

Construction Cost Review

ISSUE 2 | SECOND QUARTER 2023

Singapore Market Overview

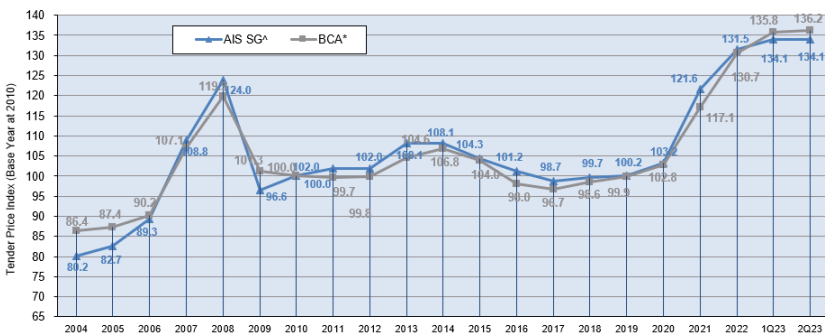
On 11 August 2023, the Ministry of Trade and Industry (MTI) announced that Singapore's economy grew by 0.5% on a year-on-year basis in 2023. The GDP growth forecast for Singapore has also been narrowed to "0.5 to 1.5%".

ECONOMY				SUPPLY AND DEMAND			
▲ GDP Growth per annum	1Q22 - 1Q23 (+) 0.4%	2Q22 - 2Q23 (+) 0.5%	Projected GDP growth 2023 (+) 0.5%-1.5%	BCA Construction Demand	1Q23 S\$9.10 Bn	2Q23 S\$5.40 Bn	Projected demand 2023 \$27-\$32 Bn
▼ Inflation Rate (CPI) per annum	Mar 22 - Mar 23 (+) 5.5%	Jun 22 - Jun 23 (+) 4.5%	Projected Inflation Rate 2023 (+) 4.5%-5.5%	BCA Construction Output	1Q23 S\$8.20 Bn	2Q23 S\$7.91 Bn	Projected output 2023 \$30-\$33 Bn
Source: Ministry of Trade and Industry				Source: Building and Construction Authority			

TENDER PRICE INDEX

CONSTRUCTION COST TREND			
▲ BCA Tender Price Index	1Q23 135.8	2Q23 136.2	Quarter to Quarter (+) 0.3%
▶ AIS Singapore Tender Price Index	1Q23 134.1	2Q23 134.1	Quarter to Quarter -
Source: Building and Construction Authority			

AIS Singapore TPI is a measure of the comparative tender price movements based on the projects by AIS Singapore. 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.



Based on data from Asia Infrastructure Solutions ("AIS") Singapore, tender prices for 2Q2023 have continued to be stable compared to 1Q2023. Despite the downward trend observed for some key material prices, labour costs remain high. Hence, tender prices for 2Q2023 have been maintained at a level similar to those of 1Q2023, attributed to the prevailing market uncertainty.

Looking ahead, it is anticipated that key construction material prices will remain stable while labour costs are expected to increase. The price movement for the next twelve months is projected to fall within a range of +3% to +6%. However, the exact level depends on the prevailing market sentiment and any adverse effects caused by economic uncertainty.

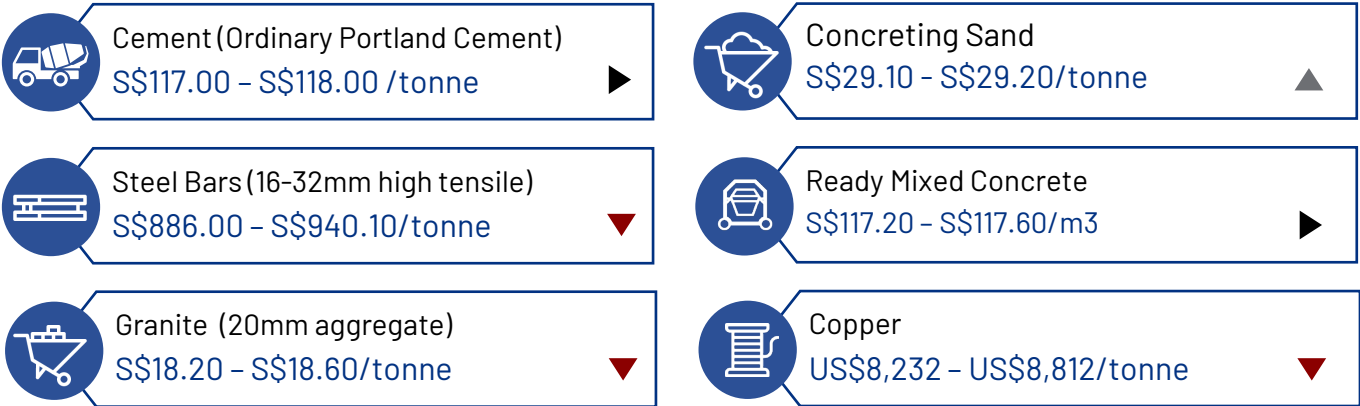
Source: * Building and Construction Authority as at 17 August 2023.

