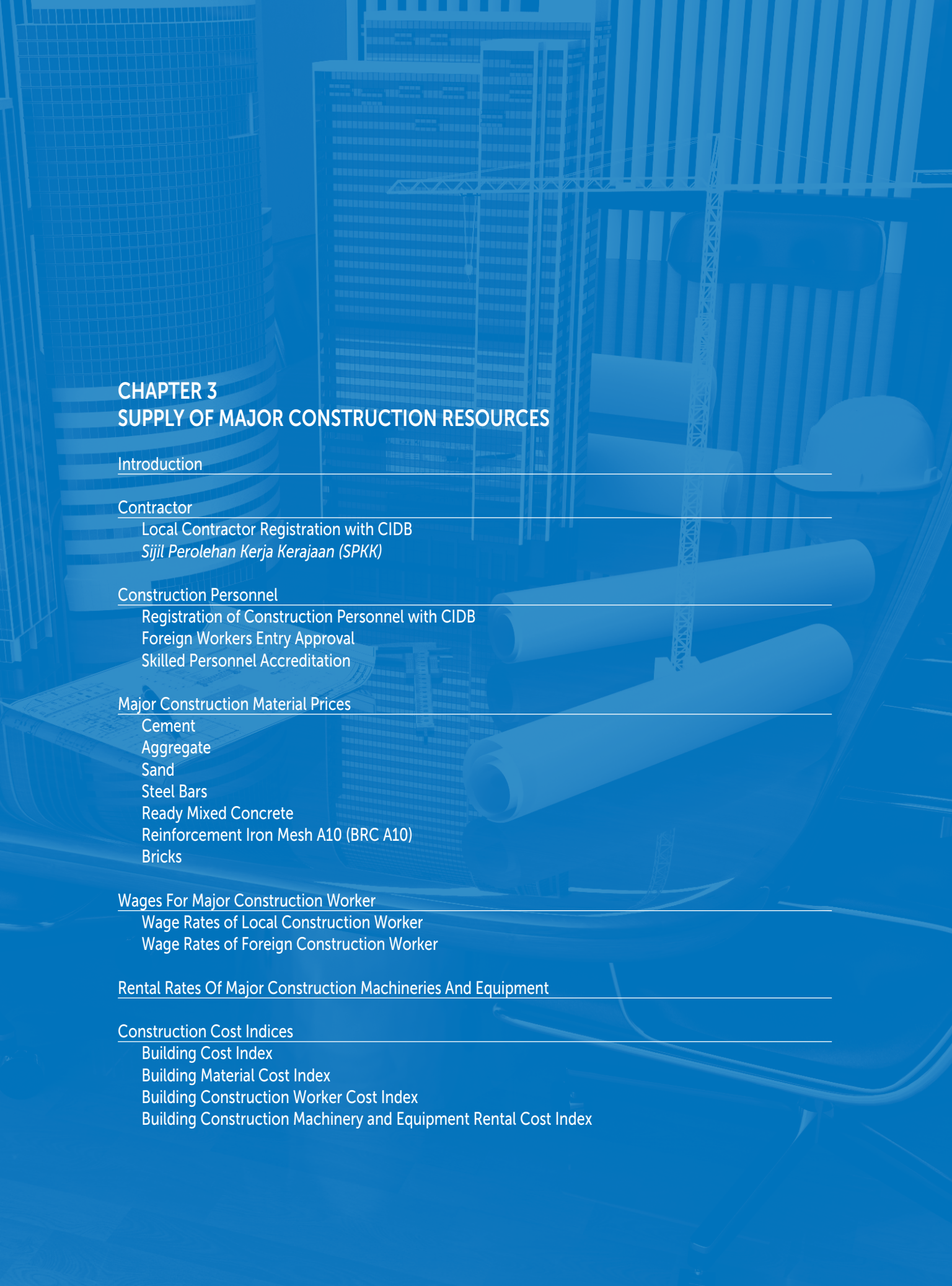

# CHAPTER 3
# SUPPLY OF MAJOR CONSTRUCTION RESOURCES

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## INTRODUCTION

The construction industry has been listed as one of the main contributors towards the development of our national economy. The importance of the construction sector can be clearly seen through its involvement in various economic activities as well as multi-businesses. Construction activities are not specifically focused on the construction phase only but also on the pre-construction phase activities such as the identification of required construction resources such as contractor; construction materials and plant, machinery and equipment. The construction phase entails construction of various buildings, infrastructure, and beautification of enivironment such as landscaping. Meanwhile, post construction phase involves activities such as maintenance and upgrading of available structures. Construction activities had shown excellent growth and is seen as the prime mover of our local economy.

At the very basis, there are 3 main construction resources that form the principal costs to contractors in the implementation of any construction work i.e construction materials, construction workers and, plant, machinery and equipment. Based on a study by CIDB Malaysia in 2014, based on an assumption of a 13% overheads and profit margin; construction cost generally consists of 64.0% building materials, 20.0% construction workers and 3.0% plant, machinery and equipment. An efficiently managed construction resources supply chain is integral in ensuring a clean project delivery that meet quality, cost and duration targets.

For the purpose of this report, focus shall be on the analysis of CIDB Malaysia's contractor and construction personnel registration; and the movement of the three principal costs i.e building materials, construction workers and, construction plant, machinery and equipment during the comparison years 2014 and 2013. This report shall also examine the movement in construction related cost indices in comparison with the base year of July 2012.

## CONTRACTOR

As stipulated in the Malaysian Construction Industry Development Board Act (Amendment 2011), a construction contractor is defined as a person who carries out, or prepares, or contracts to carry out, or complete any form of construction work. Commencing 20 July 1995, all construction contractors, local and foreign alike, are required to register with CIDB Malaysia prior to any involvement in construction activities in Malaysia. CIDB Malaysia had been enthrusted with the role of sole registrar of contractors starting October 2012. Registration is made via issuance of Sijil Perakuan Pendaftaran Kontraktor (PPK).

### Contractor Registration with CIDB Malaysia

67,833 local contractors registered with CIDB Malaysia in 2014. This was an increase by 1.7% over 2013 registrations. Foreign contractor registration also saw an increase from 335 contractors to 427 contractors in 2014 (refer Table 3.1).

### Local Contractor Registered by Grades

Local contractors means companies that are incorporated in Malaysia with at least 70% local equity holding. These contractors are registered by CIDB Malaysia according to predetermined grades i.e G1 to G7 for a fixed validity period. Local contractors' registered grade serves to identify their capacity in terms of financial status, ability to participate in tenders, and the availabilty of a number of technical personnel to implement a construction project. Subsequently, local contractors are also registered by category and specialty.

In 2014, there was a marginal increase(1.7%) in the number of local contractors with valid registrations to 67,883 contractors (2013 : 66,672 contractors). Lower grade (Grade G1 to G3) contractors were the highest numbered group to register since registration requirements were much simpler to comply with plus a limited capacity. The lower grade contractors represented 78.6% (53,307 contractors) of total registered contractors in 2014 (2013: 78.9%). The number of small contractors registration grew by 1.4% in 2014 over 2013. Medium-sized contractors (Grades G4 and G5) represented 10.9% (7,380 contractors) of total registered contractors in 2014 (2013 : 10.9%). Large contractors (grade G6 and G7) made up 10.5% of total registered contractors in 2014. Their registration rose by 3.2% in 2014 in comparison to 2013. This is due to capacity enhancement and increase in construction work opportunities. (refer Table 3.1).

Effective 1 January 2010, renewal of local contractor registration requires all contractors to accumulate Contractor Continuous Development (CCD) points in accordance to their registered grades. These points are accumulated via participation in seminars, workshops, associations, publications and other CCD programmes established by CIDB Malaysia. The programme's objectives include enhancing contractors' knowledge and professionalism through their participation in the CCD programmes; accreditation of those who have contributed and honoured the construction industry locally or abroad; and to promote a public confidence in the services of local contractors. Contractors are required to submit supporting documents such as participation certificate, attendance certificate, letter of CCD points award confirmation or other relevant document as proof of CCD points awarded.

There were 4,884 new local contractors registrations in 2014, reflecting a neglible difference from the year 2013. Low grade contractors represented the largest contractor group at 81.3% (2013 : 82.8%) whilst medium and high grade contractors represented 18.7% in proportion to overall new registrations in 2014 (2013 : 17.2%) (refer Table 3.1)

## Registration of Foreign Contractor

A foreign contractor is a construction company incorporated in Malaysia as a joint-venture with local partner/s whose foreign equity exceeds 30.0%, or a construction company that was wholly incorporated abroad. However, for those companies that are involved in a joint-venture with ASEAN member countries, the company is deemed a foreign company when the foreign equity holding is at 51.0% or more. Foreign contractors are eligible to participate in any tender without value limitations.

Foreign contractors desiring to participate in a Malaysian construction works tender, whether on a client's invitation or, response to an advertisement, are required to apply for a Certificate of Temporary Foreign Contractor Registration from CIDB Malaysia. The validity period for the Certificate of Foreign Contractor Temporary Registration expires upon the closure date of the tender. When the foreign contractor procures a tender and is awarded the construction project in Malaysia, the said contractor must acquire a Certificate of Registered Foreign Contractor from CIDB Malaysia. The validity period for the Certificate of Registered Foreign Contractor will be in accordance to the works offer letter being submitted, i.e from the date commencement of works until the last date of the defect liability period. Should there be a failure to complete the project by the period stated in the works offer letter, the contractor is required to apply for an extended registration validity within 14 days from the expiry date of their Certificate of Registered Foreign Contractor.

In 2014, the number of registered foreign contractors increased by 27.5% or 427 contractors in comparison to 335 contractors in 2013 (refer Table 3.1). Almost half of the foreign contractors (200 contractors) were registered in the Federal Territory of Kuala Lumpur, followed by 134 registrations in Selangor and 33 registrations in Johor.

**Table 3.1 Number of Local and Foreign Contractors Registration by Grades for the years 2013 and 2014**

| Grade | Tender Participation Limit | Number Registered | | New Registration | |
|---|---|---|---|---|---|
| | | 2013 | 2014 | 2013 | 2014 |
| G1 | Not exceeding RM 200,000 | 34,485 | 33,991 | 1,985 | 1,739 |
| G2 | Not exceeding RM 500,000 | 9,268 | 10,441 | 1,137 | 1,330 |
| G3 | Not exceeding RM 1,000,000 | 8,825 | 8,875 | 869 | 902 |
| G4 | Not exceeding RM 3,000,000 | 3,038 | 3,093 | 243 | 238 |
| G5 | Not exceeding RM5,000,000 | 4,130 | 4,287 | 325 | 396 |
| G6 | Not exceeding RM 10,000,000 | 1,594 | 1,528 | 61 | 60 |
| G7 | No limit | 5,332 | 5,618 | 198 | 219 |
| | **Total** | **66,672** | **67,833** | **4,818** | **4,884** |
| Foreign | No limit | 335 | 427 | - | - |
| | **Total** | **67,007** | **68,260** | **-** | **-** |

## Local Contractor Registered by Categories

There are 3 categories of contractor registration i.e building category (B), civil engineering (CE); and mechanical and electrical (ME). Contractors may apply for registration in these categories based on their academic qualifications and, the existence of experienced technical officers in their company. Contractors may apply for registration in more than one category.

Grade 1 contractors dominated the number of registrations by categories in 2014. The lower grade contractors were usually awarded jobs as sub-contractors to carry out tasks within their expertise and specialty. More contractors registered for building works and engineering categories because of the high demand and wider work opportunities available in these categories. (refer Table 3.2)

**Table 3.2 Number of Registered Contractors by Categories and Grades for 2013 and 2014**

| Grade | Category | | | | | |
|---|---|---|---|---|---|---|
| | Buildings | | Ciivil Engineering | | Mechanical and Electrical | |
| | 2013 | 2014 | 2013 | 2014 | 2013 | 2014 |
| G1 | 15,328 | 14,545 | 15,207 | 14,507 | 9,156 | 8,872 |
| G2 | 3,285 | 2,493 | 3,263 | 2,449 | 3,185 | 2,260 |
| G3 | 3,019 | 2,920 | 2,829 | 2,791 | 1,890 | 1,948 |
| G4 | 1,694 | 1,567 | 1,640 | 1,572 | 1,031 | 1,038 |
| G5 | 2,147 | 1,814 | 2,124 | 1,831 | 1,233 | 965 |
| G6 | 1,049 | 986 | 1,060 | 1,005 | 647 | 600 |
| G7 | 5,680 | 4,800 | 5,787 | 4,845 | 3,483 | 2,770 |

*Note : Figures shown has been multi-counted*

## Local Contractor Registered by Specialization

Apart from registration by grade and category, the local contractor is also required to register his specialization category. There are 28 specialization in the building category, 43 in the civil engineering category and 58 in the mechanical and electrical category. Generally, new applicants will be allocated a B04 specialty (Construction of Building Works), or a CE21 category (Civil Engineering Construction), or M15 specialty (Varied Mechanical Fittings) based on their academic qualifications and their technical personnel experience. For other specialization as those listed in Appendix 3.1, determination of specialization will be based on Works Offer Letter and proof of Job Completion for a main contractor; works offer letter; proof of payment for a named contractor, a stamped contract between contractor and project owner for small contractors or, Management Efficiency Certificate.

CIDB Malaysia had introduced a new specialization i.e Renovation Works (B28) and had begun registering contractors under this specialty from April 2013. This specialization had been developed under CIDB National Accreditation Renovators (CNAR)'s initiative, an effort by CIDB Malaysia to instill best practices in transforming the implementation of renovation works towards professional standards; whereby the interests of various parties such as building owner, contractor, local authority and enforcement are taken care of as well as improved. In 2014, 3,683 contractors registered under the B28 specialty.

## Contractor Classification

Contractors are required to notify on awarded project for within the latest 3 years registration upon registration renewal, in order to classify contractor status such as active, dormant or new. They are also permitted to submit awarded project reports under implementation in the event of changing the classification within a valid registration period. Classification of contractors is done to identify contractors whereby contractor development strategies can be targeted for those with potential. Registered Contractor Classification Certification is as follows:

Active: Local contractors with projects throughout a valid registration period or, within the latest three years of renewal date. Active contractors are those who are experienced and resolute in the construction business.

Semi-active: Contractors who were not awarded any project during a valid registration period or, within the latest three years of renewal date but who are actively participating in bidding for tenders.

Dormant: Contractors who were not awarded any project during a valid registration period or, within the latest three years of renewal date; and who are not participating tender bidding

New: Newly registered contractors.

