakshana's Birthday	03	Jun
Asarnha Bucha Day	13	Jul
H.M. King Maha Vajiralongkorn's Birthday	28	Jul
H.M. Queen Sirikit The Queen Mother's Birthday / Mother's Day	12	Aug
H.M. King Bhumibol Adulyadej Memorial Day	13	Oct
Chulalongkorn Day	24	Oct <sup>4</sup>
H.M. King Bhumibol Adulyadej's Birthday / Father's Day	05	Dec
Constitution Day	12	Dec <sup>5</sup>
New Year's Eve	31	Dec

<sup>1</sup> As New Year Day falls on Saturday, Monday is designated as a general holiday in substitution

<sup>2</sup> As Labour Day falls on Sunday, Monday is designated as a general holiday in substitution

<sup>3</sup> As Wisakha Bucha Day falls on Sunday, Monday is designated as a general holiday in substitution

<sup>4</sup> As Chulalongkorn Day falls on Sunday, Monday is designated as a general holiday in substitution

<sup>5</sup> As Constitution Day falls on Saturday, Monday is designated as a general holiday in substitution

## DIRECTORY OF OFFICES

### MALAYSIA

#### SELANGOR

JUBM SDN BHD  
ARCADIS (MALAYSIA) SDN BHD  
ARCADIS PROJEKS SDN BHD  
Level 6, Menara TSR  
12 Jalan PJU 7/3, Mutiara Damansara  
47810 Petaling Jaya  
Selangor Darul Ehsan, Malaysia  
GPS : 3.1616, 101.6129  
Tel/Fax : (60 3) 2106 8000 / (60 3) 2106 9090  
Email : info-my@arcadis.com  
Contact : Justin Teoh / Syed Mahadzir Syed Ahmad /  
Rozila Abdul Rahman / Yap Sai Hoe /  
Jeffrey Lim

#### JOHOR

47, Jalan Setia Tropika 1/30  
Taman Setia Tropika  
81200 Johor Bahru  
Johor Darul Takzim, Malaysia  
GPS : 1.5422, 103.7111  
Tel/Fax : (60 7) 232 8300 / (60 7) 232 8232  
Email : info-my@arcadis.com  
Contact : Syed Mahadzir Syed Ahmad / Tan Pei Ling

#### PENANG

Suite 3A-3, Level 3A  
Wisma Great Eastern  
No.25, Lebu Light  
10200 Penang, Malaysia  
GPS : 5.4201, 100.3408  
Tel : (60 4) 264 2071 / 264 2072 / 264 2073  
Fax : (60 4) 264 2068  
Email : info-my@arcadis.com  
Contact : Yap Sai Hoe

#### SABAH

Lot No. H-06-07 & H-06-08  
Level 6, Block H  
Aeropod Commercial Square  
Tanjung Aru  
Jalan Aeropod Off Jalan Kepayan  
88100 Kota Kinabalu, Sabah, Malaysia  
GPS : 5.9492, 116.0596  
Tel : (60 88) 215 530 / 215 531  
Fax : (60 88) 215 570  
Email : info-my@arcadis.com  
Contact : Jeffrey Lim / VK Wong

#### SARAWAK

JUBM SDN BHD  
No.2 (3rd Floor)  
Jalan Song Thian Cheok  
93100 Kuching  
Sarawak, Malaysia  
GPS : 1.5532, 110.3532  
Tel/Fax : (60 82) 232 212 / (60 82) 232 198  
Email : info-my@arcadis.com  
Contact : Nor Azman Bin Baharum



## VIETNAM

### HO CHI MINH CITY

L12-03, Level 12, Vincom Center B

72 Le Thanh Ton Street

Ben Nghe ward

District 01, Ho Chi Minh City, Vietnam

GPS : 10.778068, 106.702063

Tel/Fax : (84 28) 3823 8297 / (84 28) 3823 8197

Email : info-vn@arcadis.com

Contact : Truong Minh Tri

## CHINA

### HONG KONG

ARCADIS HONG KONG LIMITED

17/F, Two Harbour Square

180 Wai Yip Street, Kwun Tong

Kowloon, Hong Kong

GPS : 22.310065, 114.221216

Tel/Fax : (852) 2911 2000 / (852) 2911 2002

Email : info-hk@arcadis.com

Contact : Francis Au / Katherine Chan

### BAODING

BEIJING ARCADIS CONSTRUCTION CONSULTANTS CO. LTD.