Note: With effect from the 1st Quarter of 2015, BCA has implemented the new TPI series with Base Year 2010 = 100. The TPI chart shown above has been amended accordingly to reflect the Base Year as Year 2010.

* From 2009 onwards, AIS Singapore TPI based on 4th Quarter index and inflation reflected based on year-on-year comparison (e.g. 4Q09 vs 4Q08).

Building Material Prices

Based on BCA’s and London Metal Exchange’s data, the 2Q2023 average market price of Steel Bars, Granite and Copper decreased compared to 1Q2023. The 2Q2023 average market price of Concreting Sand, on the other hand, increased during the same period. Cement and Ready Mixed Concrete market prices have remained stable over 2Q2023.



Source: Building and Construction Authority / London Metal Exchange

NOTES

- Market prices of Steel Bars (without cut & bend): Based on fixed price supply contracts with contract period one year or less. Prices of Steel Bars other than 16-32mm dimensions may subject to surcharge.
- Market prices of Concreting Sand exclude local delivery charges to concrete batching plants.
- Market prices of Ready Mixed Concrete: Based on contracts with non-fixed price, fixed price and market retail price for Grade 40 pump.

Pre-Covid vs Current

The COVID-19 pandemic over the past three years has significantly affected construction costs in Singapore. A comparative summary of the key construction data between Pre-COVID (4Q2019) and current (2Q2023) is set out below.

	Pre-COVID (4Q2019)	Current (2Q2023)	Changes
Tender Price Index (AIS)	100.2	134.1	(+) 34%
Tender Price Index (BCA)	100.2	136.2	(+) 36%
Unit Labour Cost Index	101.5	152.6	(+) 50%
Concrete Price Index	122.0 (Dec 2019)	152.4 (Jun 2023)	(+) 25%
Steel Rebar Price Index	93.2 (Dec 2019)	115.5 (Jun 2023)	(+) 24%

Source: Building and Construction Authority / Department of Statistics

NOTES

Unit Labour Cost is the average cost of labour per unit of real output. It is computed as Total Labour Cost (TLC) per unit of real Gross Value Added (GVA). Total Labour Cost consists of Compensation of Employees (CoE), Labour Income of self-employed, Other labour related costs (e.g., Foreign Workers' Levy and net training costs) incurred by the employers and Wage subsidies (e.g., Wage Credit Scheme, Jobs Credit Scheme and Jobs Support Scheme) that are provided to the employers. Wage subsidies reduce the labour cost of employers and are netted off from TLC.

Approximate Building Costs: Singapore

BUILDING TYPE	S\$/m ² CFA	S\$/m ² GFA
RESIDENTIAL		
Terraced Houses	3,300 - 3,700	4,000 - 4,500
Semi-Detached Houses	3,600 - 4,150	5,000 - 7,000
Detached Houses	4,200 - 5,600	6,500 - 10,000
Condominium, average standard	2,550 - 2,950	3,700 - 4,700
Condominium, above average standard	2,950 - 3,950	4,300 - 6,600
Luxury Condominium	3,950 - 5,850	5,450 - 8,600
OFFICE		
Offices, average standard	3,300 - 3,750	4,450 - 5,700
Prestige Offices	3,750 - 4,050	5,250 - 6,900
COMMERCIAL		
Shopping Centres, average quality	3,550 - 3,950	4,550 - 6,350
Shopping Centres, high quality	3,950 - 4,300	5,050 - 6,800
CAR PARK		
Multi-Storey Car Parks	1,150 - 1,700	NA
Basement Car Parks	1,850 - 2,400	NA
INDUSTRIAL		
Flatted Light Industrial Buildings	1,750 - 1,900	2,300 - 2,750
Flatted Heavy Industrial Buildings	1,950 - 2,600	2,550 - 3,650
Single Storey Industrial Buildings	1,650 - 1,800	2,100 - 2,300
Flatted Warehouses	1,650 - 1,800	2,150 - 2,700
Single Storey Warehouses	1,550 - 1,800	2,100 - 2,300
HOTEL (Including Furniture and Fittings)		
3-Star Hotels	4,200 - 4,600	5,450 - 6,050
4-Star Hotels	4,600 - 5,400	5,950 - 7,300
5-Star Hotels	5,400 - 6,300	6,950 - 8,700
Co-living	4,500 - 5,000	6,250 - 7,350
HEALTH		
Private Hospitals	5,350 - 5,600	6,950 - 7,600
Medical Centres	4,100 - 4,300	5,700 - 6,600