In the years 2013 and 2014, more than 80.0% registered contractors were active and more than 80.0% of contractors in grade G1, G4, G6 and G7 were active. This is indicative of a good rate of project procurements by local contractors. In 2014 the number of active contractors rose by 2.1% to 54,591 contractors (2013 : 53,483 contractors). At the same time, the number of dormant and not active contractors also increased over those recorded in 2013 (refer Table 3.3)

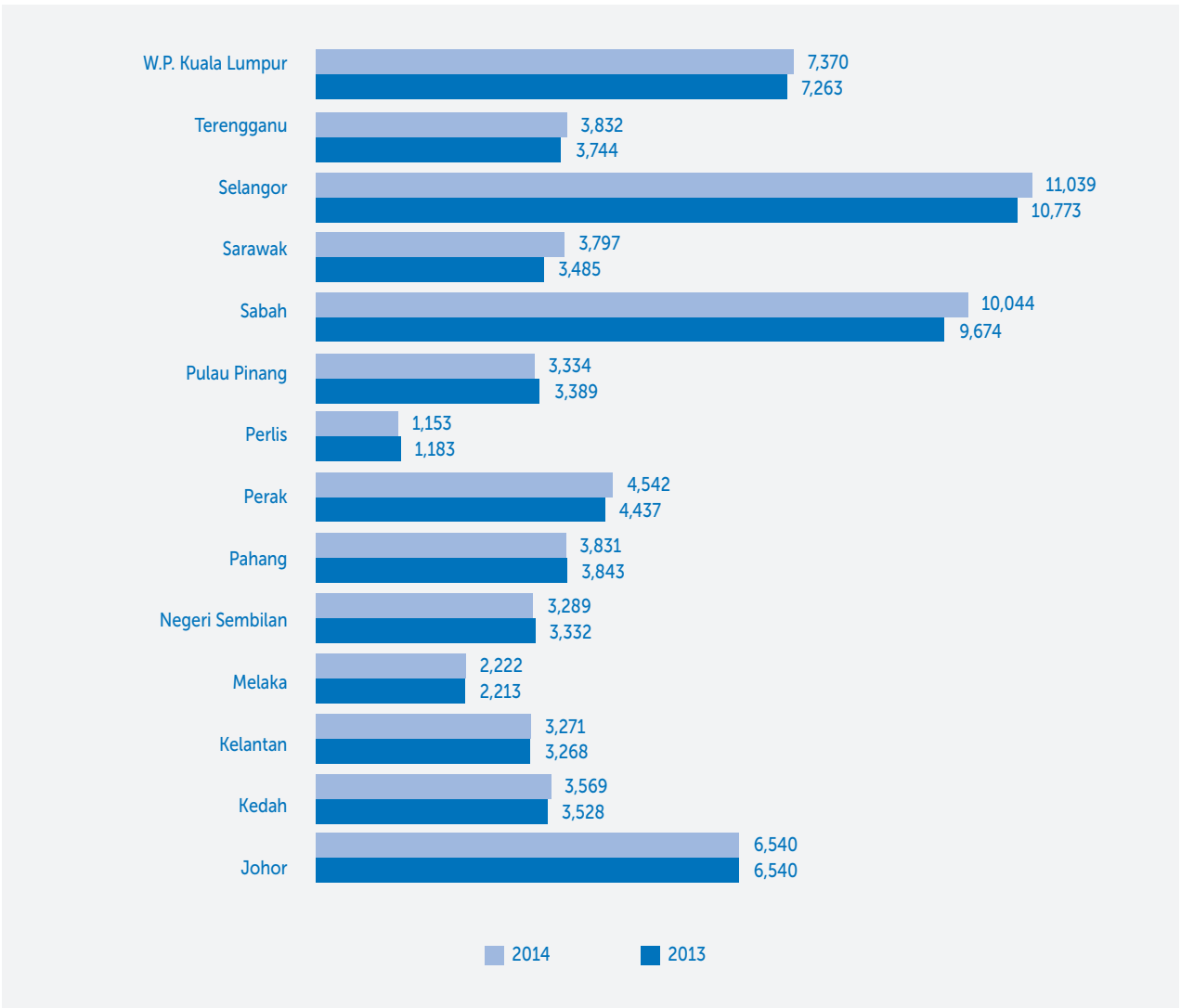
**Table 3.3 Contractor Registration by Grade and Classification for 2013 and 2014**

| Grade | Classification | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 | | | | | 2014 | | | | |
| | Total | Active | Semi Active | Dormant | New | Total | Active | Not Active | Dormant | New |
| G1 | 34,485 | 28,237 | 287 | 3,288 | 2,673 | 33,991 | 28,046 | 307 | 3,451 | 2,187 |
| G2 | 9,268 | 6,913 | 91 | 904 | 1360 | 10,441 | 7,742 | 130 | 985 | 1,584 |
| G3 | 8,825 | 6,623 | 126 | 997 | 1079 | 8,875 | 6,724 | 135 | 938 | 1,078 |
| G4 | 3,038 | 2,454 | 50 | 238 | 296 | 3,093 | 2,545 | 42 | 227 | 279 |
| G5 | 4,130 | 3,272 | 76 | 378 | 404 | 4,287 | 3,373 | 72 | 365 | 477 |
| G6 | 1,594 | 1354 | 33 | 110 | 97 | 1,528 | 1317 | 31 | 101 | 79 |
| G7 | 5,332 | 4,630 | 90 | 342 | 270 | 5,618 | 4,844 | 80 | 384 | 310 |
| Total | 66,672 | 53,483 | 753 | 6,257 | 6,179 | 67,833 | 54,591 | 797 | 6,451 | 5,994 |
| Percentage | 100% | 80.2% | 1.1% | 9.4% | 9.3% | 100% | 80.5% | 1.2% | 9.5% | 8.8% |

## Local Contractor Registered by State

In 2014, contractor registrations were concentrated in Selangor (16.3%), Sabah(14.8%) and Kuala Lumpur (10.9%). A large number of small contractors from grade G1 to G3 registered in Sabah (17.1%) and Selangor (14.3%) whilst medium classed contractors from G4 and G5 registered in Selangor (23.6%) and Federal territory of Kuala Lumpur (23.2%). Large contractors from grades G6 and G7 mainly registered in the Federal Territory of Kuala Lumpur (25.9%) and Selangor (23.7%). Contractors are free to register with any CIDB Malaysia state office or branch, but CIDB records revealed contractor registrations to be highly concentrated in developed states where higher volume of projects awarded than in other states (refer Chart 3.1 and Appendix 3.2).

**Chart 3.1 Number of Local Contractor Registered by State**



## Sijil Perolehan Kerja Kerajaan (SPKK)

CIDB Malaysia has also been responsible for issuance the *Sijil Perolehan Kerja Kerajaan (SPKK)*. The certificate is a permit that allows a contractor to participate solely in public works by the government or its agencies; in accordance to government procurement value limitations, operational area, and equity holding rules between local and foreign. (refer Table 3.4 and 3.5).

A certificate holder is eligible to participate in any government owned construction procurement project according to predetermined qualifiers. The certificate validity shall be renewed together with the PPK Certificate. Nonetheless, the Bumiputera status certification is still under the jurisdiction of the Pusat Khidmat Kontraktor (PKK).

**Table 3.4 Government Procurement Value Limits (RM) on *Sijil Perolehan Kerja Kerajaan (SPKK)* Holders**

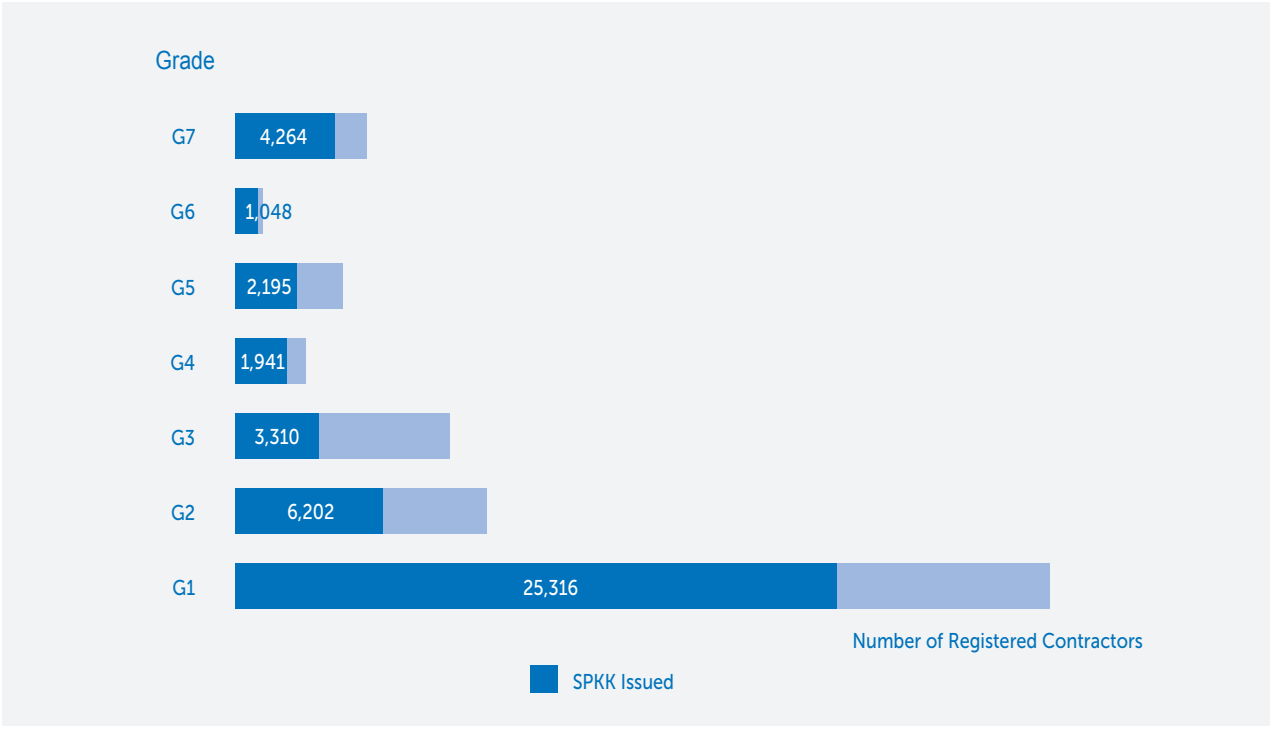
| Grade | Building/Civil Engineering/Mechanical works | Electrical Works |
|---|---|---|
| G1 | 200,000.00 and below | Up to 200,000.00 |
| G2 | 200,001.00 to 500,000.00 | Up to 500,000.00 |
| G3 | 500,001.00 to 1,000,000.00 | Up to 1,000,000.00 |
| G4 | 1,000,001.00 to 3,000,000.00 | 200,001.00 to 3,000,000.00 |
| G5 | 3,000,001.00 to 5,000,000.00 | 200,001.00 to 5,000,000.00 |
| G6 | 5,000,001.00 to 10,000,000.00 | 200,001.00 to 10,000,000.00 |
| G7 | More than 10,000,000.00 | 200,001.00 and above |

**Table 3.5 Procurement Type and Operational Area for Sijil Perolehan Kerja Kerajaan (SPKK)**

| Award Type | Operational Area | Grade |
|---|---|---|
| Tender | Nationwide | G7, G6, G5 and G4<br>G3 (Bumiputera status) |
| | State where registered | G3 |
| Quotation | District where registered | G1 |
| | State where registered | G2 |
| Ballot and Requisition | District where registered | G1 |

44,276 Public Works Award Certificates were issued in 2014 (2013: 46,126). This amount represented 64.9% of total CIDB Malaysia registered contractors (2013: 68.8%). Contractors from grades G7 (75.9%) and G1 (74.5%) were the most to have been issued these certificates. (refer Chart 3.2 and Appendix 3.3)

**Chart 3.2 Number of Sijil Perolehan Kerja Kerajaan (SPKK) Issued by Grade of Contractor in 2014**




## CONSTRUCTION PERSONNEL

Construction personnel (construction workers) are the prime movers of construction projects. Without them, it would be impossible to implement any project. That is why workers are a vital asset in the construction industry. On the average, labour cost form 20% of overall construction project cost. These workers are employed by contractors or, sub-contractors appointed by a main contractor. There are also those who work for labour only sub-contractors whose principal business is to supply workers to construction sites. Generally, out of the total construction personnel cost, 9.2% are cost of general workers, 6.2% are cost of carpenters – formworks and 14.3% are cost of plasterer.

Under the Construction Industry Development Board Act (Amendment) 2011, a construction personnel is defined as general construction worker, semi-skilled construction worker, skilled construction worker, site supervisor, construction project manager, and all other worker in the construction industry. Construction personnel definition is further elaborated as below:

| | |
|---|---|
| General Construction Worker | Any worker or group of workers who are unskilled and employed as manual workers. |
| Skilled Construction Worker | Any worker with skill, knowledge, qualification and experience that is acceptable for one or more trades set by CIDB Malaysia. |
| Semi-skilled Construction Worker | Any worker with expertise, knowledge, qualification and experience that is acceptable for one or more trades. |
| Site Supervisor | Any worker with acceptable skill, knowledge, qualification and experience who have been employed at a construction site, or any other similar location for the prupose of supervising construction works. |
| Construction Project Manager | Any worker with skill, knowledge and experience as is acceptable and has been employed at a construction site or any other similar location to arrange, plan, monitor and co-ordinate construction works from commencement to completion. |

Based on the Green Card register, there were 819,192 CIDB Malaysia registered construction personnel at the end of 2014. Of this total, 44.6% were general workers, 17.1% construction workers, 6.7% skilled construction workers, 7.0% were site managers and assistant site managers, 7.0% were site supervisors and 17.6% were administration personnel.

## Registration of Construction Personnel with CIDB

All construction personnel involved in any activity at a construction site, aged 16 years and above, must register and hold a CIDB Malaysia Certified Construction Personnel Registration Card. Registration of Construction Personnel is based on the Construction Industry Development Board Act (Amendment) 2011-section 33 (Compulsory Registration of Construction Personnel). Is reliant on ownership of a Green Card certification by the applicant whereby each site worker is required to have one). Green Cards are acquired through attendance of a Safety Induction Course for Construction Workers–SICW. The course is conducted as a means of instilling safety and health awareness amongst construction personnel throughout their employment at construction sites.

Amongst other objectives for the registration of construction personnel with CIDB Malaysia is to create a caring culture in construction personnel welfare through subscription of a Group Insurance Protection Scheme. The construction personnel registration data base is useful in the planning of a construction manpower development strategy towards enhancing the quality and productivity of construction projects. Information on the Green Card simplifies identification of its holder's skills.

There were 819,192 construction personnel with valid registrations in 2014, a reduction of 15.7% from 2013 (971,490 registered personnel). 640,746 were local personnel (2013 : 737,171) consisting of 234,840 newly registered personnel and 405,906 renewed registrations. The number of new registrations and renewals of existing registrations saw a decline at 18.4% and 9.7% respectively. Foreign construction personnel registrations dropped by 23.8% to 178,446 personnel in 2014 as compared to 234,319 personnel in 2013. Of this number, new registrations declined by 33.0% and renewals of existing registrations decreased by 15.2% (refer Table 3.6 and Table 3.7).

**Table 3.6 Number of Local Construction Personnel with Valid Registration at 31 December 2014**

| Category | 2013 | | | 2014 | | |
|---|---|---|---|---|---|---|
| | New Registrations | Renewals | Total Registered | New Registrations | Renewals | Total Registered |
| General Worker | 129,628 | 111,793 | 241,421 | 104,330 | 98,659 | 202,989 |
| Construction Worker | 73,423 | 73,037 | 146,460 | 63,068 | 67,021 | 130,089 |
| Skilled Construction Worker | 1,874 | 58,251 | 60,125 | 1,425 | 51,998 | 53,423 |
| Site Manager and Assistant Manager | 8,286 | 53,074 | 61,360 | 6,411 | 49,223 | 55,634 |
| Site Supervisor | 6,740 | 57,844 | 64,584 | 4,685 | 52,238 | 56,923 |
| Administration Personnel | 67,820 | 95,401 | 163,221 | 54,921 | 86,767 | 141,688 |
| **Total** | **287,771** | **449,400** | **737,171** | **234,840** | **405,906** | **640,746** |

*Notes : Excluding trainees from Construction Academy of Malaysia or other trainning centers.*

**Table 3.7 Number of Foreign Contractors with Valid Registration at 31 December 2014**

| Category | 2013 | | | 2014 | | |
|---|---|---|---|---|---|---|
| | New Registrations | Renewals | Total Registered | New Registrations | Renewals | Total Registered |
| General Worker | 102,998 | 110,896 | 213,894 | 68,656 | 93,888 | 162,544 |
| Construction Worker | 6,120 | 6,351 | 12,471 | 4,187 | 5,561 | 9,748 |
| Skilled Worker | 520 | 1,480 | 2,000 | 371 | 1,288 | 1,659 |
| Site Manager and Assistant Manager | 1,539 | 957 | 2,496 | 1,169 | 760 | 1,929 |
| Site Supervisor | 478 | 183 | 661 | 297 | 123 | 420 |
| Administration Personnel | 1,913 | 884 | 2,797 | 1,419 | 727 | 2,146 |
| **Total** | **113,568** | **120,751** | **234,319** | **76,099** | **102,347** | **178,446** |

## Foreign Personnel Entry Approval

Malaysia has little choice but to import foreign workers to fill the discrepancy of construction manpower in the industry. The manpower shortage is caused by the stringent ideology and perception of the local community towards work site occupations. The construction industry is seen as an unattractive avenue for prospective employment by new jobseekers; there is an assumption that work site jobs are mediocre occupations; with no guaranteed continuity in a career; and expectation of high mobility at work sites. This means they would have to put up with an extreme lifestyle, away from family and home. The construction worker is lowly regarded whereby his wage do commensurate fairly with his working hours as compared to jobs in other industries. The truth is, at their level, construction personnel do earn a much better income over other fields of employment. Working conditions are also harsh with such demanding work scopes, performing under the hot sun and high temperatures, which altogether are considered risky. Foreign workers entering Malaysia have only one objective i.e to secure employment. Therefore they are not too concerned with terms and conditions set by the employers, offering much lower paychecks than local personnel; for as long as they are capable of sustaining both themselves and their families in their homelands.