BAODING BRANCH

Suite 808 - 811, Tower B

Shanggu Plaza Huibo

No. 2238 Chaoyang North Street

Baoding, Hebei Province

071000, China

GPS : 38.918742, 115.467576

Tel : (86 312) 588 1301

Email : info-cn@arcadis.com

Contact : Kenn Ng/Hu Ping

### BEIJING

BEIJING ARCADIS CONSTRUCTION CONSULTANTS CO. LTD.

Suite 1225 - 1240, South Wing

Central Tower, Junefield Plaza

10 Xuan Wu Men Wai Street

Beijing 100052, China

GPS : 39.896738, 116.375676

Tel : (86 10) 6310 1136

Email : info-cn@arcadis.com

Contact : Kenn Ng / Hu Ping

### CHANGSHA

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

CHANGSHA BRANCH

Room 2307, 2312-2313, 2315 - 2317

HUAYUAN International Center

No.36 Section 2, Xiangjiang Middle Road

Tianxin District, Changsha, Hunan Province

410002, China

GPS : 28.195233, 112.976893

Tel : (86 731) 8277 2500

Email : info-cn@arcadis.com

Contact : David Choy / Chen Yong

(Cont'd)

## 5 OTHER INFORMATION

(Cont'd)

### DIRECTORY OF OFFICES

#### CHENGDU

ARCADIS CONSULTANCY (CHENGDU) CO. LTD.

Room 11-11, Block 2,

West Financial International Center

258 Lower East Street East Street,

Jinjiang District, Chengdu 610011, China

GPS : 30.652994,104.078937

Tel/Fax : (86 28) 8671 8373 / (86 28) 8671 8535

Email : info-cn@arcadis.com

Contact : Marco Foo

#### CHONGQING

ARCADIS CONSULTANCY (CHENGDU) CO. LTD.