DISCLAIMER

The information and estimates presented above are indicative only and for general guidance. They do not constitute professional advice. Specific advice should be sought from AIS Singapore since all relevant factors that impact such costs have to be considered prior to reliance on the above estimates. The construction costs serve only as a guide for preliminary cost appraisals and budgeting. It must be noted that the actual cost of a building depends on the design, site conditions and several other factors, all of which can be different from the figures shown.

Approximate Building Costs: Singapore

NOTES

The unit rates include a fair allowance for preliminaries, foundations and mechanical and electrical services.

The costs exclude the following:

- Land cost
- Financing charges
- Legal cost and disbursements
- Authorities' plan processing charges
- Site inspectorate
- Professional fees
- Administrative expenses
- Demolition of existing building(s)
- Furniture and fittings (unless otherwise stated)
- Operating equipment
- Cross laminated timber (CLT) / Glued laminated timber (Glulam)
- Goods and services tax
- Structural steel structure, prefabricated mechanical, electrical and plumbing (MEP) systems
- Cost escalation



S\$/m² CFA

The costs per square metre based on **Construction Floor Areas (CFA)** are measured to the outside face of the external walls or 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 unit rates exclude external works, BCA Green Mark Gold^{Plus} and above, prefabricated prefinished volumetric construction (PPVC) and advanced precast concrete system (APCS).



S\$/m² GFA

The costs per square foot based on **Gross Floor Areas (GFA)** refer to the measured total area of covered floor space including the half thickness of external walls or other building facade elements (e.g., windows, railings, curtain walls), but excluding voids.

All buildings are assumed to have carparks in accordance with the Land Transport Authority's (LTA's) Range-based Parking Provision Standards (RPPS) and are built on flat ground with normal soil conditions.

The unit rates include a fair allowance for associated external works.



Approximate Building Costs: Major Cities in Asia

BUILDING TYPE	Hong Kong	Macau	Singapore	Kuala Lumpur
	US\$/m2 CFA	US\$/m2 CFA	US\$/m2 CFA	US\$/m2 CFA
	HK\$ 7.84	MOP 8.01	S\$ 1.33	RM 4.50
DOMESTIC				
Apartments, high-rise, average standard				
- Shell and core	N/A	1,890 - 2,799	N/A	N/A
- Full fit	3,210 - 3,700	2,432 - 2,976	1,915 - 2,220	313 - 621*
Apartments, high-rise, high-end				
- Shell and core	N/A	2,799 - 4,199	N/A	N/A
- Full fit	4,160 - 4,810	3,399 - 5,190	2,970 - 4,400	714 - 1,484
Terraced houses, average standard				
- Shell and core	N/A	3,315 - 4,116	N/A	N/A
- Full fit	4,440 - 5,090	4,145 - 4,946	2,480 - 2,780	226 - 364**
Detached houses, high-end				
- Shell and core	N/A	4,007 - 5,774	N/A	N/A
- Full fit	6,440 and above	5,056 - 6,577	3,160 - 4,210	759 - 1,033
OFFICE/COMMERCIAL				
Offices, medium/high-rise, average standard	3,200 - 3,620	2,799 - 3,614	2,480 - 2,820	598 - 790
Offices, high-rise, prestige standard	3,810 - 4,360	3,614 - 3,956	2,820 - 3,045	936 - 1,343
Shopping centres, out-of-town, average standard	3,150 - 3,700	2,636 - 3,956	2,670 - 2,970	440 - 660
Retail malls, high-end	4,080 - 4,770	4,145 - 5,001	2,970 - 3,235	692 - 1,056
INDUSTRIAL				
Industrial units, shell only (conventional single-storey framed units)	2,410 - 3,020	N/A	1,165 - 1,355	324 - 456
Factories, owner operated, low rise, lightweight industry	N/A	N/A	N/A	428 - 546
HOTELS				
Budget hotels - 3-star	4,040 - 4,300	3,683 - 4,172	3,160 - 3,460	1,007 - 1,482
Business hotels - 4/5-star	4,170 - 4,810	5,001 - 5,978	4,060 - 4,735	1,314 - 2,310
Luxury hotels - 5-star	4,850 - 5,430	5,978 - 7,066	4,060 - 4,735	1,930 - 2,589
OTHERS				
Underground /Basement car parks (<3 levels)	3,480 - 4,160	2,188 - 3,206	1,390 - 1,805	311 - 553
Multi-storey car parks, above ground (<4 levels)	2,090 - 2,460	1,209 - 1,590	865 - 1,280	206 - 360
Schools (primary and secondary)	2,690 - 2,900	2,419 - 2,799	N/A	250 - 321***
Students' residences	3,060 - 3,440	1,916 - 2,228	2,330 - 2,445	299 - 379****
Sports clubs, multi-purpose sports and leisure centres (dry sports) with air-conditioning and including FF&E	4,030 - 4,570	N/A	2,855 - 3,045	599 - 763
General hospitals (public sector)	5,100 - 5,610	N/A	4,025 - 4,210	836 - 1,217

