

SINGAPORE

QUARTERLY CONSTRUCTION COST REVIEW



Issue 41 Arcadis Singapore Pte Ltd

2018 FOURTH QUARTER



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The fourth guarter of 2018 experienced an increase in the total construction demand supported mainly by pent-up demand in the public sector civil engineering and residential projects. Private sector construction demand on the other hand has moderated as developers are taking a more cautious approach on the back of slowdown in economic growth.

Singapore's Gross Domestic Product (GDP) has grown by 3.2% year-onyear (YoY) in 4Q2018.

Based on Arcadis Singapore's data, tender prices for 2018 have increased approximately 1% year-on-year (i.e. 4th Quarter 2018 versus 4th Quarter 2017). Looking ahead, with the slow global economy growth and the comparable level of construction demand as 2018's, tender prices in the first half of 2019 is likely to remain stable and competitive as contractors are eager to fill up their order books.

For the second half of 2019, key construction material prices are expected to rise whilst labour costs remain high. Tender prices are expected to increase moderately taking into consideration that contractors may become more selective in tendering for projects after filling up their order books.

Based on the above, the price movement (if any) for the whole of 2019 is anticipated to be in the range of 0% to +2%, the actual level depending on the prevailing market sentiment and any adverse ramifications of prevailing economic instability.

MARKET MOVEMENT

\$=. 	ECONOMY	,				& DEMAND)		
	Indicator				Indicator				
	GDP Growth per annum	Q4/16 - Q4/17 (+) 3.7%	Q3/17 - Q3/18 (+) 2.4%	Q4/17 - Q4/18 (+) 1.9%	BCA Construction Demand	Q4/17 S\$7.89 Bn	Q3/18 S\$6.55 Bn	Q4/18p S\$9.35 Bn	
	Inflation Rate (CPI)	Dec 16 - 17	Sep 17 - 18	Dec 17 - 18	BCA Construction	Q4/17	Q3/18	Q4/18p	

(+) 0.5%

Dec 18 110.4

Dec 18

98.1



(+) 0.4% per annum

Source: Ministry of Trade and Industry

BASIC COSTS

(+) 0.7%

Nov 18

110.0

Nov 18

101.2

Oct 18

108.8

Oct 18

103.8



S\$6.60 Bn

S\$7.01 Bn

Source: Building and Construction Authority p-denotes preliminary data



Indicator

Output

BCA Tender Price Index	Q4/17 97.2	Q3/18 98.9	Q4/18p 99.7
Arcadis Singapore Tender Price Index	Q4/17 98.7	Q3/18 99.7	Q4/18 99.7

Source: Building and Construction Authority p-denotes preliminary data



Indicator

BCA Steel Reinforcement Price Index

BCA Concrete

Price Index

Source: Building and Construction Authority



SINGAPORE'S CONSTRUCTION DEMAND FORECAST TO REMAIN STRONG

According to the BCA's preliminary data as at 14 January 2019, total construction demand (based on actual contracts awarded) in 2018 was \$\$30.5 billion, an increase of approximately 23% as compared to 2017. This is mainly attributed to strong demand for institutional and civil engineering projects in the public sector, resulting in a positive increase from \$\$15.8 billion in 2017 to \$\$18.4 billion in 2018.

The redevelopment of various en-bloc transactions in 2017 and first half of 2018, as well as new industrial developments have also positively impacted private sector construction demand with an increase from S\$9 billion in 2017 to S\$12.2 billion in 2018; slightly higher than the upper bound forecast of S\$12 billion.

Looking ahead, total construction demand for 2019 is forecast to maintain at a sustainable level between S\$27 billion and S\$32 billion. Public sector construction demand is projected to remain strong at between S\$16.5 billion and S\$19.5 billion, contributing to about 60% of the total construction demand, while private sector construction demand is expected to be between S\$10.5 billion and S\$12.5 billion.

FIRST HALF 2019 GOVERNMENT LAND SALES (1H2019 GLS) PROGRAMME

The Government announced on 6 December 2018 the 1H2019 GLS Programme which comprises five Confirmed List sites and nine Reserve List sites. The five Confirmed List sites are private residential sites which can yield about 2,025 private residential units and 4,000m² GFA of complementary commercial space.