CHONGQING BRANCH

Room 3407-3410, Tower A, International Trade Centre

No. 38 Qing Nian Road, Central District

Chongqing 400010, China

GPS : 29.556331,106.574332

Tel/Fax : (86 23) 8655 1333 / (86 23) 8655 1616

Email : info-cn@arcadis.com

Contact : Marco Foo

#### DALIAN

BEIJING ARCADIS CONSTRUCTION CONSULTANTS

CO. LTD. DALIAN BRANCH

Room 3401A, ETON International Tower

280 Changjiang Road, Zhongshan District

Dalian, Liaoning Province

116001, China

GPS : 38.923275,121.634264

Tel : (86 411) 8800 8018

Email : info-cn@arcadis.com

Contact : Kenn Ng / Pan Jing

#### FOSHAN

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

FOSHAN BRANCH

RM. 1002-1004, 10/F, Lingnan Tiandi

Zu Miao Road, Foshan

Guangdong Province

528000, China

GPS : 23.031224,113.11278

Tel/Fax : (86 757) 8203 0028 / (86 757) 8203 0029

Email : info-cn@arcadis.com

Contact : Ricky Ho / Brandon Wan

#### GUANGZHOU

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

GUANGZHOU BRANCH

3A10-18 Unit, 3A/F

Bank of America Plaza

555 Ren Min Zhong Road

Guangzhou, Guangdong Province, 510145, China

GPS : 23.123148,113.253628

Tel/Fax : (86 20) 8130 3813 / (86 20) 8130 3812

Email : info-cn@arcadis.com

Contact : Xu Wei Bin / Ricky Ho

### **HAIKOU**

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

HAIKOU BRANCH

Unit C 10/F Times Square

2 Guomao Road, Haikou

Hainan Province

570100, China

GPS : 20.029509,110.326235

Tel/Fax : (86 898) 6652 7808 / (86 898) 6652 7809

Email : info-cn@arcadis.com

Contact : Kenneth Lo / Yi Zheng Gang

### **HANGZHOU**

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

HANGZHOU BRANCH

Room 1306 WinNing International

100 Min Xin Road, Hangzhou

Zhejiang Province

310016, China

GPS : 30.251755,120.218913

Tel : (86 571) 2829 7766

Email : info-cn@arcadis.com

Contact : Alex Zou / Lu Wei

### **HENGQIN**

ARCADIS CONSULTANCY ZHUHAI HENGQIN CO. LTD.

7/F, 156 Nan Shan Ju Road

Hengqin, Zhuhai

Guangdong Province

519031, China

GPS : 22.142774, 113.544438

Tel/Fax : (86 756) 868 8986 / (86 756) 868 8969

Email : info-cn@arcadis.com

Contact : Stanley Wan

### **MACAU**

ARCADIS MACAU LIMITED

Avenida da Praia Grande,

No. 594, Edificio BCM

12th Floor, Macau

GPS : 22.192210,113.541252

Tel/Fax : (853) 2833 1710 / (853) 2833 1532

Email : info-mo@arcadis.com

Contact : Winnie Wong

### **NANJING**

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

NANJING BRANCH

1104 South Tower Jinmao Plaza

201 Zhong Yang Road

Nanjing, Jiangsu Province

210009, China

GPS : 32.071984, 118.783443

Tel/Fax : (86 25) 5791 1860 / (86 25) 6698 1860

Email : info-cn@arcadis.com

Contact : Wu Tao / Jia Xiao E

## 5 OTHER INFORMATION

(Cont'd)

### DIRECTORY OF OFFICES

#### QINGDAO

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

QINGDAO BRANCH

Room 2701, Office Tower

Shangri-la Centre,

No.9, Xianggang Middle Road,

Shinan District, Qingdao,

Shandong Province 266071, China

GPS : 36.064884, 120.378583

Tel : (86 532) 8280 1818

Email : info-cn@arcadis.com

Contact : Lu Mei Hua

#### SHANGHAI

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

11th Floor, Building C, The Place

No. 150, Zunyi Road

Changning District

Shanghai 200051, China

GPS : 31.207363, 121.407984

Tel : (86 21) 6026 1300

Email : info-cn@arcadis.com

Contact : Joe Chan / David Choy

#### SHENYANG

BEIJING ARCADIS CONSTRUCTION CONSULTANTS

CO. LTD. SHENYANG BRANCH

Room 3013-3015, Office Tower 1

Forum66, 1-1 Qingnian Avenue

Shenhe District, Shenyang

Liaoning Province 110063, China

GPS : 41.799603, 123.433787

Tel : (86 24) 3195 8880

Email : info-cn@arcadis.com

Contact : Kenn Ng / Simon Chow

#### SHENZHEN

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

Room 1001, AVIC Centre

1018 Huafu Road, Shenzhen

Guangdong Province 518031, China

GPS : 22.543241, 114.082051

Tel/Fax : (86 755) 3635 0688 / (86 755) 2598 1854

Email : info-cn@arcadis.com

Contact : Kenneth Lo / Ricky Ho

#### SUZHOU

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

SUZHOU BRANCH

Room 906, The Summit

118 Suzhou Avenue West

Suzhou, Jiangsu Province

215021 China

GPS : 31.315966, 120.669099

Tel/Fax : (86 512) 8777 5599 / (86 512) 8777 5600

Email : info-cn@arcadis.com

Contact : David Choy / Zhang Rui

## **TIANJIN**

BEIJING ARCADIS CONSTRUCTION CONSULTANTS CO. LTD.

TIANJIN BRANCH

4003, 40/F

Tianjin World Financial Centre Office Tower

2 Dagubei Road, He Ping District

Tianjin 300020, China

GPS : 39.129619, 117.202758

Tel : (86 22) 2329 8611

Email : info-cn@arcadis.com

Contact : Kenn Ng / Sun Ying

## **WUHAN**

ARCADIS CONSULTANCY (SHANGHAI) CO. LTD.