Note: (*), (**), (***) and (****) refer to Notes no. 8 on Page 7

Approximate Building Costs: Major Cities in Asia

BUILDING TYPE	Bangkok	Bangalore	Manila	Ho Chi Minh
	US\$/m2 CFA	US\$/m2 CFA	US\$/m2 CFA	US\$/m2 CFA
	BAHT 34.09	INR 82.10	PHP 55.36	VND \$23,620
DOMESTIC				
Apartments, high-rise, average standard				
- Shell and core	544 - 718	634 - 725	N/A	N/A
- Full fit	730 - 892	701 - 854	969 - 1,320	598 - 742
Apartments, high-rise, high-end				
- Shell and core	634 - 805	987 - 1,199	N/A	N/A
- Full fit	981 - 1,203	1,120 - 1,426	1,310 - 2,352	940 - 1,267
Terraced houses, average standard				
- Shell and core	302 - 392	484 - 544	N/A	368 - 425
- Full fit	461 - 568	494 - 558	869 - 1,064	593 - 689
Detached houses, high-end				
- Shell and core	530 - 757	526 - 619	N/A	512 - 621
- Full fit	802 - 966	625 - 709	1,689 - 2,875	860 - 967
OFFICE/COMMERCIAL				
Offices, medium/high-rise, average standard	811 - 966	519 - 572 #	887 - 1,177	777 - 889
Offices, high-rise, prestige standard	1,011 - 1,298	603 - 761 #	1,285 - 1,658	896 - 1,207
Shopping centres, out-of-town, average standard	691 - 895	521 - 569	755 - 941	655 - 801
Retail malls, high-end	927 - 981	701 - 803	1,031 - 1,444	819 - 1,001
INDUSTRIAL				
Industrial units, shell only (conventional single-storey framed units)	539 - 679	449 - 553	504 - 649	322 - 401
Factories, owner operated, low rise, lightweight industry	N/A	475 - 592	676 - 850	364 - 475
HOTELS				
Budget hotels - 3-star	1,263 - 1,406	1,018 - 1,103	1,127 - 1,394	1,234 - 1,493
Business hotels - 4/5-star	1,616 - 1,858	1,440 - 1,859	1,286 - 2,132	1,419 - 1,717
Luxury hotels - 5-star	1,888 - 2,190	1,984 - 2,329	1,780 - 3,378	1,832 - 2,174
OTHERS				
Underground /Basement car parks (<3 levels)	619 - 817	344 - 396	587 - 764	660 - 778
Multi-storey car parks, above ground (<4 levels)	203 - 332	286 - 335	464 - 707	425 - 460
Schools (primary and secondary)	N/A	357 - 419	662 - 914	585 - 715
Students' residences	N/A	373 - 458	741 - 938	558 - 708
Sports clubs, multi-purpose sports and leisure centres (dry sports) with air-conditioning and including FF&E	N/A	688 - 771	1,115 - 1,624	1,125 - 1,375
General hospitals (public sector)	N/A	773 - 898	1,343 - 1,570	N/A