The nine Reserve List sites comprise six private residential sites, two White sites and one hotel site which can yield about 4,450 private residential units, 82,000m² of commercial space and 1,115 hotel rooms.

Since the introduction of the property market cooling measures in July 2018, overall en-bloc transactions have declined in tandem with the softening in demand for land by the developers. As such, the total supply of private residential units for 1H2019 GLS Programme has also been correspondingly moderated.

FIRST HALF 2019 INDUSTRIAL GOVERNMENT LAND SALES (1H2019 IGLS) PROGRAMME

Ministry of Trade and Industry (MTI) has launched the 1H2019 IGLS Programme on 28 December 2018 which comprises five Confirmed List sites and seven Reserve List sites, with a total site area of 11.86 ha. It is slightly moderated as compared to 2H2018 with a total site area of 12.59 ha. This is due to uncertainty in the global economy climate, and concerns over a weakening manufacturing sector.

\$72 MILLION BOOST FOR BUILT ENVIRONMENT (BE) WORKFORCE DEVELOPMENT AND TRAINING

The Government has committed S\$72 million for workforce development and training for BE sector till 2020.

This include enhancement to the existing iBuildSG Scholarship and Sponsorship programme for full-time Undergraduates, Diploma and ITE tracks. Recipients will also receive a S\$3,000 training grant to further upgrade their skills and competencies. For those who continue their career in the BE sector for an additional year beyond their bond period, recipients can look forward to receiving a retention incentive of S\$7,000.

The BCA will also engage students through the iBuildSG Club which is set to be launched in April 2019. It aims to attract students in secondary schools and tertiary institutions to the BE sector through learning journeys and hands-on workshops.

The Building Specialist Sponsorship (BSS) is also enhanced with an additional year of support from two years to three years.

A new iBuildSG Tripartite Committee will also be set up by first quarter of 2019 to focus on talent attraction, retention and building competencies, as well as providing advice and input to the Skills Framework for the sector.

2 APPROXIMATE BUILDING COSTS SINGAPORE

BUILDING TYPE	S\$/m ² CFA
RESIDENTIAL	
Terraced Houses Semi-Detached Houses Detached Houses Average Standard Condominium Above Average Standard Condominium Luxury Condominium	$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$
OFFICE	
Average Standard Offices Prestige Offices	2,350 - 2,650 2,650 - 2,900
COMMERCIAL	
Shopping Centres, Average Quality Shopping Centres, High Quality	2,650 - 2,800 2,800 - 3,100
CAR PARKS	
Multi-Storey Car Parks Basement Car Parks	880 - 1,280 1,280 - 1,730
INDUSTRIAL	
Flatted Light Industrial Buildings Flatted Heavy Industrial Buildings Single Storey Industrial Buildings Flatted Warehouses Single Storey Warehouses	1,230 - 1,380 1,380 - 1,880 1,130 - 1,280 1,130 - 1,280 1,000 - 1,280
HOTEL (Including Furniture and Fittings)	
3-Star Hotels 4-Star Hotels 5-Star Hotels	2,950 - 3,250 3,150 - 3,750 3,800 - 4,300
HEALTH	
Private Hospitals Polyclinics, non air-conditioned Nursing Homes, non air-conditioned Medical Centres	3,800 - 4,000 1,600 - 1,800 1,600 - 1,900 2,900 - 3,100

The above costs are at 4th Quarter 2018 levels.

Notes:

The construction costs above serve only as a guide for preliminary cost appraisals and budgeting. It must be understood that the actual cost of a building will depend upon the design, site conditions and many other factors and may vary from the figures shown. 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, plant rooms, water tanks and the like.