The government has continued to tighten import procudures of foreign personnel. Commencing 1 January 2014, all applications for foreign personnel must attain authorisation from the One Stop Center at the Internal Affairs Ministry. A CIDB officer placed at the Internal Affairs Ministry will assist to evaluate, and identify the number of suitable foreign construction personnel to be allowed access in accordance to construction project categories.

## Skilled Personnel Accreditation

It is generally deduced, inconsistencies in standard and quality of construction works usually arise from unskilled workers. Prior to the amendment of the Construction Industry Development Board Act, the number of local and foreign accreditated skilled workers were disheartening. It was subsequently realised that accreditation would be an essential tool in increasing the number of skilled and efficient construction workers and, the Construction Industry Development Board Act (amendment) 2011 incorporated the need to declare compulsory the accreditation and certification of skilled and semi-skilled construction workers; site supervisors, and project managers for local and foreign personnel alike. 91 trades have been identified for the accreditation and cerification of skilled construction workers and site supervisors. Gradually, only skilled construction workers will be authorised to implement intricate works at project sites, consequently meeting the government aspiration of promoting standard and quality works in Malaysian construction projects. The 32,825 (2013:42,952) accredited in 2014 is still one of the best achieved.

## MAJOR CONSTRUCTION MATERIALS PRICE

A 2012 CIDB study observed that construction material cost make up 64.0% of total construction cost. It was found on that on the average, in building works, metal based materials form 18.4% and pre-mixed concrete make up 14.3% of total materials utilised.

Construction materials price movements are a common phenomenon in free trade whereby market forces determine price and supply. Rises in construction material prices are seasonal in nature and will usually level out when most projects near completion. Construction material prices are influenced by:

External factors — International market conditions for fuel and raw materials such as diesel, coal, scrap metal and copper.

Domestic Factors

1. Government policies such as
   - Implementation of new taxation
   - Petrol and diesel prices and electricity tariffs that impact production and transportation costs.
   - Import embargo on certain construction materials e.g due to inferior quality supplied
   - Malaysia's Five Year Development Plans
   - Housing and policies on property such as Capital Gains Tax, and restrictions imposed on foreign pruchasers
   - Housing programmes introduced by the Government
2. Demand and supply in the properties market
3. Economic climate and investor sentiment
4. Current supply and demand for construction material
5. Project location and infrastructure system to construction site
6. Location of construction material manufacturing plant and distributor company; and
7. Selection of required construction materials.

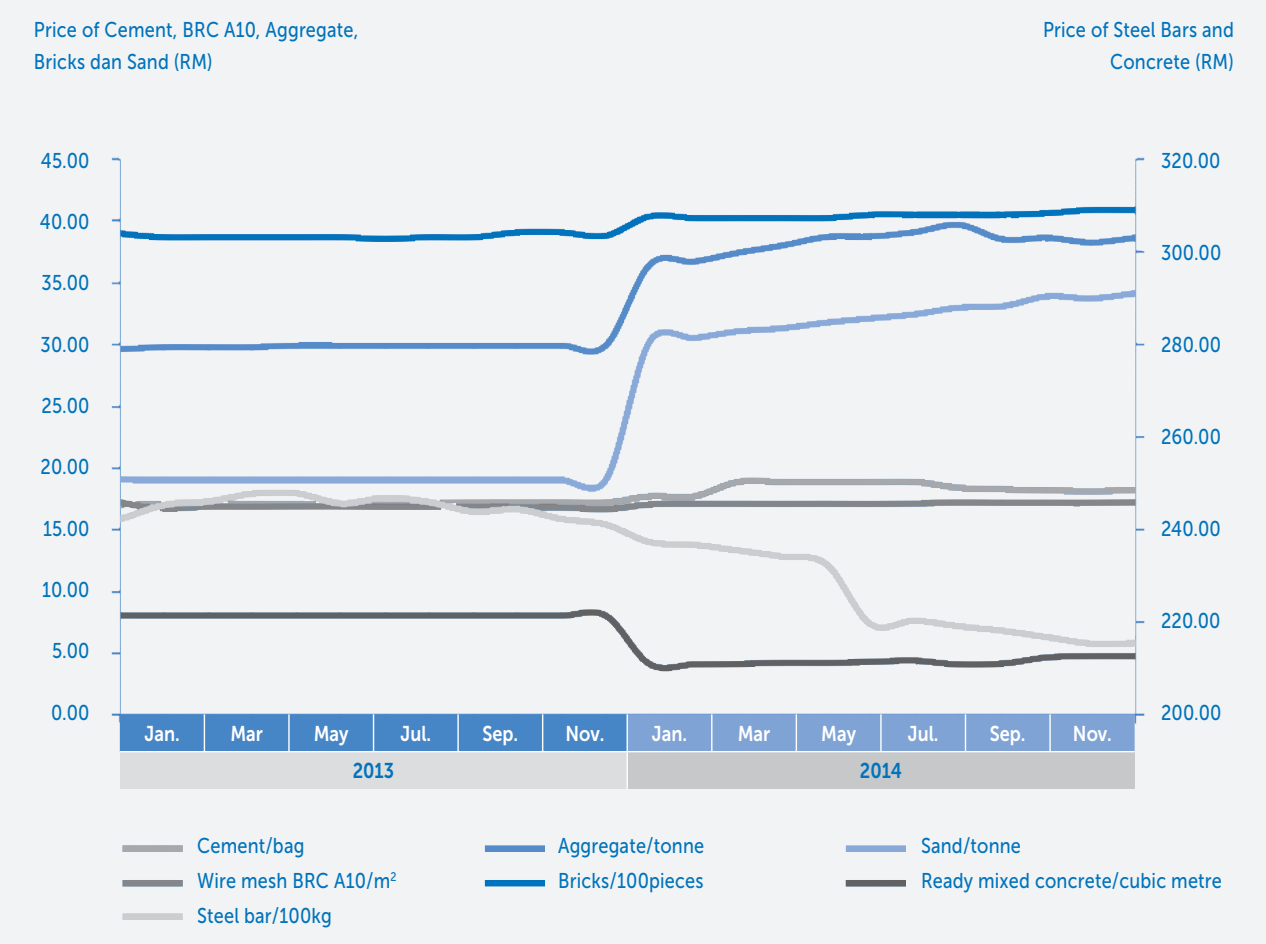
Construction materials prices published by CIDB were sourced from selected manufacturers representing their states. In Peninsular Malaysia, the Central Region is represented by selected manufacturer in Selangor; the Northern Region represented Perak and Penang; Eastern Region by Kelantan and Pahang, and the Southern Region represented by Johor. Construction materials prices in Sabah were derived from a selected manufacturer in Kota Kinabalu region, and Kuching region for Sarawak. Price data reported were at trading prices between supplier and contractor inclusive of discounts, taxation, delivery charges and handling, and profit.

7 construction materials have been identified as major construction materials in construction work and they are cement, aggregates, sand, steel bar, ready mixed concrete, Reinforcement Iron Mesh A10 (BRC A10) and, bricks. This chapter will show only price movements on these 7 main construction materials. Average price movements for BRC A10 began stablising in 2013 until end of 2014. Other main construction materials such as cement, aggregate, sand, ready mixed concrete and bricks showed marked average price movements in early 2014; subsequently stabilising until the end of the year. Aggregates and sand saw increases over 2013 prices by 28.0% and 69.8% respectively whilst steel bar and ready mixed concrete prices declined by 8.1% and 4.5% respectively (refer Table 3.8 and Chart 3.3).

**Table 3.8 Trend of Malaysian Major Construction Materials Average Price Movement in 2013 and 2014 (Nationwide prices)**

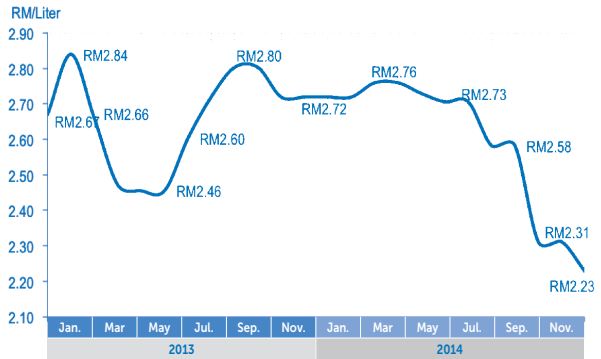
| Material | Units | Average Price (RM) | | Change (%) | |
|---|---|---|---|---|---|
| | | 2013 | 2014 | 2013 | 2014 |
| Cement | 50kg Bag | 17.10 | 18.39 | 2.1 | 7.5 |
| Aggregates | Tonnes | 29.86 | 38.23 | -20.8 | 28.0 |
| Sand | Tonnes | 19.00 | 32.26 | -33.5 | 69.8 |
| Steel bar | Tonnes | 2,448.81 | 2,250.46 | -4.8 | -8.1 |
| Ready mixed concrete | $m^3$ | 221.30 | 211.26 | -17.6 | -4.5 |
| Reinforcement Iron Mesh A10 (BRC A10) | $m^2$ | 16.83 | 17.10 | -8.8 | 1.6 |
| Bricks | unit | 0.39 | 0.40 | 9.0 | 4.2 |

**Chart 3.3 Trend of Malaysian Major Construction Materials Average Price Movement in 2013 and 2014**




Construction materials prices documented are inclusive of delivery cost. Delivery cost is determined by chief fuel cost i.e diesel. The industrial diesel average price in Malaysia for 2014 was RM2.59 per litre; with RM2.60 per litre in Peninsular Malaysia and, RM2.59 per litre in Sabah and Sarawak. The industrial diesel average price showed an increase from March 2014 from RM2.72 a litre in March to RM2.76 in April 2014 (a price hike by 1.5%). Moving on to May 2014, the industrial diesel average price began a decline trend to as low as RM2.23 per litre in December 2014. (refer Chart 3.4 and Appendix 3.5) Global crude oil prices affected the average price of diesel in Malaysia. In June 2014, global crude oil prices reached a high of USD115 per barrel and the last listed price at the year end was USD56 per barrel (a drop of more than 50%).

**Chart 3.4 Trend of Industrial Diesel Average Price in Malaysia for 2013 and 2014**

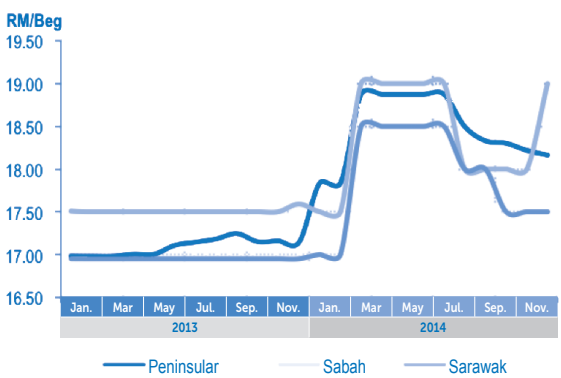



*Source : Special Release 1 Peninsular Malaysia (For Civil Engineering Works) March 2015, Department of Statistics, Malaysia*
*Special Release 1 Sabah and Sarawak (For Civil Engineering Works) March 2015, Department of Statistics, Malaysia*

## Cement

In 2014, the national average price of cement per 50kg bag was RM18.39 each, an increase of 7.5% over 2013 price of RM17.10 per bag (refer Table 3.8). The average cement price throughout 2014 was between RM17.69 and RM18.84 per bag. Cement prices rose by 6.5% in March 2014 over February 2014 prices, and began indicating a downward trend in average prices beginning August 2014. The last average price noted in December 2014 was RM18.19 per bag. Average cement prices in Sarawak was much lower than those in Peninsular Malaysia and Sabah (refer Chart 3.5 and Appendix 3.6).

**Chart 3.5 Trend of Average Cement Price in Malaysia for 2013 and 2014**

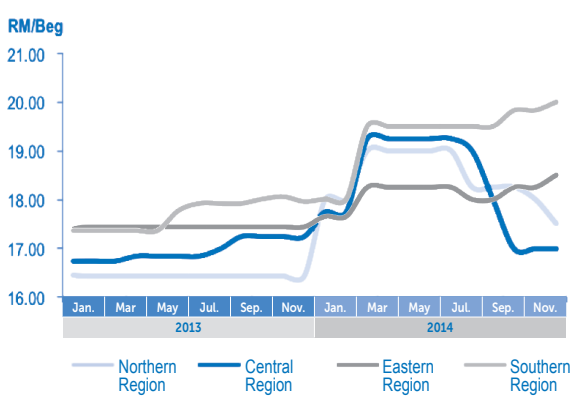



In Peninsular Malaysia, average cement prices per bag ranged between RM17.84 and RM18.88. Average cement prices increased by 8.0% to RM18.47 per bag from RM17.10 per bag in 2013. The highest average price was recorded in March till July 2014, reaching RM18.88 per bag and began showing a downward trend beginning August 2014. The last average price posted in December 2014 was RM18.17 per bag. Early in 2014, cement prices in eastern region of Peninsular Malaysia was the lowest amongst other regions in Peninsular Malaysia, at RM17.65 per bag; whilst in December 2014 cement price in the southern region was highest at RM20.00 per bag. The northern region indicated the biggest price movement, of 12.3% (2014 : RM18.44 per bag; 2013 : RM16.42 per bag) (refer Table 3.9, Chart 3.6 and Appendix 3.6).

**Table 3.9 Average Cement Price in Peninsular Malaysia for 2013 and 2014**

| Region | Price (RM/bag) | | % change |
|---|---|---|---|
| | 2013 | 2014 | |
| Northern Region | 16.42 | 18.44 | 12.3 |
| Central Region | 16.97 | 18.31 | 7.9 |
| Eastern Region | 17.44 | 18.13 | 4.0 |
| Southern Region | 17.69 | 19.35 | 9.4 |

**Chart 3.6 Trend of Average Cement Price in Peninsular Malaysia for 2013 and 2014**



The average cement price per bag in Sabah was between RM17.50 and RM19.00 per bag. Average price rose by 5.2% to RM18.42 per bag compared to RM17.51 per bag in 2013. The highest average prices were recorded in March till July 2014, reaching RM19.00 per bag and began to show a downtrend commencing August 2014. The last average price listed in December 2014 showed a recovery to RM19.00 per bag (refer Table 311 and Appendix 3.6).

The average cement prices in Sarawak were between RM17.00 and RM18.50 per bag. Cement price rose by 5.7% to RM17.92 as compared to RM16.95 per bag in 2013. Highest average prices were recorded from March to July that reached a high of RM18.50 per bag, following which began a downtrend in declining prices from August 2014. The last average price for cement in December 2014 was RM17.50 per bag (refer Chart 3.5, Table 3.10 and Appendix 3.6).

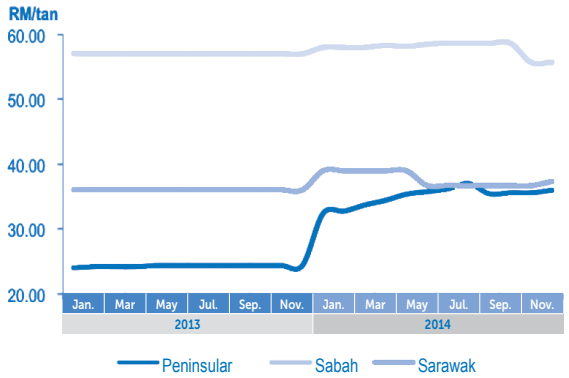
**Table 3.10 Average Cement Price in Sabah and Sarawak in 2013 and 2014**

| Region | Price (RM/bag) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Kota Kinabalu, Sabah | 17.51 | 18.42 | 5.2 |
| Kuching, Sarawak | 16.95 | 17.92 | 5.7 |

## Aggregate

The national average aggregate price for 2014 was RM38.23 per tonne, an increase by 28.0% over RM29.86 per tonne in 2013. (refer Table 3.8). Average aggregate price throughout 2014 was between RM36.46 and RM39.67 per tonne. After rise in aggregate average price by 21.9% in January 2014 over December 2013 prices, aggregate prices stabilised until the end of the year. The last average price recorded in December 2014 was RM38.62 per tonne. The average price for aggregate was much higher in Sarawak than in Peninsular Malaysia and Sabah (refer Chart 3.7 and Appendix 3.7).