Note: (#) refers to Notes no. 9 on Page 7

Approximate Building Costs: Major Cities in Asia

BUILDING TYPE	Shanghai	Beijing	Guangzhou / Shenzhen	Chongqing / Chengdu
	RMB/m ² CFA	RMB/m ² CFA	RMB/m ² CFA	RMB/m ² CFA
DOMESTIC				
Apartments, high-rise, average standard				
- Shell and core	3,061 - 3,490	2,785 - 3,212	2,684 - 3,083	2,669 - 3,035
- Full fit	5,005 - 5,517	4,405 - 4,837	4,259 - 4,886	4,081 - 4,732
Apartments, high-rise, high-end				
- Shell and core	3,681 - 3,986	3,318 - 4,814	2,801 - 3,798	3,298 - 4,198
- Full fit	11,301 - 12,320	10,676 - 12,153	6,920 - 7,888	6,590 - 8,082
Terraced houses, average standard				
- Shell and core	3,427 - 3,718	3,215 - 3,755	2,820 - 3,202	3,289 - 3,933
- Full fit	6,914 - 7,532	6,308 - 6,833	6,452 - 7,714	5,566 - 6,535
Detached houses, high-end				
- Shell and core	5,039 - 5,570	4,841 - 5,388	3,925 - 4,458	4,312 - 4,920
- Full fit	12,159 - 12,901	12,122 - 12,647	12,378 - 14,503	7,081 - 8,044
OFFICE/COMMERCIAL				
Offices, medium/high-rise, average standard	6,420 - 8,483	6,283 - 8,465	6,049 - 6,908	6,393 - 7,347
Offices, high-rise, prestige standard	8,248 - 11,281	10,212 - 13,901	8,854 - 11,127	8,062 - 10,715
Shopping centres, out-of-town, average standard	N/A	N/A	5,763 - 6,552	5,173 - 6,548
Retail malls, high-end	8,717 - 11,752	8,496 - 11,696	8,527 - 12,356	7,685 - 10,608
INDUSTRIAL				
Industrial units, shell only (conventional single-storey framed units)	1,977 - 2,422	1,940 - 2,366	2,246 - 2,759	3,155 - 3,923
Factories, owner operated, low rise, lightweight industry	3,058 - 3,831	3,751 - 4,300	N/A	N/A
HOTELS				
Budget hotels - 3-star	7,025 - 8,563	6,951 - 8,563	7,760 - 8,799	6,977 - 8,528
Business hotels - 4/5-star	11,320 - 15,323	11,845 - 15,638	12,542 - 18,460	12,519 - 15,486
Luxury hotels - 5-star	15,305 - 18,294	15,075 - 19,406	16,880 - 19,181	15,415 - 18,329
OTHERS				
Underground /Basement car parks (<3 levels)	5,246 - 7,316	5,369 - 5,900	3,997 - 6,540	3,029 - 4,195
Multi-storey car parks, above ground (<4 levels)	2,688 - 3,757	3,231 - 3,262	2,848 - 3,226	2,415 - 2,952
Schools (primary and secondary)	4,010 - 5,061 [^]	3,738 - 4,826 [^]	3,217 - 4,178 [^]	3,201 - 3,527 [^]
Students' residences	2,935 - 4,003	2,644 - 3,738	2,965 - 3,780	2,241 - 3,205
Sports clubs, multi-purpose sports and leisure centres (dry sports) with air-conditioning and including FF&E	6,766 - 8,310	6,401 - 6,457	5,496 - 6,228	5,051 - 5,537
General hospitals (public sector)	10,337 - 13,327	8,416 - 10,540	8,323 - 10,728	8,072 - 9,996