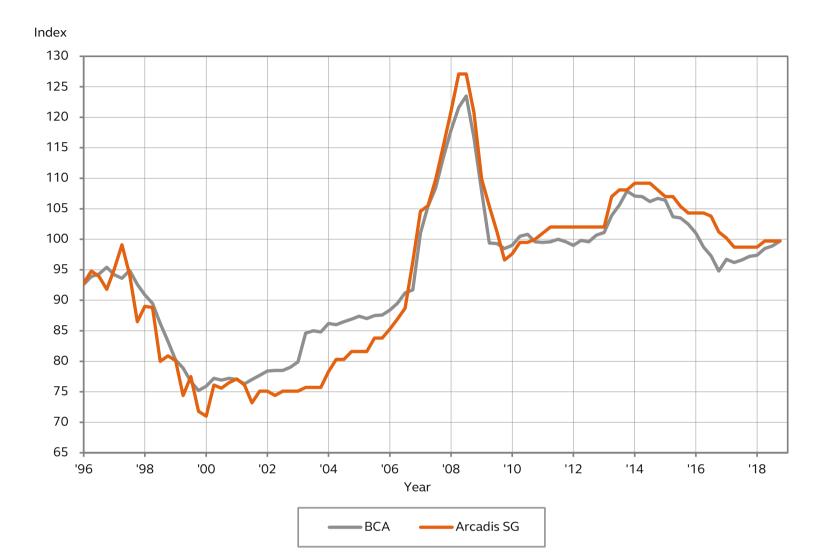
All buildings are assumed to have no basements (unless otherwise stated) and are built on flat ground with normal soil conditions. The costs exclude the following:

- Professional fees •
- Authorities' plan processing charges •
- Land cost .
- Financing charges •
- Site inspectorate •
- Administrative expenses •
- Legal cost & disbursements ٠
- Demolition of existing building(s) ٠

- Furniture and fittings (unless otherwise stated) ٠
- Operating equipment ٠
- External works •
- Prefabricated Prefinished Volumetric Construction (PPVC) / • Prefabricated Bathroom Units (PBUs) / Structural steel structure
- Cross Laminated Timber (CLT) / Glued Laminated Timber (Glulam) ٠
- Cost escalation .
- Goods and Services Tax .

SINGAPORE

Arcadis Singapore TPI is a measure of the comparative tender price movements based on the projects handled by Arcadis Singapore Pte Ltd. The TPI reflects the tender price level of contracts let out over the years. Other than material and labour costs, it takes into account the elements of competition, risk and profits.