**Chart 3.7 Trend of Average Aggregate Price in Malaysia for 2013 and 2014**

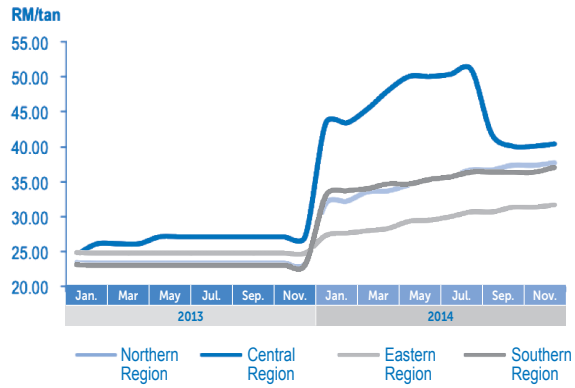



Average prices for aggregate in Peninsular Malaysia was between RM32.44 and RM 37.00 per tonne. Average aggregate prices rose considerably by 33.0% in January 2014 over December 2013 prices. This was the outcome of an enforcement by the government which ordered illegal quarries to shut down. Production declined and persistent demand for the material had forced prices up. As a whole, aggregate prices rose by 44.1% to RM35.04 per tonne in 2014 over RM24.31 per tonne in 2013. Highest average price attained in August 2014 touched RM37.00 per tonne. The last average price noted for December 2014 was RM36.00 per tonne. The lowest average aggregate price was recorded in the eastern region at RM27.33 per tonne in January 2014 and the highest, was recorded in the central region at RM51.00 per tonne in August 2014. All regions in Peninsular Malaysia indicated rising average aggregate prices from those in 2013. The central region recorded the largest price change at 70.6% (2014 : RM45.28 per tonne; 2013 : RM26.54 per tonne). (refer Table 3.11, Chart 3.8 and Appendix 3.7)

**Table 3.11 Average Aggregate Price in Malaysia for 2013 and 2014**

| Region | Price (RM/Tonne) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Northern Region | 23.34 | 35.18 | 50.8 |
| Central Region | 26.54 | 45.28 | 70.6 |
| Eastern Region | 24.84 | 29.65 | 19.4 |
| Southern Region | 23.00 | 35.28 | 53.4 |

**Chart 3.8 Trend of Average Aggregate Price in Malaysia in 2013 and 2014**




The average aggregate price in Sabah ranged between RM55.67 and RM58.67 per tonne. The average price increased by 1.6% to RM57.92 per tonne from RM57.00 per tonne in 2013. The highest average aggregate price was recorded from July to October 2014 at RM55.67 per tonne (refer chart 3.7, Table 3.13 and Appendix 3.7).

In Sarawak, average aggregate price were between RM36.67 and RM39.00 per tonne. Average price rose by 4.7% to RM37.70 per tonne as compared to RM36.00 per tonne in 2013. Highest average price was recorded in January through to May 2014 when it reached RM39.00 per tonne. Average aggregate price began falling from June 2014 to RM36.67 per tonne and remained stable until the year end (refer Chart 3.7, Table 3.12 and Appendix 3.7).

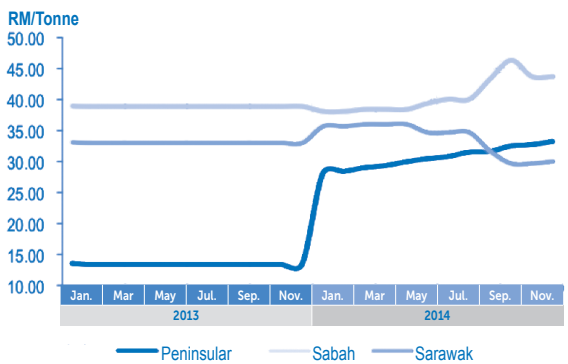
**Table 3.12 Average Aggregate Price in Sabah and Sarawak in 2013 and 2014**

| Region | Price (RM/Tonne) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Kota Kinabalu, Sabah | 57.00 | 57.92 | 1.6 |
| Kuching, Sarawak | 36.00 | 40.70 | 13.0 |

## Sand

The national average sand price for 2014 was RM32.26 per tonne, a marked increase by 69.8% in comparison to RM19.00 per tonne in 2013 (refer Table 3.8). Average sand prices for 2014 were between RM 30.25 and RM34.13 per tonne. It rose by 59.2% in January 2014 compared to December 2013 prices, and continued to rise until the year end. The last average sand price posted in December 2014 was RM34.13 per tonne. The average sand price in Sabah were higher than those in Peninsular Malaysia and Sarawak. (refer Chart 3.9 and Appendix 3.8)

**Chart 3.9 Trend of Average Sand Price In Malaysia in 2013 and 2014**

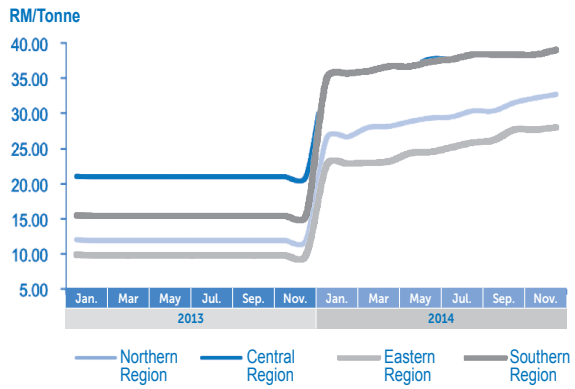



Average sand prices for Peninsular Malaysia ranged between RM28.06 and RM33.22 per tonne. Sand prices rose by 110.0% in Januray 2014 as compared to December 2013 prices. This was the outcome of an enforcement by the government which ordered illegal producers to shut down. Production declined and persistent demand for the material had pressured prices to rise. Average sand prices rose tremendously in 2014 by 129.3% to RM30.63 per tonne compared to RM13.36 per tonne in 2013. Highest average price for sand was noted in December 2014 at RM33.22 per tonne. Lowest average sand price was recorded in the eastern region in January 2014 at RM22.67 per tonne and the highest average price were in the central and southern regions in December 2014 at RM39.00 per tonne. All regions in Peninsular Malaysia experienced higher prices from those recorded in 2013. The eastern region saw the biggest price change of 155.0% (2014: RM205.08 per tonne; 2013: RM9.84 per tonne) (refer Table 3.13, Chart 3.10 and Appendix 3.8).

### Table 3.13 Average Sand Price in Peninsular Malaysia in 2013 and 2014

| Region | Price (RM/Tonne) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Northern Region | 12.00 | 29.50 | 145.8 |
| Central Region | 21.00 | 37.32 | 77.7 |
| Eastern Region | 9.84 | 25.08 | 155.0 |
| Southern Region | 15.50 | 37.28 | 140.5 |

### Chart 3.10 Trend of Average Sand Price in Peninsular Malaysia in 2013 and 2014




The average sand prices for Sabah ranged between RM38.00 and RM46.33 per tonne. Average price rose by 4.7% to RM40.61 per tonne from RM38.80 per tonne in 2013. The increase began in July 2014 and reached its highest at RM46.33 per tonne. The last average sand price recorded in December 2014 was RM43.67 per tonne (refer Chart 3.9, Table 3.14 and Appendix 3.8)

The average sand price in Sarawak was recorded between RM29.67 and RM36.00 per tonne. Average sand price increased by 2.1% to RM33.70 per tonne over 2013's average price of RM33.00 per tonne. Highest average price was posted in March till May 2014 that reached a high of RM36.00 per tonne, followed by the start on a downtrend in the subsequent months. The last average sand price listed in December 2014 was RM30.00 per tonne (refer Chart 3.9, Table 3.14 and Appendix 3.8).

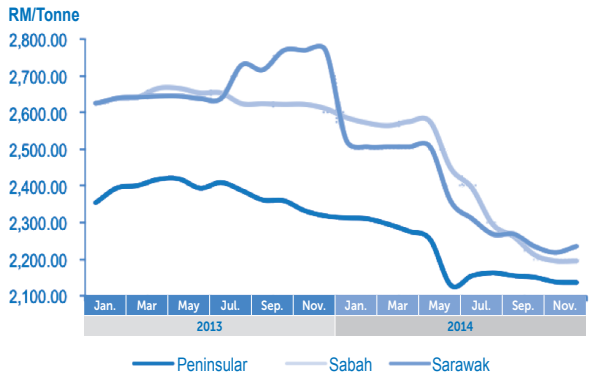
### Jadual 3.14 Average Sand Price in Sabah and Sarawak in 2013 and 2014

| Region | Price (RM/Tonne) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Kota Kinabalu, Sabah | 38.80 | 40.61 | 4.7 |
| Kuching, Sarawak | 33.00 | 33.70 | 2.1 |

## Steel Bars

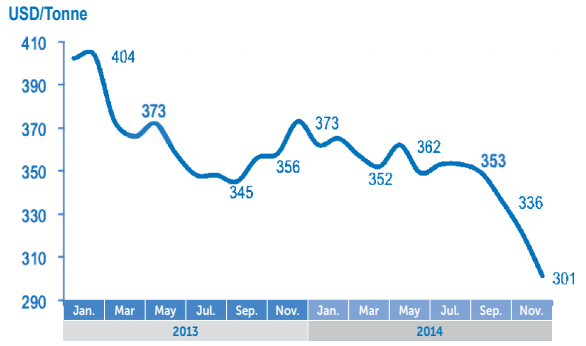
The national average price for steel bars was RM2,250.46 per tonne in 2014, a reduction by 8.1% from 2013's average price of RM2,448.81 per tonne (refer Table 3.8). The average steel bars prices for 2014 were between RM2,153.70 and RM2,372.55 per tonne. The average prices declined throughout the year to record RM2,154.63 per tonne as the closing average price in December 2014. Sabah recorded a much higher average steel bars prices than Peninsular Malaysia and Sarawak (refer Chart 3.11 and Appendix 3.9 ).

### Chart 3.11 Average Steel Bar Price in Malaysia in 2013 and 2014




International scrap metal displayed a downward price trend since early 2014. Adequate supply in the local market supported stable steel round bar prices that remained lower than those recorded in 2013 (refer Chart 3.12).

**Chart 3.12 Trend of Global Scrap Metal Price in 2013 and 2014**



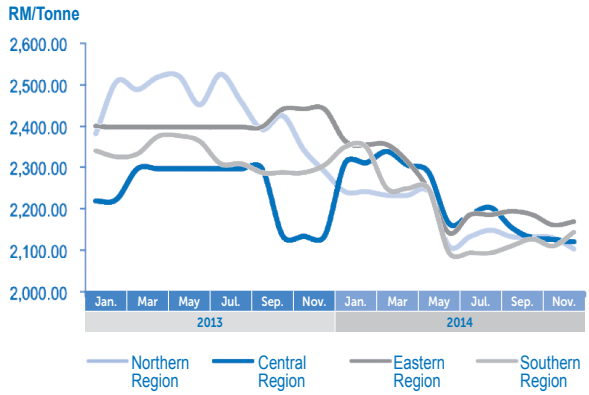

*Source: Steelonthenet.com*

Average steel bar price in Peninsular Malaysia were between RM2,126.79 and RM2,312.04 per tonne. The average price of steel bar dropped by 7.3% to RM2,204.25 from RM2,378.32 per tonne in the year 2013. The highest price was recorded in January 2014 when it touched RM2,312.04 per tonne. The lowest average was recorded in the southern region in June and July 2014 at RM2,094.44 per tonne and the highest average price was listed in the eastern region in January 2014 at RM2,363.89 per tonne. All Peninslar Malaysia regions saw a price decline in comparison to year 2013. The eastern region saw the biggest price drop i.e by 110% (2014: RM2,173.80 per tonne; 2013: RM2,441.98 per tonne) (refer Table 3.15, Chart 3.13 and Appendix 3.9).

**Table 3.15 Average Steel Round Bar Price in Peninsular Malaysia in 2013 and 20144**

| Region | Price (RM/Tonne) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Northern Region | 2,441.98 | 2,173.80 | -11.0 |
| Central Region | 2,242.69 | 2,219.14 | -1.1 |
| Eastern Region | 2,408.93 | 2,238.43 | -7.1 |
| Southern Region | 2,325.42 | 2,185.65 | -6.0 |

**Chart 3.13 Trend of Average Steel Round Bar Price in Peninsular Malaysia in 2013 and 2014**




Sabah's average steel bar price were between RM2,194.44 and RM2,585.93 per tonne. Prices dropped by 8.6% to an average RM2,405.62 from RM2,632.51 per tonne in 2013. The highest average steel bar price was recorded in January 2014 at a high of RM2,585.93 per tonne before starting a downward trend in the following month. The last average price recorded in December 2014 was RM2,194.44 per tonne (refer Chart 3.11, Table 3.16 and Appendix 3.9).

In Sarawak steel bar average prices were between RM2,216.67 and RM2,522.22 per tonne. Prices dropped by 11.8% to an average RM2,368.83 per tonne from RM2,684.82 per tonne in the previous year. The highest average price of steel bar was recorded in January 2014 that reached RM2,522.22 per tonne before beginning a downward trend in the following month. The last average price recorded in December 2014 was RM2,233.33 per tonne (refer Chart 3.11, Table 3.16 and Appendix 3.9).