WUHAN BRANCH

RM.1703, Citic Pacific Mansion

No.1627 Zhongshan Avenue, Jiangan District

Wuhan, Hubei Province

430010, China

GPS : 30.616813, 114.317276

Tel/Fax : (86 27) 5920 9299 / (86 27) 5920 9298

Email : info-cn@arcadis.com

Contact : Gary Lin

## **XI'AN**

ARCADIS CONSULTANCY (SHENZHEN) CO. LTD.

XI'AN BRANCH

Room 1606, CapitaMall Office Tower

No.64 Western Part of South 2nd Ring Road

Yanta District, Xi'an

Shaanxi Province 710065, China

GPS : 34.230397, 108.934893

Tel/Fax : (86 29) 8866 9711 / (86 29) 8866 9760

Email : info-cn@arcadis.com

Contact : Gary Lin / Wang Zhu Zhu

## **INDIA**

### **BANGALORE**

ARCADIS INDIA PRIVATE LIMITED

Anantha" bearing No.7-2, Ground Floor

3rd Main Road, Jayanagar 6th Block

Bangalore 560 070, India

GPS : 12.9591527 / 77.6481456

Tel : (00 91 80) 4123 9141

Email : IndiaBD@arcadis.com

Contact : Mainak Hazra

### **DELHI**

ARCADIS INDIA PRIVATE LIMITED

3rd Floor, Tower B

Logix Techno Park

Plot No.5, Sector 127

Noida 201 304, Uttar Pradesh

GPS : 28.5359691 / 77.34585591

Tel/Fax : (00 91 120) 436 8400 / (00 91 120) 436 8401

Email : IndiaBD@arcadis.com

Contact : Mainak Hazra

(Cont'd)

## 5 OTHER INFORMATION

(Cont'd)

### DIRECTORY OF OFFICES

#### MUMBAI

ARCADIS INDIA PRIVATE LIMITED

#1001, 10th Floor,

Vishwaroop Infotech Park

Plot No. 34, 35, 38, Sector 30A

Vashi, Navi Mumbai – 400 705

Maharashtra

GPS : 19.0644562 / 72.9965259

Tel/Fax : (00 91 22) 4125 6060 / (00 91 22) 4125 6050

Email : IndiaBD@arcadis.com

Contact : Mainak Hazra

#### BANGALORE

ARKIND LS PRIVATE LIMITED\*

91Springboard, 5th Floor, Trifecta Adatto

21 ITPL Main Road, Mahadevapura

Bengaluru 560048, India

GPS : 12.994070 / 77.699310

Tel : (00 91) 98453 40499

Email : BD@arkindls.com

Contact : Pradeep Menon

*\* Arcadis affiliate to provide QS & Cost Management Services in India*

#### PHILIPPINES

##### MANILA

ARCADIS PHILIPPINES INC

12th Floor, Quadrants B&C

8 Rockwell Hidalgo Drive

Rockwell Center

Brgy. Poblacion

Makati City 1210

Philippines

GPS : 14.56357, 121.03680

Tel : (00 63 2) 7908 2888

Email : info-ph@arcadis.com

Contact : Ross McKenzie / Darneil Perez / Brian Parsons /  
Nam Le / Monina Munsayac / Carla Cruz /  
Paul Magbanua

##### CEBU

9th Floor, JEG Tower, One Acacia

Archbishop Reyes Avenue, cor

Acacia Street

Cebu City 6000

Philippines

GPS : 10.65042, 123.85114

Tel : (00 63 2) 7908 2888

Email : info-ph@arcadis.com

Contact : Ross McKenzie / Darneil Perez / Brian Parsons /  
Nam Le / Monina Munsayac / Carla Cruz /  
Paul Magbanua / Philip Balingit