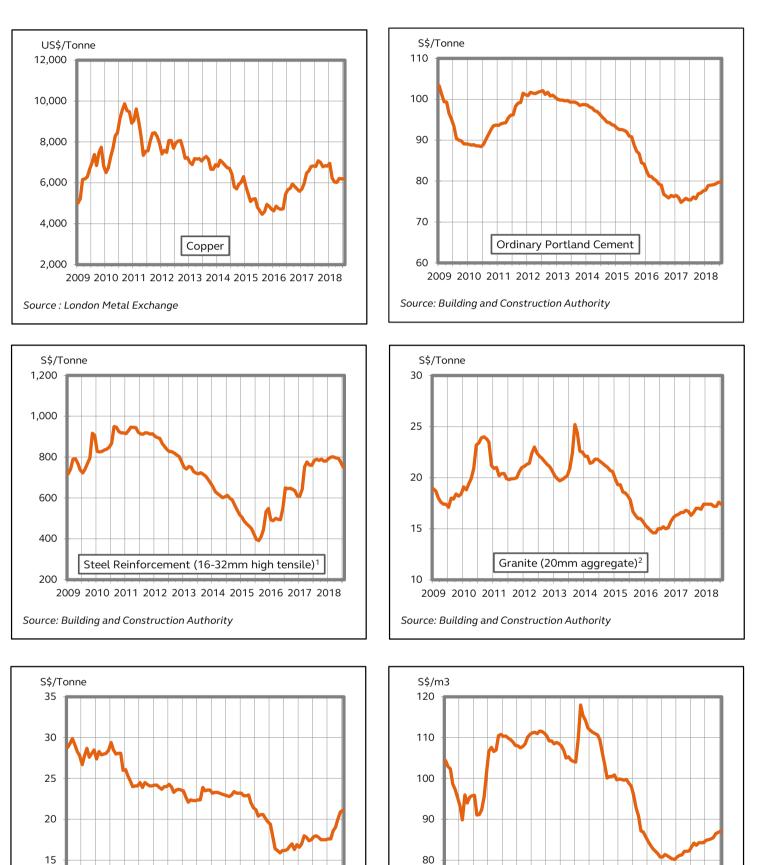


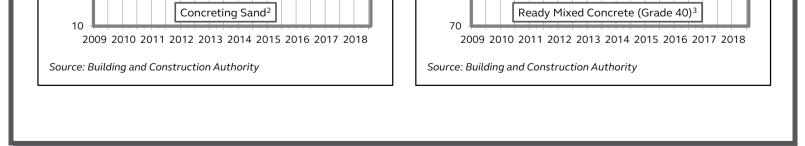
Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
BCA*	101.3	100.0	99.7	99.8	104.6	106.8	104.0	98.0	96.7	98.6p
Arcadis SG^	96.6	100.0	102.0	102.0	108.1	108.1	104.3	101.2	98.7	99.7

Source: * Building and Construction Authority; p - denotes preliminary data ^ From 2009 onwards, Arcadis Singapore TPI based on 4th Quarter Index



Basic Construction Materials





Notes:

¹ Prices of rebar other than 16-32mm dimensions may subject to surcharge

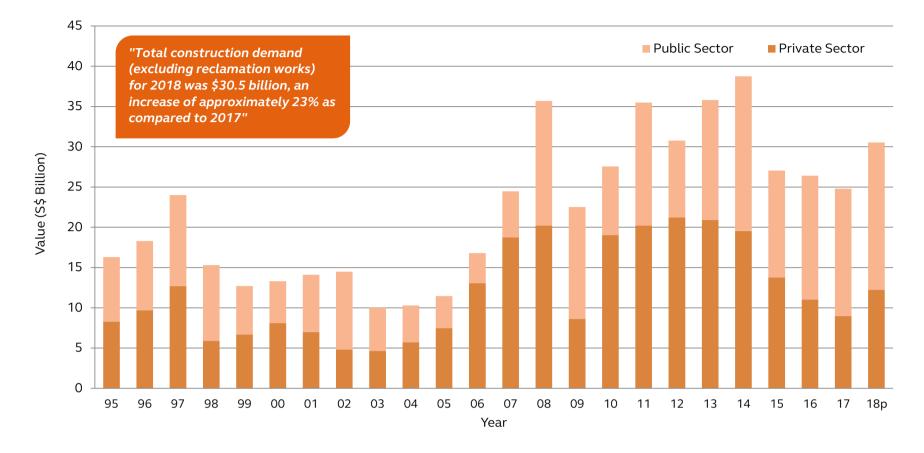
¹ With effect from Jan 2015, the market prices of rebar (without cut & bend) are based on fixed price supply contracts with contract period 1 year or less

² Prices of granite and concreting sand exclude local delivery charges to concrete batching plants

³ The market prices of ready mixed concrete are based on contracts with non-fixed price, fixed price and market retail price for Grade 40 pump







	BCA Construction Demand (Exclude Reclamation) (S\$ Billion)											
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Private Sector	8.3	9.7	12.7	5.9	6.7	8.1	7.0	4.8	4.6	5.7	7.5	13.1
Public Sector	8.0	8.6	11.3	9.4	6.0	5.2	7.1	9.6	5.4	4.6	4.0	3.7
Total Value	16.3	18.3	24	15.3	12.7	13.3	14.1	14.5	10.0	10.3	11.5	16.8

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018p
Private Sector	18.8	20.2	8.6	19.0	20.2	21.2	20.9	19.5	13.8	11.0	9.0	12.1
Public Sector	5.7	15.5	13.9	8.6	15.3	9.5	14.9	19.2	13.3	15.4	15.8	18.4
Total Value	24.5	35.7	22.5	27.6	35.5	30.8	35.8	38.8	27.0	26.4	24.8	30.5

Source: Building and Construction Authority as at 14 January 2019

Notes:

1. Construction demand refers to the total value of construction contracts awarded. It is a leading market indicator for the construction industry.