**Table 3.16 Average Steel Bar Price in Sabah and Sarawak in 2013 and 2014**

| Region | Price (RM/Tonne) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Kota Kinabalu, Sabah | 2,632.51 | 2,405.62 | -8.6 |
| Kuching, Sarawak | 2,684.82 | 2,368.83 | -11.8 |

## Ready Mixed Concrete

In 2014, the national average ready mixed concrete price was RM211.26 per cubic meter. The ready mixed concrete average prices for the year were between RM210.63 and RM212.42 per cubic meter. The price dropped by 4.8% in January 2014 from December 2013 and stablised till the year end. The last average ready mixed concrete price recorded in December 2014 was RM212.42 per cubic meter. The average ready mixed concrete price in Sabah was much higher than those in Peninsular Malaysia and Sarawak (refer Chart 3.18 and Appendix 3.10)

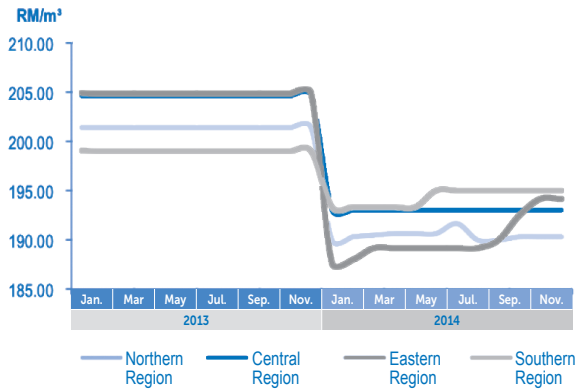
**Chart 3.18 Trend of Average Ready Mixed Concrete Price in Malaysia in 2013 and 2014**


In Peninsular Malaysia, the average raedy mixed concrete prices were between RM190.28 and RM192.83 per cubic meter. Ready mixed concrete price decreased by 5.6% to RM191.41 per cubic meter as compared to RM202.68 per cubic meter in 2013. The highest average prices of ready mixed concrete was in November and December 2014 at RM192.83 per cubic meter. The lowest average price was recorded in the eastern region at RM 187.67 per cubic meter and the highest average price was recorded in the southern region at RM195.00 per cubic meter. All regions in Peninsular Malaysia recorded average price decrease from 2013 prices. The eastern region showed the highest decrease by 7.2% (2014 RM193.00 per cubic meter; 2013 : RM204.63 per cubic meter ) (refer Table 3.19, Chart 3.14 and Appendix 3.10)

**Table 3.17 Average Ready Mixed Concrete Price in Peninsular Malaysia in 2013 and 2014**

| Region | Price (RM/m³) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Northern Region | 201.39 | 190.46 | -5.4 |
| Central Region | 204.63 | 193.00 | -5.7 |
| Eastern Region | 204.85 | 190.12 | -7.2 |
| Southern Region | 199.00 | 191.97 | -2.4 |

**Chart 3.14 Trend of Average Ready Mixed Concrete Price in Peninsular Malaysia in 2013 and 2014**




The average prices of ready mixed concrete in Sabah ranged between RM295.00 and RM300.00 per cubic meter. The average price rose by 3.4% to RM298.19 per cubic meter in comparison to RM288.33 per cubic meter in 2013. The highest average was recorded in January and October through December at RM300.00 per cubic meter. (refer Chart 3.18, Table 3.18 and Appendix 3.10)

The Sarawak average prices of ready mixed concrete were between RM242.33 and RM243.67 per cubic meter. The average price fell by 8.5% to RM243.45 per cubic meter in comparison to RM242.32 per cubic meter in 2013. The average ready mixed concrete price remained little changed throughout 2014. The closing average price of ready mixed concrete in December was RM242.32 per cubic meter. (refer Chart 3.18, Table 3.18 and Appendix 3.10)

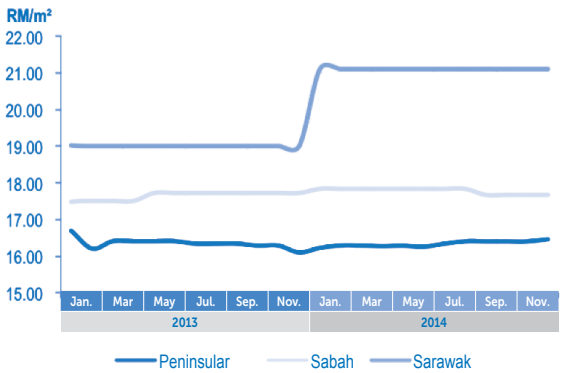
**Table 3.18 Average Ready Mixed Concrete Price in Sabah and Sarawak in 2013 and 2014**

| Region | Price (RM/m³) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Kota Kinabalu, Sabah | 288.33 | 298.19 | 3.4 |
| Kuching, Sarawak | 266.00 | 243.45 | -8.5 |

## Reinforcement Iron Mesh A10 (BRC A10)

In 2014, the national average Reinforcement Iron Mesh A10 (BRC A10) price was RM17.10 per sq meter, an increase by 1.6% as compared to RM16.83 per sq meter in 2013. (refer Table 3.8) The average BRC A10 prices throughout 2014 were between RM17.02 and RM17.18 per sq meter. Average BRC A10 price rose by 2.2% in January 2014 from December 2013 price. Average BRC A10 prices were much higher in Sarawak than in Peninsular Malaysia and Sabah. (refer Chart3.15 and Appendix 3.11)

**Chart 3.15 Trend of Average Reinforcement Iron Mesh A10 (BRC A10) Price in Malaysia in 2013 and 2014**

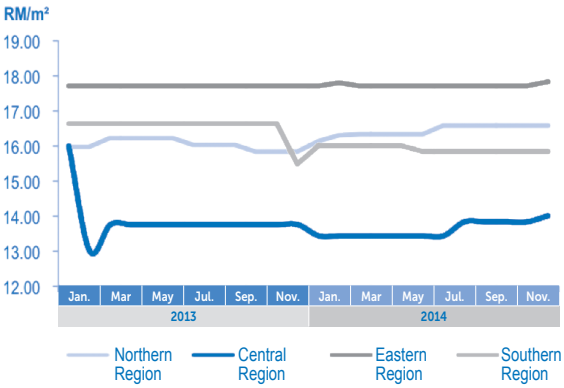



The average BRC A10 price for Peninsular Malaysia was between RM16.21 and RM16.45 per sq meter. BRC A10 average price declined by 0.1% to RM16.32 per sq meter over RM16.34 per sq meter in 2013. The highest average price was recorded in December 2014 with RM16.45 per sq meter. The lowest recorded was in July 2014 in the central region at RM13.43 per sq meter and the highest, recorded in the eastern region was in December at RM17.84 per sq meter. The southern region saw the biggest price decline rate at 3.9% (2014: RM15.90 per sq meter; 2013 : RM16.54 per sq meter) (refer Table 3.19, Chart 3.16 and Appendix 3.11)

**Table 3.19 Average Reinforcement Iron Mesh A10 (BRC A10) Price in Peninsular Malaysia in 2013 and 2014**

| Region | Price (RM/m²) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Northern Region | 16.03 | 16.44 | 2.6 |
| Central Region | 13.88 | 13.61 | -1.9 |
| Eastern Region | 17.77 | 17.76 | 0.0 |
| Southern Region | 16.54 | 15.90 | -3.9 |

**Chart 3.16 Trend of Average Reinforcement Iron Mesh A10 (BRC A10) Price in Peninsular Malaysia in 2013 and 2014**




In Sabah, the average wire mesh BRC A10 prices were between RM17.67 and RM17.83 per sq meter. Average prices rose by 0.7% to RM17.78 per sq meter in comparison to RM17.65 per sq meter in 2013. Highest average price was recorded from January to August 2014 that reached RM17.83 per sq meter and following that prices remained stable until the year end. The last average price recorded in December 2014 was RM17.67 per sq meter. (refer Chart 3.15, Table 3.20 and Appendix 3.11)

Sarawak's average BRC A10 prices remained unchanged throughout 2014 at RM21.10 per sq meter. BRC A10 average price rose by 11.1% to RM21.10 per sq meter from RM19.00 per sq meter in 2013. (refer Chart 3.15, Table 3.20 and Appendix 3.11)

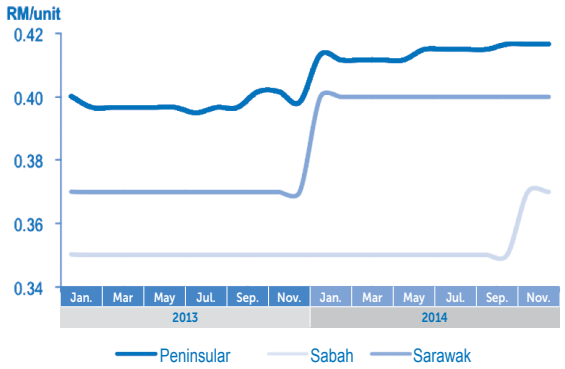
**Table 3.20 Reinforcement Iron Mesh A10 (BRC A10) Average Prices in Sabah and Sarawak in 2013 and 2014**

| Region | Price (RM/m²) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Kota Kinabalu, Sabah | 17.65 | 17.78 | 0.7 |
| Kuching, Sarawak | 19.00 | 21.10 | 11.1 |

## Bricks

The national average price for bricks was RM0.40 per unit in 2014, an increase by 4.2% as compared to RM0.39 per unit in 2013. (refer Table 3.8). Average prices of bricks for the entire year was between RM 0.40 and RM0.41 per unit. Average brick price for January 2014 was 3.9% higher than in Decemeber 2013, rising further in June to December to RM0.41 per unit. Average brick prices in Peninsular Malaysia was much higher than those in Sabah and Sarawak (refer Chart 3.17 and Appendix 3.12).

**Chart 3.17 Average Brick Price Trend in Malaysia in 2013 and 2014**

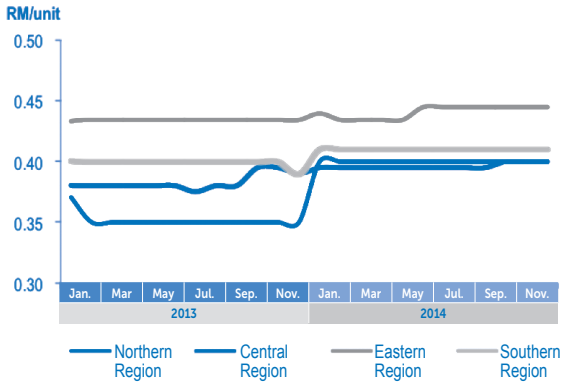



The average price of bricks in Peninsular Malaysia was between RM0.41 and RM0.42 per unit. The average price rose by 2.5% to RM0.41 per unit over RM0.40 per unit in 2013. Highest average price was attained during June to December 2014 when it reached RM0.42 per unit. The lowest average price of bricks was recorded in the northern and central regions at RM0.40 per unit and the highest average price was recorded in the eastern region from June to December at RM0.45 per unit. The central region recorded the highest price increase, i.e by 13.7% (2014: RM0.40 per unit; 2013: RM0.35 per unit) (refer Table 3.21, Chart 3.18 and Appendix 3.12)

**Table 3.21 Average Brick Prices in Peninsular Malaysia in 2013 and 2014**

| Region | Price (RM/unit) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Northern Region | 0.38 | 0.40 | 3.5 |
| Central Region | 0.35 | 0.40 | 13.7 |
| Eastern Region | 0.44 | 0.44 | 1.4 |
| Southern Region | 0.40 | 0.41 | 2.7 |

**Chart 3.18 Trend of Average Brick Price in Peninsular Malaysia in 2013 and 2014**




Average prices of bricks in Sabah ranged between RM0.35 and RM0.37 per unit. Prices of bricks remained almost unchanged from those recorded in 2013. The highest average price recorded was in November to December 2014 at RM0.37 per unit (refer Chart 3.17, Table 3.22 and Appendix 3.12).

Sarawak average brick prices was consistent at RM0.40 throughout 2014. This was an increase of 8.1% over 2013 price of RM0.37 per unit (refer Chart 3.17, Table 3.22 and Appendix 3.12).

**Table 3.22 Average Brick Prices in Sabah and Sarawak in 2013 and 2014**

| Region | Price (RM/unit) | | % Change |
|---|---|---|---|
| | 2013 | 2014 | |
| Kota Kinabalu, Sabah | 0.35 | 0.35 | 1.0 |
| Kuching, Sarawak | 0.37 | 0.40 | 8.1 |

## WAGES FOR MAJOR CONSTRUCTION WORKER

A construction worker's wage normally comensurate with hours, days or amount of work that must be completed in a day in accordance to working hours i.e from 8.00am to 5.00pm. Wages are paid to a construction worker before any deductions of levies, accomodation, insurance, Social Security Organisation (SOCSO), medical and transportation charges.

The difference in wage rate arise from the level of skills where the skilled worker is paid higher than a semi-skilled worker. Apart from that, the various wage rate occur because of factors such as difficulty level, safety, project complexity, type of equipment being handled, rate of demand and supply of workers, project location i.e whether within city limits or in rural areas; as well as the cost of living in any one location. Wage rate can change throughout a project duration due to unforeseeable changes in the market environment. Competition amongst contractor companies occur whereby companies offer higher wage rates than their competitors to attract workers to service their project sites. Indirectly, this triggers an increase in wage rates (including overtime pay) and subsequently assures the completion of construction works on, or ahead of, schedule. At the same time, local construction workers are being offered a higher wage rate than a foreign worker. Foreign workers readily accept a lower wage rate for as long as they can support themselves and their families in their homelands.

CIDB Malaysia has compiled wage rates data for construction machinery and equipment operators, both the local and foreign construction workers; covering almost all states in the country. Peninsular Malaysia covers the Central Region (Perak, Selangor and Kuala Lumpur), Northern Region (Kedah and Penang), Eastern Region (Pahang, Kelantan and Terengganu) and Southern Region (Negeri sembilan, Melaka and Johor). Sabah has three Regions i.e Kota Kinabalu, Sandakan and Tawau whilst Sarawak's three Regions are Kuching, Miri and Sibu.

IBS component installers are made up of only local nationals. The wage rate for IBS component installers in Peninsular Malaysia covers the West Coast(Kuala Lumpur, Penang, Negeri Sembilan and Johor) and East Coast (Kelantan and Terengganu), whilst data for Sabah is derived from the Kota Kinabalu region and Sarawak from the Kuching region.

A construction project involves the deployment of various trades. For the purpose of this report, focus is given to 15 machinery operator categories, 20 construction worker trades and 6 IBS component installer categories. Each work trade requires several skilled workers, assisted by some semi-skilled and unskilled workers. The wage rates collected by CIDB Malaysia were based on daily rates except for electrical wireman PW2 and electrical wireman PW4 whom are paid monthly.

For the year 2014, the highest average wage rate earned by the machinery operator category was RM145.77 per day that was paid to skilled local tower crane operators and, RM122.08 paid to skilled foreign mobile crane operators. For local construction workers, skilled reticulation plumbers earned the highest average wage rate at RM138.99 per day, foreign construction workers in the same trade were paid only RM120.24 per day. In the IBS component installation category, precast concrete installers were paid highest at RM171.33 a day. It was observed in this review that heavy machinery operators are paid higher than other construction workers.

## Wage Rates of Local Construction Worker

### Local Construction Machinery Operator

As a whole, in 2014, average daily minimum wage rate for most categories in the local skilled construction machinery operator group increased between 0.9% to 4.5%. That went for the maximum daily average wage rates too, where increases were between 3.3% to 13.7%. This hike in the average daily rates pushed the common rate higher by between 0.2% and 7.5%. The common average wage rate of motor grader operators saw highest increase at 7.5% (from RM83.30 per day to RM89.52 per day) , followed by excavator operators with 6.0% (from RM88.01 per day to RM93.28 per day). The highest maximum wage rate was paid out to tower crane operators at RM145.77 per day (refer Table 3.23).

Overall in 2014, minimum average daily wage rates for most local semi-skilled construction machinery operator categories increase by 1.0% to 6.3%, whilst all maximum average daily wage rates rose by 3.3% to 13.4%. These higher rates made the common average daily wage rates increase by 1.9% to 7.5%. The average daily wage rate for roller operators had the highest raise by 7.5% (from RM62.10 to RM66.73 per day) followed by forklift operators whose average daily wage rate increased by 7.2% (RM61.19 per day to RM65.58 per day). The highest maximum wage rate was paid out to mobile crane operators at RM111.15 per day (refer Table 3.23).