## SINGAPORE

ARCADIS SINGAPORE PTE LTD

1 Magazine Road

#05-01 Central Mall

Singapore 059567

GPS : 1.288526,103.842085

Tel/Fax : (65) 6222 3888 / (65) 6224 7089

Email : ArcadisSG@arcadis.com

Contact : René Hillig

ARCADIS PTE LTD

1 Magazine Road

#05-01 Central Mall

Singapore 059567

GPS : 1.288526,103.842085

Tel/Fax : (65) 6222 3888 / (65) 6224 7089

Email : ArcadisSG@arcadis.com

Contact : René Hillig

## THAILAND

### BANGKOK

ARCADIS (THAILAND) LTD

6th Floor, Kian Gwan II Building

140/1 Wireless Road, Lumpini, Pratumwan

Bangkok 10330

Thailand

GPS : 13.734969, 100.545448

Tel/Fax : (66 2) 123 3400 / (66 2) 253 4977

Email : info-th@arcadis.com

Contact : Seth W.W. Leong

## ARCADIS HEADQUARTERS

### AMSTERDAM

ARCADIS NV

"Symphony"

Gustav Mahlerplein 97-103

1082 MS Amsterdam

P.O. Box 7895

1008 AB Amsterdam

The Netherlands

Tel/Fax : (31 20) 201 1011 / (31 20) 201 1002

Email : info@arcadis.com

Website : www.arcadis.com

## TELEPHONE DIRECTORY (MALAYSIA)

<b>Ministries/Departments</b>	
Department of Statistics Malaysia	03-8885 7000
Department of Town and Country Planning	03-2265 0600
Ministry of Domestic Trade and Consumer Affairs	1-800-886 800
Ministry of Housing & Local Government	03-8000 8000
Ministry of Works Malaysia	03-8000 8000
Kuala Lumpur City Hall (DBKL)	03-2617 9000
Perbadanan Putrajaya	03-8887 7000
Petaling Jaya City Council (MBPJ)	03-7956 3544
Shah Alam City Council (MBSA)	03-5510 5133
Subang Jaya Municipal Council (MPSJ)	03-8024 7700
Kajang Municipal Council (MPK)	03-8737 7899
Selayang Municipal Council (MPS)	03-6126 5800
Ampang Jaya Municipal Council (MPAJ)	03-4296 8000
City Council of Penang Island (MBPP)	04- 259 2020
Johor Bahru City Council (MBJB)	07- 219 8000
SIRIM Berhad	03-5544 6000
The Malaysia Highway Authority	03-8738 3000
<b>Contractor's Association</b>	
Master Builders Association Malaysia	03-7984 8636
<b>Contractor's Registration Board</b>	
Construction Industry Development Board (CIDB)	03-5567 3300
<b>Professional Registration Boards</b>	
Board of Architects Malaysia	03-2698 2878
Board of Engineers Malaysia	03-2691 2090
Board of Quantity Surveyors Malaysia	03-2610 7809
<b>Professional Bodies</b>	
Assoc. of Consulting Engineers Malaysia (ACEM)	03-6413 1503
Malaysia Institute of Architects (PAM)	03-2202 2866
Malaysia Institute of Planners (MIP)	03-7877 0636
The Institution of Engineers Malaysia (IEM)	03-7968 4001
Royal Institution of Surveyors Malaysia (RISM)	03-7955 1773
<b>Other Important Numbers</b>	
Ambulance & Police	999
Fire Fighter	999
Kuala Lumpur Hospital	03-2615 5555
Air Selangor Sdn Bhd	15300
Tenaga Nasional (KL)	15454





**JUBM SDN BHD**

**ARCADIS (MALAYSIA) SDN BHD**

**ARCADIS PROJEKS SDN BHD**

Level 6, Menara TSR, 12 Jalan PJU 7/3

Mutiara Damansara, 47810 Petaling Jaya

Selangor, Malaysia

Tel: (603) 2106 8000 / 2106 9000

Fax: (603) 2106 9090

Email: [info-my@arcadis.com](mailto:info-my@arcadis.com)

**FOLLOW US:**



@ArcadisAS



Arcadis

[www.arcadis.com](http://www.arcadis.com)