2. p - denotes preliminary data

3. f - denotes forecast

6 APPROXIMATE BUILDING COSTS FOR MAJOR CITIES ASIA

	Shanghai	Beijing	Guangzhou/Shenzhen	Chongqing/Chengdu
BUILDING TYPE			RMB / m2 CFA	
DOMESTIC				
Apartments, high rise, average standard - Shell and core - Full fit	2,709-3,124 4,636-5,136	2,687 - 3,099 4,254 - 4,671	2,501-2,772 3,706-4,095	2,481-2,913 3,831-4,587
Apartments, high rise, high end - Shell and core - Full fit	3,308-3,604 10,785-11,777	3,170-4,599 10,299-11,729	2,616-3,450 6,066-6,649	3,063-4,062 6,295-7,974
Terraced houses, average standard - Shell and core - Full fit	3,095-3,310 N/A	3,102 - 3,623 6,085 - 6,597	2,811 - 3,095 N/A	3,088-3,755 N/A
Detached houses, high end - Shell and core - Full fit	4,622-5,136 N/A	4,671 - 5,198 11,694 - 12,205	3,838-4,226 N/A	4,102-4,733 N/A
OFFICE / COMMERCIAL				
Medium/high rise offices, average standard	6,024-8,023	5,948-8,009	5,392 - 5,968	6,121-7,114
High rise offices, prestige quality	8,037 - 10,028	8,009-13,151	7,856-9,445	7,787 - 10,549
Out-of-town shopping centre, average standard	N/A	4,532-6,059	5,198-5,705	4,900-6,329
Retail malls, high end	8,522 - 11,000	8,196-11,284	7,551-10,556	7,405 - 10,445
INDUSTRIAL				
Industrial units, shell only. (Conventional single storey framed unit)	1,943-2,373	1,874-2,283	3,449-3,796	2,956-3,761
Owner operated factories, low rise, light weight industry	2,998-3,748	3,623-4,150	N/A	N/A
HOTEL				
Budget hotels - 3-star, mid market Business hotels - 4/5-star	6,607 - 8,113 10,799 - 14,713	6,704-8,266 11,208-14,796	6,836-7,523 11,048-15,775	6,649-8,252 12,124-15,185
Luxury hotels - 5-star	14,692 - 17,614	14,276 - 18,363	15,025 - 16,559	14,983 - 17,988
OTHERS				
Underground/basement car parks (<3 levels)	5,149-7,169	5,177-5,691	3,560-5,691	2,866-4,088
Multi storey car parks, above ground (<4 levels)	2,651-3,692	3,116-3,151	2,547-2,804	2,249-2,811
Schools (primary and secondary)	3,664-4,691	3,609-4,657	2,825-3,109	3,040-3,380
Students' residences	2,616-3,657	2,554-3,609	1,832-2,061	N/A
Sports clubs, multi purpose sports/ leisure centres (dry sports)	6,628-8,134	6,177-6,225	5,233-5,774	N/A
General hospitals - public sector	9,841 - 12,763	8,120-10,167	N/A	N/A

The above costs are at 4th Quarter 2018 levels.