**Table 3.23 Local Machine Operator's Average Daily Wage Rate In Malaysia for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 72.67 | 70.21 | - | - | -3.4 | - |
| | Maximum | 110.25 | 120.43 | - | - | 9.2 | - |
| | Common | 88.01 | 93.28 | - | - | 6.0 | - |
| Pile Rigger | Minimum | 70.82 | 69.18 | 52.06 | 52.58 | -2.3 | 1.0 |
| | Maximum | 104.11 | 111.03 | 82.92 | 87.83 | 6.6 | 5.9 |
| | Common | 88.14 | 89.20 | 68.64 | 69.97 | 1.2 | 1.9 |
| Off Road Truck Operator | Minimum | 68.47 | 69.22 | 50.86 | 52.61 | 1.1 | 3.4 |
| | Maximum | 98.00 | 102.28 | 82.00 | 87.19 | 4.4 | 6.3 |
| | Common | 82.43 | 85.25 | 65.35 | 68.74 | 3.4 | 5.2 |
| Backhoe Loader Operator | Minimum | 68.00 | 70.41 | - | - | 3.5 | - |
| | Maximum | 103.44 | 108.99 | - | - | 5.4 | - |
| | Common | 82.72 | 86.74 | - | - | 4.9 | - |
| Roller Operator | Minimum | 61.65 | 64.43 | 50.14 | 53.28 | 4.5 | 6.3 |
| | Maximum | 105.36 | 112.49 | 77.92 | 82.49 | 6.8 | 5.9 |
| | Common | 81.33 | 85.91 | 62.10 | 66.73 | 5.6 | 7.5 |
| Roller/Compactor Operator | Minimum | 65.55 | 62.24 | 51.42 | 49.54 | -5.0 | -3.7 |
| | Maximum | 102.52 | 108.40 | 81.44 | 84.35 | 5.7 | 3.6 |
| | Common | 85.06 | 87.46 | 67.16 | 68.46 | 2.8 | 1.9 |
| Scrapper Operator | Minimum | 69.36 | 70.88 | 55.81 | 56.67 | 2.2 | 1.5 |
| | Maximum | 101.78 | 107.58 | 81.33 | 85.81 | 5.7 | 5.5 |
| | Common | 87.17 | 90.06 | 70.09 | 72.49 | 3.3 | 3.4 |
| Motor Grader Operator | Minimum | 68.12 | 69.32 | - | - | 1.8 | - |
| | Maximum | 107.94 | 112.80 | - | - | 4.5 | - |
| | Common | 83.30 | 89.52 | - | - | 7.5 | - |
| Wheel Loader Operator | Minimum | 64.72 | 66.92 | 51.00 | 53.53 | 3.4 | 5.0 |
| | Maximum | 107.28 | 111.82 | 83.14 | 87.49 | 4.2 | 5.2 |
| | Common | 83.55 | 87.74 | 67.20 | 69.96 | 5.0 | 4.1 |
| Paver Operator | Minimum | 70.98 | 73.84 | 55.13 | 57.54 | 4.0 | 4.4 |
| | Maximum | 106.39 | 110.65 | 84.94 | 88.08 | 4.0 | 3.7 |
| | Common | 87.75 | 90.59 | 70.45 | 72.50 | 3.2 | 2.9 |
| Mobile Crane Operator | Minimum | 86.87 | 89.05 | 65.23 | 67.34 | 2.5 | 3.2 |
| | Maximum | 127.24 | 144.61 | 98.03 | 111.15 | 13.7 | 13.4 |
| | Common | 106.58 | 110.55 | 80.25 | 85.19 | 3.7 | 6.2 |
| Crawler Crane Operator | Minimum | 89.31 | 92.00 | 64.57 | 66.98 | 3.0 | 3.7 |
| | Maximum | 126.50 | 134.96 | 94.92 | 100.45 | 6.7 | 5.8 |
| | Common | 105.49 | 109.42 | 79.55 | 82.78 | 3.7 | 4.1 |
| Tower Crane Operator | Minimum | 91.36 | 90.15 | 68.95 | 68.74 | -1.3 | -0.3 |
| | Maximum | 141.05 | 145.77 | 102.67 | 106.03 | 3.3 | 3.3 |
| | Common | 113.54 | 113.75 | 83.28 | 84.94 | 0.2 | 2.0 |
| Forklift Operator | Minimum | 68.22 | 69.47 | 50.21 | 52.63 | 1.8 | 4.8 |
| | Maximum | 96.79 | 104.63 | 75.97 | 82.07 | 8.1 | 8.0 |
| | Common | 80.76 | 84.34 | 61.19 | 65.58 | 4.4 | 7.2 |
| Slinger/Dogger | Minimum | 64.08 | 64.67 | 48.61 | 51.69 | 0.9 | 6.3 |
| | Maximum | 99.63 | 106.50 | 77.36 | 82.15 | 6.9 | 6.2 |
| | Common | 79.66 | 75.86 | 63.33 | 66.03 | -4.8 | 4.3 |

Minimum average daily wage rates for most categories covering skilled local construction machinery operators reduced between 2.1% and 26.3%, whilst all maximum average daily rates saw increases of between 0.1% and 29.3% in Peninsular Malaysia for the year 2014. This being the case, common average daily wages rose by between 0.7% and 9.6%. The common average daily wage rate for mobile crane operators saw the highest increase at 9.6% (from RM110.36 per day to RM120.92 per day), followed by crawler crane operators' usual average daily wage rate at 5.6% (from RM110.23 per day to RM116.45 per day). The maximum amount of wages that was achieved by mobile crane operators in the central region was RM310.00 per day and the common average wage rate paid out to operators of this machinery was RM143.23 per day (refer Table 3.24 and Appendix 3.13).

In 2014, minimum average daily wage rates for most categories of local semi-skilled construction machinery operators in Peninsular Malaysia increased between 0.8% and 7.9%; whilst all maximum daily wage rates rose by 1.7% to 27.9%. The changes in these rates caused the usual average daily wage rate to also rise by between 2.3% and 13.4%. The common average daily wage rate for mobile crane operators increased by highest percentage of 13.4% (from RM81.12 per day to RM91.99 per day), followed by crawler crane operators with 9.2% increase (from RM81.01 a day to RM88.47 per day). The highest maximum average daily wage paid out to a crawler crane operator was RM153.13 a day. The maximum daily wage achievable by a mobile crane operator in the central region was RM255.00 per day and the common average daily wage for this operator was approximately RM99.20 per day. (refer Table 3.24 and Appendix 3.14)

**Table 3.24 Local Machine Operator's Average Daily Wage in Peninsular Malaysia in 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 70.00 | 55.42 | - | - | -20.8 | - |
| | Maximum | 135.00 | 145.00 | - | - | 7.4 | - |
| | Common | 99.52 | 100.89 | - | - | 1.4 | - |
| Pile Rigger | Minimum | 70.25 | 67.00 | 52.50 | 53.75 | -4.6 | 2.4 |
| | Maximum | 130.00 | 143.75 | 103.75 | 112.50 | 10.6 | 8.4 |
| | Common | 95.01 | 99.11 | 73.60 | 80.19 | 4.3 | 9.0 |
| Off Road Truck Operator | Minimum | 63.75 | 60.00 | 46.25 | 45.50 | -5.9 | -1.6 |
| | Maximum | 122.00 | 126.50 | 100.00 | 107.25 | 3.7 | 7.3 |
| | Common | 89.22 | 92.79 | 68.79 | 74.02 | 4.0 | 7.6 |
| Backhoe Loader Operator | Minimum | 65.00 | 66.39 | - | - | 2.1 | - |
| | Maximum | 130.00 | 135.00 | - | - | 3.8 | - |
| | Common | 94.49 | 96.32 | - | - | 1.9 | - |
| Roller Operator | Minimum | 58.75 | 61.25 | 48.75 | 52.00 | 4.3 | 6.7 |
| | Maximum | 124.00 | 129.38 | 89.75 | 92.13 | 4.3 | 2.6 |
| | Common | 90.67 | 94.03 | 69.01 | 72.77 | 3.7 | 5.5 |
| Roller/Compactor Operator | Minimum | 60.00 | 44.25 | 47.50 | 35.00 | -26.3 | -26.3 |
| | Maximum | 116.25 | 122.88 | 91.00 | 93.38 | 5.7 | 2.6 |
| | Common | 91.59 | 92.20 | 70.45 | 72.09 | 0.7 | 2.3 |
| Scrapper Operator | Minimum | 60.00 | 58.75 | 48.75 | 46.00 | -2.1 | -5.6 |
| | Maximum | 120.00 | 128.75 | 91.00 | 96.75 | 7.3 | 6.3 |
| | Common | 95.02 | 97.00 | 73.36 | 75.83 | 2.1 | 3.4 |
| Motor Grader Operator | Minimum | 68.75 | 65.87 | - | - | -4.2 | - |
| | Maximum | 126.25 | 127.50 | - | - | 1.0 | - |
| | Common | 95.13 | 97.67 | - | - | 2.7 | - |
| Wheel Loader Operator | Minimum | 62.50 | 63.75 | 50.00 | 51.25 | 2.0 | 2.5 |
| | Maximum | 132.50 | 133.13 | 94.75 | 97.13 | 0.5 | 2.5 |
| | Common | 94.30 | 97.89 | 72.86 | 75.89 | 3.8 | 4.2 |
| Paver Operator | Minimum | 70.00 | 73.25 | 50.00 | 51.25 | 4.6 | 2.5 |
| | Maximum | 129.50 | 129.63 | 100.50 | 102.25 | 0.1 | 1.7 |
| | Common | 97.69 | 100.82 | 73.95 | 77.44 | 3.2 | 4.7 |
| Mobile Crane Operator | Minimum | 83.75 | 83.98 | 59.00 | 59.50 | 0.3 | 0.8 |
| | Maximum | 146.00 | 188.75 | 119.75 | 153.13 | 29.3 | 27.9 |
| | Common | 110.36 | 120.92 | 81.12 | 91.99 | 9.6 | 13.4 |
| Crawler Crane Operator | Minimum | 86.25 | 86.50 | 58.50 | 59.75 | 0.3 | 2.1 |
| | Maximum | 145.25 | 159.88 | 109.75 | 120.35 | 10.1 | 9.7 |
| | Common | 110.23 | 116.45 | 81.01 | 88.47 | 5.6 | 9.2 |
| Tower Crane Operator | Minimum | 90.75 | 82.29 | 68.50 | 62.50 | -9.3 | -8.8 |
| | Maximum | 172.50 | 180.00 | 130.00 | 133.75 | 4.3 | 2.9 |
| | Common | 122.34 | 123.99 | 89.60 | 94.90 | 1.3 | 5.9 |
| Forklift Operator | Minimum | 65.00 | 63.25 | 52.50 | 54.25 | -2.7 | 3.3 |
| | Maximum | 113.75 | 126.25 | 87.25 | 95.88 | 11.0 | 9.9 |
| | Common | 88.06 | 90.38 | 68.99 | 72.84 | 2.6 | 5.6 |
| Slinger/Dogger | Minimum | 66.25 | 62.50 | 47.50 | 51.25 | -5.7 | 7.9 |
| | Maximum | 118.75 | 130.00 | 88.75 | 95.13 | 9.5 | 7.2 |
| | Common | 89.37 | 70.76 | 70.34 | 73.64 | -20.8 | 4.7 |

In 2014, minimum average daily wages for all skilled construction machines operator categories boosted by 1.9% to 3.8% in Sabah. All maximum average daily wage rates also rose by 2.6% to 6.7%. That made the common average daily wage rate rise by between 0.1% and 16.6%. The common average daily wage for a motor grader operator saw the highest rise at 16.6% ( from RM60.39 per day to RM70.39 per day) followed by off road truck operator at 1.9% (from RM69.88 per day to RM71.24 per day). The highe st maximum average daily wage was paid to mobile crane operator was RM120.33 per day. The highest maximum average daily wage achieved by a mobile crane operator in Kota Kinabalu was RM145.00 a day and the common average daily wage received by the same machine operator was RM111.03 per day (refer Table 3.25 and Appendix 3.15).

Minimum average daily wage rates for all categories of semi-skilled local construction machine operators in Sabah increased in 2014 by between 2.7% and 5.0%. So did the maximum average daily rates increase between 3.8% to 7.0%. Following this, the common average daily wage changed of between -4.8% and 5.0%. The common average daily wage rate of a forklift operator saw highest increase at 5.0% (from RM50.37 per day to RM52.86 per day), followed by the roller compactor/operator at 2.2% (from RM52.67 per day to RM53.85 per day). The maximum average daily wage rate for tower crane operators saw highest payout at RM82.33 per day. The highest average daily wage rate paid for mobile crane, crawler crane and tower crane operators in Kota Kinabalu was RM90.00 per day and the common average daily wage rate for crane operators are between RM77.97 and RM78.04 per day (refer Table 3.25 and Appendix 3.16).

**Table 3.25 Local Machine Operator's Average Daily Wage in Sabah for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 67.33 | 69.33 | - | - | 3.0 | - |
| | Maximum | 87.97 | 90.97 | - | - | 3.4 | - |
| | Common | 78.69 | 79.25 | - | - | 0.7 | - |
| Pile Rigger | Minimum | 64.55 | 66.55 | 43.00 | 45.00 | 3.1 | 4.7 |
| | Maximum | 85.33 | 88.33 | 62.00 | 65.00 | 3.5 | 4.8 |
| | Common | 76.22 | 77.46 | 55.68 | 55.35 | 1.6 | -0.6 |
| Off Road Truck Operator | Minimum | 61.20 | 63.20 | 40.33 | 42.33 | 3.3 | 5.0 |
| | Maximum | 74.67 | 79.67 | 57.33 | 61.33 | 6.7 | 7.0 |
| | Common | 69.88 | 71.24 | 51.91 | 51.70 | 1.9 | -0.4 |
| Backhoe Loader Operator | Minimum | 67.67 | 69.67 | - | - | 3.0 | - |
| | Maximum | 86.65 | 89.65 | - | - | 3.5 | - |
| | Common | 78.18 | 78.96 | - | - | 1.0 | - |
| Roller Operator | Minimum | 57.88 | 59.88 | 42.00 | 44.00 | 3.5 | 4.8 |
| | Maximum | 88.09 | 91.42 | 59.33 | 62.67 | 3.8 | 5.6 |
| | Common | 75.63 | 76.11 | 52.67 | 53.85 | 0.6 | 2.2 |
| Roller/Compactor Operator | Minimum | 61.64 | 63.64 | 42.54 | 44.54 | 3.2 | 4.7 |
| | Maximum | 85.67 | 88.67 | 61.33 | 64.33 | 3.5 | 4.9 |
| | Common | 76.22 | 77.43 | 54.10 | 54.04 | 1.6 | -0.1 |
| Scrapper Operator | Minimum | 61.40 | 63.40 | 41.67 | 43.67 | 3.3 | 4.8 |
| | Maximum | 77.67 | 80.67 | 59.67 | 62.67 | 3.9 | 5.0 |
| | Common | 70.95 | 72.08 | 52.33 | 53.45 | 1.6 | 2.1 |
| Motor Grader Operator | Minimum | 53.67 | 55.67 | - | - | 3.7 | - |
| | Maximum | 82.90 | 86.90 | - | - | 4.8 | - |
| | Common | 60.39 | 70.39 | - | - | 16.6 | - |
| Wheel Loader Operator | Minimum | 52.67 | 54.67 | 40.00 | 42.00 | 3.8 | 5.0 |
| | Maximum | 80.67 | 83.67 | 61.00 | 64.00 | 3.7 | 4.9 |
| | Common | 70.00 | 70.32 | 54.37 | 51.77 | 0.5 | -4.8 |
| Paver Operator | Minimum | 55.33 | 57.33 | 40.72 | 42.72 | 3.6 | 4.9 |
| | Maximum | 80.00 | 83.00 | 59.33 | 62.33 | 3.8 | 5.1 |
| | Common | 70.70 | 71.17 | 52.06 | 52.42 | 0.7 | 0.7 |
| Mobile Crane Operator | Minimum | 87.51 | 89.51 | 61.22 | 63.22 | 2.3 | 3.3 |
| | Maximum | 115.67 | 120.33 | 77.00 | 80.00 | 4.0 | 3.9 |
| | Common | 103.84 | 102.83 | 72.90 | 70.68 | -1.0 | -3.0 |
| Crawler Crane Operator | Minimum | 90.33 | 92.33 | 59.22 | 60.88 | 2.2 | 2.8 |
| | Maximum | 112.92 | 116.00 | 78.00 | 81.00 | 2.7 | 3.8 |
| | Common | 102.67 | 102.82 | 70.90 | 70.47 | 0.1 | -0.6 |
| Tower Crane Operator | Minimum | 88.67 | 90.33 | 61.22 | 62.88 | 1.9 | 2.7 |
| | Maximum | 115.30 | 118.30 | 79.33 | 82.33 | 2.6 | 3.8 |
| | Common | 105.23 | 102.91 | 73.88 | 70.41 | -2.2 | -4.7 |
| Forklift Operator | Minimum | 67.67 | 69.33 | 39.33 | 41.00 | 2.5 | 4.2 |
| | Maximum | 85.63 | 88.63 | 62.00 | 65.00 | 3.5 | 4.8 |
| | Common | 78.85 | 79.39 | 50.37 | 52.86 | 0.7 | 5.0 |
| Slinger/Dogger | Minimum | 57.00 | 58.67 | 41.67 | 43.33 | 2.9 | 4.0 |
| | Maximum | 86.15 | 89.15 | 62.00 | 65.00 | 3.5 | 4.8 |
| | Common | 72.58 | 73.40 | 53.83 | 53.30 | 1.1 | -1.0 |

In 2014, minimum average daily wage rates for most categories of local skilled construction machinery operators in Sarawak increased by between 3.3% and 6.4%; whilst all maximum daily wage rates rose by 2.7% to 16.3%. As a result, most common average daily wages rose between 1.1% and 16.2%. Common average daily wage rate for an excavator operator saw highest increase at 16.2% (from RM85.82 per day to RM99.71 per day), followed by roller operator whose average daily rate increased by 12.7% (from RM77.70 per day to RM87.59 per day). Highest maximum average daily rate was received by tower crane operators at RM139.00 per day. Maximum wage received by a tower crane operator was RM151.00 per day in Kuching and the common average wage rate for this crane operator was RM114.18 per day (refer Table 3.26 and Appendix 3.17).