Note: (^) refers to Notes no. 10 on Page 7

Approximate Building Costs: Major Cities in Asia

Building Type	Outline Specification
DOMESTIC	
Apartments, high-rise, average standard	<p><u>Shell and core</u>, includes finishes to public area, but <u>excludes</u> finishes to apartment units</p> <p><u>Full fit</u>, with air-conditioning, kitchen cabinets and home appliances, but <u>excludes</u> decorative light fittings and loose furniture</p>
Apartments, high-rise, high-end	<p><u>Shell and core</u>, includes finishes to public area, but <u>excludes</u> finishes to apartment units</p> <p><u>Full fit</u>, good quality provisions, with air-conditioning, kitchen cabinets and home appliances, but <u>excludes</u> decorative light fittings and loose furniture</p>
Terraced houses, average standard	<p><u>Shell and core</u>, joined houses in row(s), <u>excludes</u> garden, parking, finishes and fittings to house interior</p> <p><u>Full fit</u>, joined houses in row(s), with air-conditioning, kitchen cabinets and home appliances, but <u>excludes</u> decorative light fittings, loose furniture, garden and parking</p>
Detached houses, high-end	<p><u>Shell and core</u>, good quality facade, <u>excludes</u> garden, parking, finishes and fittings to house interior</p> <p><u>Full fit</u>, good quality provisions, with air-conditioning, kitchen cabinets and home appliances, but <u>excludes</u> decorative light fittings, loose furniture, garden and parking</p>
OFFICE/COMMERCIAL	
Offices, medium/high-rise, average standard	Reinforced concrete structure, curtain wall, includes public area fit-out, tenant area with raised floor and carpet, painted wall and false ceiling
Offices, high-rise, prestige standard	
Shopping centres, out-of-town, average standard	Includes public area fit-out and M&E, but <u>excludes</u> shop fit-out
Retail malls, high-end	

Building Type	Outline Specification
INDUSTRIAL	
Industrial units, shell only (conventional single-storey framed units)	Reinforced concrete structure with steel roof and M&E to main distribution, but <u>excludes</u> air-conditioning, heating and lighting units)
Factories, owner operated, low rise, lightweight industry	Reinforced concrete structure, includes small office with simple fit-out and M&E, but <u>excludes</u> air-conditioning and heating
HOTELS	
Budget hotels - 3-star	Includes interior decoration, furniture (fixed and movable), special light fittings (chandeliers, etc.), but <u>excludes</u> operating supplies and equipment (OS&E)
Business hotels - 4/5-star	
Luxury hotels - 5-star	
OTHERS	
Underground / Basement car parks (<3 levels)	Reinforced concrete structure
Multi-storey car parks, above ground (<4 levels)	Reinforced concrete structure, natural ventilation, no facade enclosure
Schools (primary and secondary)	Includes fit-out and air-conditioning, but <u>excludes</u> educational equipment
Students' residences	Includes fit-out, loose furniture and air-conditioning
Sports clubs, multi-purpose sports and leisure centres (dry sports) with air-conditioning and including FF&E	Dry sports (no swimming pool) for 'leisure centre' type schemes including main sports hall, ancillary sports facilities, changing and showers, restaurant and café, bar, etc. Costs include furniture, fittings and equipment (FF&E)
General hospitals (public sector)	<u>Excludes</u> medical and operating equipment

NOTES

- 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 depends on the design and several other factors, all of which can be different 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 or external perimeter including lift shafts, stairwells, balconies, 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 and site conditions. The cost excludes site formation works, external works, land cost, professional fees, financing and legal expenses.
- The standard for each category of building varies from region to region and does not necessarily follow that of each other.
- "Shell and core" generally covers ONLY base building elements. "Shell" refers to the overall structure and foundations, exterior walls, floors and roof and includes 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.
- "Full fit" buildings are 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).
- Fluctuation in exchange rates may lead to changes in construction costs expressed in U.S. dollars.
- Kuala Lumpur:
 - (*) 6-12 units per floor, 46m² - 83m² per unit; excludes air-conditioning, kitchen cabinets and home appliances
 - (**) Excludes air-conditioning, kitchen cabinets and home appliances
 - (***) Standard government provisions
 - (****) University standard.
- Beijing, Shanghai, Guangzhou/Shenzhen, Chongqing/Chengdu: (▲) Public authority standard, no air-conditioning.
- Bangalore: (♯) Tenant area with the screeded floor, painted wall and ceiling and excludes raised floor.
- The data for Hong Kong, China, Macau, and Manila are provided by Arcadis Hong Kong Limited, Arcadis China Limited, Arcadis Macau Limited and Arcadis Philippines Inc, respectively.
- The data for Ho Chi Minh is provided by DLS Consultant Company Limited.
- The data for Bangkok is provided by Mentabuild Limited.
- The data for Bangalore is provided by Arkind LS Private Limited.
- The data for Kuala Lumpur is provided by JUBM Group.
- Singapore, Kuala Lumpur and Bangalore: Rates are nett of GST. Bangkok and Ho Chi Minh: Rates are nett of VAT. Manila: Rates include 12% VAT.



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