6 APPROXIMATE BUILDING COSTS FOR MAJOR CITIES ASIA

	Hong Kong	Macau	Singapore	Kuala Lumpur
BUILDING TYPE	USD /	m ² CFA (See also exch	ange rates per U.S. dollar k	pelow)
DOMESTIC	HK\$ 7.82	MOP 8.07	S\$1.38	RM 4.18
Apartments, high rise, average standard - Shell and core - Full fit	N/A 3,060-3,570	1,770-2,623 2,279-2,788	N/A 1,305 - 1,485	N/A 345 - 580\$
Apartments, high rise, high end - Shell and core - Full fit	N/A 4,020-4,690	2,623-3,934 3,183-4,864	N/A 2,030-3,045	N/A 710-1,120
Terraced houses, average standard - Shell and core - Full fit	N/A 4,130-4,860	3,107 -3,858 3,884 - 4,635	N/A 1,705 - 1,920	N/A 220-345 ^{\$\$}
Detached houses, high end - Shell and core - Full fit	N/A 6,140 up	3,756-5,411 4,737-6,163	N/A 2,175-2,900	N/A 740-980
OFFICE / COMMERCIAL				
Medium/high rise offices, average standard	2,990-3,500*	2,623-3,387	1,705 - 1,920®	575 - 745 ^{\$\$\$}
High rise offices, prestige quality	3,630-4,260	3,387-3,705	1,920 - 2,100 [@]	865 - 1,255 ^{\$\$\$}
Out-of-town shopping centre, average standard	2,970-3,540	2,470-3,705	1,920-2,030	550-715
Retail malls, high end	3,950-4,720	3,884-4,686	2,030-2,245	680-1,000
INDUSTRIAL				
Industrial units, shell only. (Conventional single storey framed unit)	N/A	N/A	725-930	320-430
Owner operated factories, low rise, light weight industry	2,330-2,950	N/A	N/A	430-520
HOTEL				
Budget hotels - 3-star, mid market	3,840-4,160	3,451-3,909	2,140-2,355	1,020-1,395
Business hotels - 4/5-star	4,020-4,720	4,686-5,602	2,755-3,115	1,720-2,175
Luxury hotels - 5-star	4,720-5,460	5,602-6,621	2,775-3,115	1,940-2,435
OTHERS				
Underground/basement car parks (<3 levels)	3,200-3,840	2,050-3,005	930-1,255	310-530
Multi storey car parks, above ground (<4 levels)	1,920-2,280	1,133 - 1,490	640 - 930 ^{@@}	220-345
Schools (primary and secondary)	2,520-2,710**	2,266-2,623	N/A	250-305 ^{\$\$\$\$}
Students' residences	2,930-3,310	1,795-2,088	1,560-1,705	295 - 360 ^{\$\$\$\$\$}
Sports clubs, multi purpose sports/ leisure centres (dry sports)	3,820-4,450	N/A	1,955-2,100	595-730
General hospitals - public sector	4,950-5,580	N/A	2,775-2,900	855-1,155

The above costs are at 4th Quarter 2018 levels.

6 APPROXIMATE BUILDING COSTS FOR MAJOR CITIES ASIA

	Bangkok	Jakarta	Manila
BUILDING TYPE	USD / m ² (CFA (See also exchange rates per U.	S. dollar below)
DOMESTIC	BAHT 32.73	IDR 15,180	PHP 52.88
Apartments, high rise, average standard - Shell and core - Full fit	534-687 703-871	N/A 722-817	N/A 937 - 1,135
Apartments, high rise, high end - Shell and core - Full fit	626-809 978-1,207	N/A 996-1,124	N/A 1,265-2,107
Terraced houses, average standard - Shell and core - Full fit	305-397 458-565	N/A 383-498	N/A 762-917
Detached houses, high end - Shell and core - Full fit	534-763 794-962	N/A 1,042 - 1,165	N/A 1,631-2,724
OFFICE / COMMERCIAL			
Medium/high rise offices, average standard	642-794#	712-789	933-1,076
High rise offices, prestige quality	871-1,176##	1,050-1,174	1,264 - 1,390
Out-of-town shopping centre, average standard	626-810	611-675	762-935
Retail malls, high end	840-886	675-730	1,093 - 1,508
INDUSTRIAL			
Industrial units, shell only (Conventional single storey framed unit)	489-611	327-356	485-538
Owner operated factories, low rise, light weight industry	N/A	355-392	685 - 789
HOTEL			
Budget hotels - 3-star, mid market	1,146-1,268	1,237 - 1,461	1,195 - 1,312
Business hotels - 4/5-star	1,466 - 1,680	1,691 - 1,827	1,347 - 1,607
Luxury hotels - 5-star	1,711 - 1,986	1,801-2,030	1,851-2,524
OTHERS			
Underground/basement car parks (<3 levels)	550-733	505-619	494-610
Multi storey car parks, above ground	183-299	327-356	475-661
(<4 levels) Schools (primary and secondary)	N/A	N/A	701-952
Students' residences	N/A	N/A	742-937
Sports clubs, multi purpose sports/	N/A	1,095 - 1,640	1,186-1,699
leisure centres (dry sports)	N/A	N/A	1,287 - 1,523
General hospitals - public sector	IN/A	IN/A	1,207 - 1,325

The above costs are at 4th Quarter 2018 levels.