Minimum average daily wage rates for all categories of semi-skilled local construction machine operators in Sarawak increased in 2014 by between 4.3% and 7.5%; whilst maximum average daily wage rates rose by between 3.1% and 9.4%. These changes in average daily wages rates caused the common average daily wage rates to rise by 2.7% to 13.9%. The common average daily wage rate for a roller operator saw the highest increase at 13.9% (from RM64.62 per day to RM73.57 per day), followed by the wage rate for a forklift operator at 10.6% (from RM64.22 per day to RM71.05 per day). The highest maximum average daily wage rate was paid to a tower crane operator at RM102.00 per day. The highest average daily wage rate paid to a tower crane operator was RM104.00 in Kuching, the common average daily wage rate for this crane operator was RM86.70 per day. (refer Table 3.26 and Appendix 3.18).

**Table 3.26 Local Machine Operator's Average Daily Wage in Sarawak for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 80.67 | 85.87 | - | - | 6.4 | - |
| | Maximum | 107.77 | 125.33 | - | - | 16.3 | - |
| | Common | 85.82 | 99.71 | - | - | 16.2 | - |
| Pile Rigger | Minimum | 77.67 | 74.00 | 60.67 | 59.00 | -4.7 | -2.7 |
| | Maximum | 97.00 | 101.00 | 83.00 | 86.00 | 4.1 | 3.6 |
| | Common | 93.18 | 91.03 | 76.63 | 74.37 | -2.3 | -3.0 |
| Off Road Truck Operator | Minimum | 80.45 | 84.45 | 66.00 | 70.00 | 5.0 | 6.1 |
| | Maximum | 97.33 | 100.67 | 88.67 | 93.00 | 3.4 | 4.9 |
| | Common | 88.18 | 91.71 | 75.35 | 80.51 | 4.0 | 6.8 |
| Backhoe Loader Operator | Minimum | 71.33 | 75.17 | - | - | 5.4 | - |
| | Maximum | 93.67 | 102.33 | - | - | 9.3 | - |
| | Common | 75.50 | 84.95 | - | - | 12.5 | - |
| Roller Operator | Minimum | 68.33 | 72.17 | 59.67 | 63.83 | 5.6 | 7.0 |
| | Maximum | 104.00 | 116.67 | 84.67 | 92.67 | 12.2 | 9.4 |
| | Common | 77.70 | 87.59 | 64.62 | 73.57 | 12.7 | 13.9 |
| Roller/Compactor Operator | Minimum | 75.00 | 78.83 | 64.23 | 69.07 | 5.1 | 7.5 |
| | Maximum | 105.65 | 113.65 | 92.00 | 95.33 | 7.6 | 3.6 |
| | Common | 87.37 | 92.76 | 76.93 | 79.24 | 6.2 | 3.0 |
| Scrapper Operator | Minimum | 86.67 | 90.50 | 77.00 | 80.33 | 4.4 | 4.3 |
| | Maximum | 107.67 | 113.33 | 93.33 | 98.00 | 5.3 | 5.0 |
| | Common | 95.55 | 101.11 | 84.57 | 88.18 | 5.8 | 4.3 |
| Motor Grader Operator | Minimum | 81.93 | 86.43 | - | - | 5.5 | - |
| | Maximum | 114.68 | 124.00 | - | - | 8.1 | - |
| | Common | 94.39 | 100.51 | - | - | 6.5 | - |
| Wheel Loader Operator | Minimum | 79.00 | 82.33 | 63.00 | 67.33 | 4.2 | 6.9 |
| | Maximum | 108.67 | 118.67 | 93.67 | 101.33 | 9.2 | 8.2 |
| | Common | 86.35 | 95.01 | 74.38 | 82.21 | 10.0 | 10.5 |
| Paver Operator | Minimum | 87.62 | 90.95 | 74.67 | 78.67 | 3.8 | 5.4 |
| | Maximum | 109.67 | 119.33 | 95.00 | 99.67 | 8.8 | 4.9 |
| | Common | 94.85 | 99.78 | 85.33 | 87.66 | 5.2 | 2.7 |
| Mobile Crane Operator | Minimum | 89.33 | 93.67 | 75.46 | 79.29 | 4.9 | 5.1 |
| | Maximum | 120.05 | 124.75 | 97.33 | 100.33 | 3.9 | 3.1 |
| | Common | 105.55 | 107.90 | 86.73 | 92.90 | 2.2 | 7.1 |
| Crawler Crane Operator | Minimum | 91.33 | 97.17 | 76.00 | 80.29 | 6.4 | 5.6 |
| | Maximum | 121.33 | 129.00 | 97.00 | 100.00 | 6.3 | 3.1 |
| | Common | 103.58 | 108.99 | 86.73 | 89.40 | 5.2 | 3.1 |
| Tower Crane Operator | Minimum | 94.67 | 97.83 | 77.14 | 80.83 | 3.3 | 4.8 |
| | Maximum | 135.33 | 139.00 | 98.67 | 102.00 | 2.7 | 3.4 |
| | Common | 113.06 | 114.35 | 86.36 | 89.51 | 1.1 | 3.6 |
| Forklift Operator | Minimum | 72.00 | 75.83 | 58.80 | 62.63 | 5.3 | 6.5 |
| | Maximum | 91.00 | 99.00 | 78.67 | 85.33 | 8.8 | 8.5 |
| | Common | 75.37 | 83.24 | 64.22 | 71.05 | 10.4 | 10.6 |
| Slinger/Dogger | Minimum | 69.00 | 72.83 | 56.67 | 60.50 | 5.6 | 6.8 |
| | Maximum | 94.00 | 100.33 | 81.33 | 86.33 | 6.7 | 6.1 |
| | Common | 77.03 | 83.41 | 65.82 | 71.15 | 8.3 | 8.1 |

## Local Construction Worker

Generally, minimum average daily wage rates for most of skilled construction worker categories rose between 0.1% and 3.5% in 2014. Maximum average daily wage rates also rose by 2.6% to 14.6%. Common average daily wage rates changed in tandem with 0.7% to 4.9% increases. Common average daily wage rate of general construction worker – civil saw the biggest increase at 4.9% (from RM70.57 per day to RM74.05 per day), followed by the average daily wage for plumber- building and sanitary at 4.7% (from RM95.96 per day to RM100.46 per day). The highest maximum average daily wage rate was paid to plumber – reticulation at a sum of RM138.99 per day (refer Table 3.27).

In totality, minimum average daily wage rates for all semi-skilled construction worker categories rose beween 0.8% and 4.0%, in 2014. That went for the maximum average daily wage rate too which rose between 5.2% and 16.4%. As a result, the common average daily wage rate went up by 3.5% to 4.9%. The common average daily wage rate for plumber- building and sanitary had the highest increase at 4.9% (from RM74.92 per day to RM78.58 per day), followed by bricklayers' raise by 4.8% (from RM68.16 per day to RM 71.44 per day). The highest maximum wage rate was paid to building wiring installer at RM121.96 per day (refer Table 3.27).

**Table 3.27 Local Construction Worker Average Daily Wage Rate in Malaysia for the years 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 46.00 | 45.59 | - | - | -0.9 | - |
| | Maximum | 73.53 | 81.18 | - | - | 10.4 | - |
| | Common | 58.77 | 61.17 | - | - | 4.1 | - |
| Concretor | Minimum | 72.65 | 72.18 | 59.28 | 61.36 | -0.7 | 3.5 |
| | Maximum | 107.10 | 117.23 | 88.02 | 95.23 | 9.5 | 8.2 |
| | Common | 88.82 | 91.65 | 73.44 | 76.42 | 3.2 | 4.1 |
| Barbender | Minimum | 79.81 | 80.47 | 60.18 | 61.51 | 0.8 | 2.2 |
| | Maximum | 106.75 | 121.31 | 85.28 | 99.25 | 13.6 | 16.4 |
| | Common | 91.95 | 95.27 | 72.53 | 75.61 | 3.6 | 4.2 |
| Carpenter - Formwork | Minimum | 83.15 | 83.60 | 65.46 | 67.88 | 0.5 | 3.7 |
| | Maximum | 112.67 | 124.03 | 91.61 | 99.86 | 10.1 | 9.0 |
| | Common | 96.21 | 99.85 | 79.33 | 82.38 | 3.8 | 3.8 |
| Bricklayer | Minimum | 74.14 | 74.64 | 53.89 | 54.81 | 0.7 | 1.7 |
| | Maximum | 105.41 | 112.47 | 83.83 | 89.18 | 6.7 | 6.4 |
| | Common | 89.46 | 93.03 | 68.16 | 71.44 | 4.0 | 4.8 |
| Roofer | Minimum | 83.84 | 84.76 | 68.77 | 70.77 | 1.1 | 2.9 |
| | Maximum | 117.75 | 125.64 | 91.92 | 98.21 | 6.7 | 6.8 |
| | Common | 99.17 | 102.84 | 80.65 | 83.89 | 3.7 | 4.0 |
| Carpenter - Joinery | Minimum | 88.19 | 90.35 | 70.99 | 73.16 | 2.5 | 3.1 |
| | Maximum | 121.17 | 138.86 | 100.11 | 108.18 | 14.6 | 8.1 |
| | Common | 104.14 | 108.44 | 84.61 | 88.13 | 4.1 | 4.2 |
| Steel structure fabricator | Minimum | 86.24 | 86.32 | 73.37 | 74.12 | 0.1 | 1.0 |
| | Maximum | 120.31 | 134.36 | 101.00 | 110.13 | 11.7 | 9.0 |
| | Common | 103.09 | 107.39 | 87.03 | 90.60 | 4.2 | 4.1 |
| General welder | Minimum | 79.77 | 76.94 | 68.46 | 69.46 | -3.6 | 1.5 |
| | Maximum | 118.44 | 129.17 | 96.82 | 106.22 | 9.1 | 9.7 |
| | Common | 98.15 | 101.70 | 83.09 | 86.47 | 3.6 | 4.1 |
| Plumber – Building and sanitary | Minimum | 81.51 | 83.66 | 63.91 | 64.57 | 2.6 | 1.0 |
| | Maximum | 116.64 | 128.50 | 92.67 | 99.93 | 10.2 | 7.8 |
| | Common | 95.96 | 100.46 | 74.92 | 78.58 | 4.7 | 4.9 |
| Plumber - Reticulation | Minimum | 84.86 | 87.86 | 74.88 | 76.38 | 3.5 | 2.0 |
| | Maximum | 126.33 | 138.99 | 107.31 | 117.75 | 10.0 | 9.7 |
| | Common | 104.37 | 109.10 | 89.64 | 93.81 | 4.5 | 4.7 |
| Building Wiring Installer | Minimum | - | - | 84.99 | 86.08 | - | 1.3 |
| | Maximum | - | - | 114.22 | 121.96 | - | 6.8 |
| | Common | - | - | 99.23 | 102.74 | - | 3.5 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 1,836.89 | 1,788.22 | - | - | -2.6 | - |
| | Maximum | 3,009.62 | 3,086.79 | - | - | 2.6 | - |
| | Common | 2,376.36 | 2,392.21 | | | 0.7 | - |
| Electrical Wireman PW4 (RM Monthly | Minimum | 2,487.56 | 2,496.39 | - | - | 0.4 | - |
| | Maximum | 3,619.33 | 3,750.75 | - | - | 3.6 | - |
| | Common | 3,078.28 | 3,152.92 | | | 2.4 | - |
| Scaffolder -Prefabricated | Minimum | 80.51 | 81.01 | 61.37 | 61.87 | 0.6 | 0.8 |
| | Maximum | 109.50 | 118.97 | 92.53 | 97.36 | 8.7 | 5.2 |
| | Common | 94.30 | 97.12 | 76.18 | 78.97 | 3.0 | 3.7 |
| Scaffolder - Tubular | Minimum | 78.91 | 81.49 | 63.66 | 64.99 | 3.3 | 2.1 |
| | Maximum | 109.11 | 116.58 | 88.31 | 93.14 | 6.8 | 5.5 |
| | Common | 93.59 | 97.36 | 74.79 | 77.82 | 4.0 | 4.0 |
| Plasterer | Minimum | 80.84 | 81.17 | 62.33 | 64.08 | 0.4 | 2.8 |
| | Maximum | 108.13 | 122.58 | 91.28 | 100.04 | 13.4 | 9.6 |
| | Common | 93.88 | 97.24 | 77.10 | 80.72 | 3.6 | 4.7 |
| Tiler | Minimum | 87.81 | 90.39 | 65.24 | 67.88 | 2.9 | 4.0 |
| | Maximum | 117.73 | 125.28 | 94.69 | 99.96 | 6.4 | 5.6 |
| | Common | 101.44 | 104.53 | 80.09 | 83.60 | 3.1 | 4.4 |
| Painter - Building | Minimum | 73.30 | 74.05 | 57.40 | 58.32 | 1.0 | 1.6 |
| | Maximum | 106.76 | 112.31 | 85.44 | 92.06 | 5.2 | 7.7 |
| | Common | 87.03 | 90.54 | 70.73 | 74.05 | 4.0 | 4.7 |
| General Worker - Civil | Minimum | 57.52 | 57.19 | - | - | -0.6 | - |
| | Maximum | 84.56 | 94.36 | - | - | 11.6 | - |
| | Common | 70.57 | 74.05 | - | - | 4.9 | - |

In 2014, minimum average daily wage rate for most skilled local construction worker categories decline between -1.8% and -11.1%, whereas all maximum average daily wage rate rose between 8.6% to 36.3%. The common average daily wage rate reacted in a rise of between 1.7% and 8.8%. The highest rise in common average daily wage rate was 8.8% (from RM97.74 per day to RM106.38 per day) in the plumber-reticulation category, followed by plumber- building and sanitary at 8.6% (from RM92.78 per day to RM100.75 per day). The top maximum wage rate was paid to plumber – reticulation at RM166.13 per day. The highest wage rate achieved by barbender in the central region was RM240.00 per day and the common wage rate for a construction worker in this category was RM105.03 per day (refer Table 3.28 and Appendix 3.19).

Most semi-skilled local construction worker categories in Peninsular Malaysia experienced a minimum average daily wage rate increase of between 1.0% and 7.2% in 2014, whilst all maximum average daily wage rates rose by 6.8% to 40.2%. Consequently, common average daily wage rates also increased by between 3.8% and 9.0%. The common average daily wage rate for plumber-reticulation saw highest increase at 9.0% (RM76.80 a day to RM83.72 per day), followed by a 7.6% for plasterer (from RM70.63 per day to RM76.01 per day).Highest maximum average daily wage rate was paid to building wiring installer at RM130.38 per day. The top average daily wage rate was attained by barbenders in the central region at RM200.00 per day, and the common rate received by construction workers in this category was RM78.58 per day (refer Table 3.28 and Appendix 3.20).