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6 APPROXIMATE BUILDING COSTS FOR MAJOR CITIES

ASIA

BUILDING TYPE	OUTLINE SPECIFICATION
DOMESTIC	
Apartments, high rise, average standard	Shell and core, including finishes to public area, but <u>excluding</u> finishes to apartment units <u>Full fit</u> , with air-conditioning, kitchen cabinets and home appliances, but <u>excluding</u> decorative light fittings and loose furniture
Apartments, high rise, high end	Shell and core, including finishes to public area, but excluding finishesto apartment unitsFull fit, good quality provisions, with air-conditioning, kitchen cabinets and homeappliances, but excluding decorative light fittings and loose furniture
Terraced houses, average standard	Shell and core, joined houses in row(s), <u>excluding</u> garden, parking, finishes and fittings to house interior Full fit, joined houses in row(s), with air-conditioning, kitchen cabinets and home appliances, but <u>excluding</u> decorative light fittings, loose furniture, garden and parking
Detached houses, high end	Shell and core, good quality facade, excluding garden, parking, finishes and fit- tings to house interiorFull fit, good quality provisions, with air-conditioning, kitchen cabinets and home appliances, but excluding decorative light fittings, loose furniture, garden and parking
OFFICE / COMMERCIAL	
Medium/high rise offices, average standard	RC structure, curtain wall, including public area fit-out, tenant area with raised
High rise offices, prestige quality	floor/ carpet, painted wall and false ceiling
Out-of-town shopping centre, average standard	Including public area fit-out and M&E, but excluding shop fit-out
Retail malls, high end	
INDUSTRIAL	
Industrial units, shell only (Conventional single storey framed unit)	RC structure with steel roof and M&E to main distribution, but excluding a/c, heating and lighting
Owner operated factories, low rise, light weight industry	RC structure, including small office with simple fit-out and M&E, but <u>excluding</u> a/c and heating
HOTEL	
Budget hotels - 3-star, mid market	1) Interior decoration
Business hotels - 4/5-star	2) Furniture (fixed and movable)3) Special light fittings (chandeliers, etc.)
Luxury hotels - 5-star	4) Operating Supplies and Equipment (OS&E) excluded
OTHERS	
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 a/c, but excluding educational equipment
Students' residences	Including fit-out, loose furniture and a/c
Sports clubs, multi purpose sports/leisure centres (dry sports)	Dry sports (no swimming pool) and are for 'leisure centre' type schemes includ- ing 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 conditions. 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 necessarily follow that of each other.

5. "Shell and core" generally covers ONLY base building elements. "Shell" refers to overall structure and foundations, exterior walls, floors and roof, completing with common areas, staircases, lift shafts, service ducts and fire services systems to local statutory requirements. "Core" refers to fully-fitted public areas (like lobbies, corridors and lavatories) and M&E main plant and upfeed, with tenant or occupant areas unfurnished.

6. "Full fit" buildings should complete with all elements that allow the buildings to be ready for operation, including public and tenants' (or occupants') areas (i.e. with ALL finishes, fittings and M&E distributions).

7. Fluctuation in exchange rates may lead to changes in construction costs expressed in U.S. dollars.

8. Hong Kong: * (i) Tenant area with screeded floor, painted wall and ceiling (ii) Facade in curtain wall/window wall ** Public authority standard, no a/c and complete with basic external works 9. Singapore: @ Excluding carpet @@ Open on all sides with parapet

10. Kuala Lumpur \$ 6-12 units per floor, 46m2 - 83m2 per unit; excluding air-conditioning, kitchen cabinets and home appliances \$\$ Excluding air-conditioning, kitchen cabinets and home appliances

\$\$\$Exclude Tenant fit-out \$\$\$\$ Standard government provisions \$\$\$\$\$ University standard

11. Bangkok # (i) Excluding raised floor/carpet and inter-tenancy partition (ii) Facade in windows and brick wall/pre-cast concrete panel ## Excluding raised floor/carpet and inter-tenancy partition

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