**Table 3.28 Local Construction Worker Average Daily Wage Rate in Peninsular Malaysia for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 45.00 | 40.00 | - | - | -11.1 | - |
| | Maximum | 84.25 | 100.38 | - | - | 19.1 | - |
| | Common | 64.12 | 66.07 | - | - | 3.0 | - |
| Concretor | Minimum | 60.00 | 54.58 | 45.00 | 47.25 | -9.0 | 5.0 |
| | Maximum | 119.00 | 142.71 | 87.25 | 101.38 | 19.9 | 16.2 |
| | Common | 87.97 | 90.90 | 67.18 | 70.68 | 3.3 | 5.2 |
| Barbender | Minimum | 68.75 | 66.75 | 48.75 | 48.75 | -2.9 | 0.0 |
| | Maximum | 117.25 | 153.75 | 86.50 | 121.25 | 31.1 | 40.2 |
| | Common | 88.59 | 93.18 | 68.28 | 71.99 | 5.2 | 5.4 |
| Carpenter - Formwork | Minimum | 70.00 | 68.75 | 45.00 | 48.25 | -1.8 | 7.2 |
| | Maximum | 124.00 | 151.25 | 91.50 | 108.75 | 22.0 | 18.9 |
| | Common | 94.08 | 99.37 | 70.87 | 74.59 | 5.6 | 5.2 |
| Bricklayer | Minimum | 62.50 | 60.00 | 47.50 | 46.25 | -4.0 | -2.6 |
| | Maximum | 117.50 | 131.75 | 95.25 | 103.88 | 12.1 | 9.1 |
| | Common | 87.70 | 92.81 | 68.19 | 72.42 | 5.8 | 6.2 |
| Roofer | Minimum | 67.50 | 66.25 | 50.00 | 52.00 | -1.9 | 4.0 |
| | Maximum | 123.25 | 148.75 | 91.75 | 103.13 | 20.7 | 12.4 |
| | Common | 94.90 | 100.39 | 72.40 | 76.58 | 5.8 | 5.8 |
| Carpenter - Joinery | Minimum | 71.25 | 73.75 | 51.25 | 53.75 | 3.5 | 4.9 |
| | Maximum | 127.50 | 173.75 | 103.00 | 120.38 | 36.3 | 16.9 |
| | Common | 102.31 | 109.67 | 77.50 | 82.47 | 7.2 | 6.4 |
| Steel structure fabricator | Minimum | 75.00 | 71.25 | 52.50 | 50.75 | -5.0 | -3.3 |
| | Maximum | 130.25 | 161.25 | 104.00 | 122.88 | 23.8 | 18.1 |
| | Common | 101.36 | 108.59 | 78.70 | 83.97 | 7.1 | 6.7 |
| General welder | Minimum | 73.75 | 61.25 | 50.00 | 49.00 | -16.9 | -2.0 |
| | Maximum | 130.00 | 155.00 | 98.75 | 118.63 | 19.2 | 20.1 |
| | Common | 98.05 | 103.10 | 73.94 | 78.71 | 5.1 | 6.5 |
| Plumber – Building and sanitary | Minimum | 70.00 | 71.25 | 52.00 | 50.00 | 1.8 | -3.8 |
| | Maximum | 131.25 | 160.00 | 99.00 | 113.63 | 21.9 | 14.8 |
| | Common | 92.78 | 100.75 | 70.04 | 75.22 | 8.6 | 7.4 |
| Plumber - Reticulation | Minimum | 67.50 | 72.50 | 50.75 | 51.25 | 7.4 | 1.0 |
| | Maximum | 135.00 | 166.13 | 102.25 | 126.75 | 23.1 | 24.0 |
| | Common | 97.74 | 106.38 | 76.80 | 83.72 | 8.8 | 9.0 |
| Building Wiring Installer | Minimum | - | - | 60.00 | 59.25 | - | -1.3 |
| | Maximum | - | - | 114.00 | 130.38 | - | 14.4 |
| | Common | - | - | 88.53 | 93.58 | - | 5.7 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 1,475.00 | 1,325.00 | - | - | -10.2 | - |
| | Maximum | 3,558.00 | 3,782.50 | - | - | 6.3 | - |
| | Common | 2,404.58 | 2,446.38 | - | - | 1.7 | - |
| Electrical Wireman PW4 (RM Monthly | Minimum | 1,852.50 | 1,875.00 | - | - | 1.2 | - |
| | Maximum | 4,019.75 | 4,407.00 | - | - | 9.6 | - |
| | Common | 2,953.65 | 3,096.50 | - | - | 4.8 | - |
| Scaffolder -Prefabricated | Minimum | 70.00 | 67.50 | 51.25 | 48.75 | -3.6 | -4.9 |
| | Maximum | 128.50 | 149.25 | 102.25 | 109.25 | 16.1 | 6.8 |
| | Common | 95.22 | 98.17 | 73.45 | 76.25 | 3.1 | 3.8 |
| Scaffolder - Tubular | Minimum | 68.75 | 72.50 | 52.50 | 52.50 | 5.5 | 0.0 |
| | Maximum | 115.00 | 130.25 | 91.25 | 98.25 | 13.3 | 7.7 |
| | Common | 91.47 | 97.30 | 71.51 | 75.12 | 6.4 | 5.0 |
| Plasterer | Minimum | 71.25 | 68.25 | 48.75 | 50.00 | -4.2 | 2.6 |
| | Maximum | 117.50 | 153.75 | 91.50 | 110.63 | 30.9 | 20.9 |
| | Common | 92.74 | 97.27 | 70.63 | 76.01 | 4.9 | 7.6 |
| Tiler | Minimum | 77.50 | 81.25 | 52.50 | 55.75 | 4.8 | 6.2 |
| | Maximum | 130.00 | 145.00 | 100.75 | 109.38 | 11.5 | 8.6 |
| | Common | 100.28 | 104.09 | 76.78 | 81.77 | 3.8 | 6.5 |
| Painter - Building | Minimum | 66.25 | 64.50 | 50.00 | 48.75 | -2.6 | -2.5 |
| | Maximum | 116.25 | 126.25 | 89.00 | 101.00 | 8.6 | 13.5 |
| | Common | 86.27 | 91.25 | 66.94 | 71.52 | 5.8 | 6.8 |
| General Worker - Civil | Minimum | 45.00 | 40.00 | - | - | -11.1 | - |
| | Maximum | 86.00 | 108.25 | - | - | 25.9 | - |
| | Common | 64.98 | 69.94 | - | - | 7.6 | - |

Minimum average daily wage rate for all skilled local construction worker categories in Sabah increased between 2.0% and 3.8%, whilst most maximum average daily wage rates rose bewteen 2.5% and 4.4% in 2014. The common average daily wage rate settled at a higher 2.6% to 4.8%. The common average daily rate for general construction workers-building saw highest increase by 4.8% (from RM55.49 per day to RM58.18 per day), followed by general worker-civil whose average daily rate rose by 3.8% (from RM71.27 per day to RM73.97 per day). The highest maximum average daily wage rate was received by plumber-reticulation at RM121.67 per day. The top wage attained by Kota Kinabalu tilers was at RM138.00 per day and the common daily wage for this worker was RM119.17 per day (refer Table 3.29 and Appendix 3.21)

In the year 2014, minimum average daily wage rates for most semi-skilled construction worker categories in Sabah increased by 2.1% to 3.8%, whilst maximum wage rates rose by 2.7% to 5.4%. Common average daily wage rate followed suit with a raise of between 2.7% and 4.3%. The highest increase for the usual average daily wage rate was that for bricklayers that rose 4.3% (from RM67.05 per day to RM69.90 per day), followed by 4.0% increase by barbenders rate (from RM71.46 per day to RM74.31 per day), plumber-reticulation (from RM73.75 per day to RM76.67 per day), and painter-building (from RM70.49 per day to RM73.27 per day). The highest maximum average wage rate was paid to building wiring installer at RM114.33 per day. The top wage achieved by building wiring installer was RM123.00 per day, and the common wage received by this construction worker was RM111.88 per day (refer Table 3.29 and Appendix 3.22).

**Table 3.29 Local Construction Worker Average Daily Wage Rate in Sabah for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 46.38 | 48.15 | - | - | 3.8 | - |
| | Maximum | 68.33 | 71.33 | - | - | 4.4 | - |
| | Common | 55.49 | 58.18 | - | - | 4.8 | - |
| Concretor | Minimum | 78.48 | 80.48 | 65.50 | 67.50 | 2.5 | 3.1 |
| | Maximum | 99.53 | 102.87 | 85.81 | 89.14 | 3.3 | 3.9 |
| | Common | 88.30 | 91.09 | 74.22 | 76.94 | 3.2 | 3.7 |
| Barbender | Minimum | 84.00 | 86.00 | 62.56 | 64.56 | 2.4 | 3.2 |
| | Maximum | 103.00 | 106.00 | 82.00 | 85.33 | 2.9 | 4.1 |
| | Common | 93.05 | 95.71 | 71.46 | 74.31 | 2.9 | 4.0 |
| Carpenter - Formwork | Minimum | 88.74 | 90.74 | 72.69 | 74.69 | 2.3 | 2.8 |
| | Maximum | 105.00 | 108.00 | 87.67 | 90.67 | 2.9 | 3.4 |
| | Common | 96.59 | 99.43 | 80.46 | 83.16 | 2.9 | 3.3 |
| Bricklayer | Minimum | 79.73 | 81.73 | 55.85 | 57.85 | 2.5 | 3.6 |
| | Maximum | 99.20 | 102.20 | 77.25 | 81.00 | 3.0 | 4.9 |
| | Common | 90.39 | 93.05 | 67.05 | 69.90 | 2.9 | 4.3 |
| Roofer | Minimum | 89.39 | 91.39 | 75.73 | 77.73 | 2.2 | 2.6 |
| | Maximum | 114.67 | 108.67 | 89.67 | 93.00 | -5.2 | 3.7 |
| | Common | 98.79 | 101.55 | 82.44 | 85.25 | 2.8 | 3.4 |
| Carpenter - Joinery | Minimum | 98.33 | 100.33 | 77.99 | 79.99 | 2.0 | 2.6 |
| | Maximum | 118.67 | 121.67 | 97.00 | 100.00 | 2.5 | 3.1 |
| | Common | 105.46 | 108.19 | 84.81 | 87.66 | 2.6 | 3.4 |
| Steel structure fabricator | Minimum | 90.05 | 92.05 | 82.67 | 84.67 | 2.2 | 2.4 |
| | Maximum | 115.67 | 118.67 | 97.00 | 101.67 | 2.6 | 4.8 |
| | Common | 101.54 | 104.36 | 88.74 | 91.48 | 2.8 | 3.1 |
| General welder | Minimum | 80.75 | 82.75 | 77.09 | 79.09 | 2.5 | 2.6 |
| | Maximum | 111.00 | 114.33 | 93.00 | 98.00 | 3.0 | 5.4 |
| | Common | 95.23 | 98.05 | 85.66 | 88.28 | 3.0 | 3.1 |
| Plumber – Building and sanitary | Minimum | 93.40 | 95.74 | 66.99 | 68.99 | 2.5 | 3.0 |
| | Maximum | 110.67 | 113.67 | 87.67 | 90.67 | 2.7 | 3.4 |
| | Common | 100.47 | 103.20 | 73.75 | 76.67 | 2.7 | 4.0 |
| Plumber - Reticulation | Minimum | 90.05 | 92.05 | 84.15 | 86.15 | 2.2 | 2.4 |
| | Maximum | 118.67 | 121.67 | 105.67 | 108.67 | 2.5 | 2.8 |
| | Common | 104.41 | 107.26 | 92.95 | 95.75 | 2.7 | 3.0 |
| Building Wiring Installer | Minimum | - | - | 94.48 | 96.48 | - | 2.1 |
| | Maximum | - | - | 111.33 | 114.33 | - | 2.7 |
| | Common | - | - | 101.60 | 104.36 | - | 2.7 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 1,967.00 | 1,969.00 | - | - | 0.1 | - |
| | Maximum | 2,649.00 | 2,652.67 | - | - | 0.1 | - |
| | Common | 2,295.86 | 2,298.68 | - | - | 0.1 | - |
| Electrical Wireman PW4 (RM Monthly | Minimum | 2,728.00 | 2,730.00 | - | - | 0.1 | - |
| | Maximum | 3,309.33 | 3,313.00 | - | - | 0.1 | - |
| | Common | 3,065.01 | 3,143.17 | - | - | 2.5 | - |
| Scaffolder -Prefabricated | Minimum | 80.88 | 82.88 | 61.53 | 63.53 | 2.5 | 3.3 |
| | Maximum | 97.67 | 102.00 | 86.67 | 90.33 | 4.4 | 4.2 |
| | Common | 90.40 | 93.13 | 74.21 | 77.06 | 3.0 | 3.8 |
| Scaffolder - Tubular | Minimum | 80.88 | 82.88 | 66.37 | 68.37 | 2.5 | 3.0 |
| | Maximum | 103.33 | 106.33 | 83.67 | 87.00 | 2.9 | 4.0 |
| | Common | 91.48 | 94.24 | 72.92 | 75.67 | 3.0 | 3.8 |
| Plasterer | Minimum | 82.40 | 84.40 | 65.87 | 67.87 | 2.4 | 3.0 |
| | Maximum | 103.33 | 106.67 | 89.00 | 92.33 | 3.2 | 3.7 |
| | Common | 92.93 | 95.66 | 78.13 | 80.88 | 2.9 | 3.5 |
| Tiler | Minimum | 93.33 | 95.33 | 70.13 | 72.80 | 2.1 | 3.8 |
| | Maximum | 113.33 | 117.00 | 90.33 | 93.33 | 3.2 | 3.3 |
| | Common | 103.76 | 106.47 | 79.43 | 82.20 | 2.6 | 3.5 |
| Painter - Building | Minimum | 76.13 | 78.13 | 57.20 | 59.20 | 2.6 | 3.5 |
| | Maximum | 99.53 | 102.87 | 82.00 | 86.00 | 3.3 | 4.9 |
| | Common | 87.35 | 90.07 | 70.49 | 73.27 | 3.1 | 4.0 |
| General Worker - Civil | Minimum | 61.93 | 63.93 | - | - | 3.2 | - |
| | Maximum | 83.33 | 86.33 | - | - | 3.6 | - |
| | Common | 71.27 | 73.97 | - | - | 3.8 | - |

Average daily wage rate for all categories for skilled local construction workers in Sarawak rose in 2014 of between 0.7% and 4.3%. Maximum average daily wage rates also increased, by 3.1% to 7.1%. Common average daily wage rate in turn increased by 2.4% to 4.5%. Common average daily wage rate for general construction worker – building saw the highest increase at 4.5% (from RM56.69 per day to RM59.26 per day), followed by general construction worker-civil at 3.7% (from RM75.46 per day to RM78.22 per day). Highest maximum daily rate was awarded to plumber-reticulation at RM129.17 per day. The top wage earned by plumber-reticulation in Kuching at RM130.00 per day, and the common rate for this worker was RM114.02 per day (refer Table 3.30 and Appendix 3.23).

In 2014 Sarawak, minimum average daily wage rate for all semi-skilled local construction worker categories increased in the in the range of 2.0% to 3.4%. Maximum daily wage rate also increased by 3.3% to 4.7%. These increases led to common average daily wage rates increasing by 2.5% to 4.0%. The common average daily wage rate for bricklayer posted highest increase at 4.0% (from RM69.23 per day to RM72.01 per day), followed by concreter (from RM78.91 per day to RM81.64 per day), plumber – building and sanitary (from RM80.98 per day to RM83.86 per day) and painter – building (from RM74.76 per day to RM77.34 per day) an increase of 3.5%. The highest maximum average daily wage was received by building wire installer at RM121.17 per day. Top wage rate awarded to building wire installer in Miri was RM126.50 per day and the common average daily rate for this worker was RM110.00 per day (refer Table 3.30 and Appendix 3.24).

**Table 3.30 Local Construction Worker Average Daily Wage Rate in Sarawak for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machine Operator | Semi-skilled Machine operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 46.63 | 48.63 | - | - | 4.3 | - |
| | Maximum | 68.00 | 71.83 | - | - | 5.6 | - |
| | Common | 56.69 | 59.26 | - | - | 4.5 | - |
| Concretor | Minimum | 79.48 | 81.48 | 67.33 | 69.33 | 2.5 | 3.0 |
| | Maximum | 102.77 | 106.10 | 91.00 | 95.17 | 3.2 | 4.6 |
| | Common | 90.20 | 92.96 | 78.91 | 81.64 | 3.1 | 3.5 |
| Barbender | Minimum | 86.67 | 88.67 | 69.23 | 71.23 | 2.3 | 2.9 |
| | Maximum | 100.00 | 104.17 | 87.33 | 91.17 | 4.2 | 4.4 |
| | Common | 94.20 | 96.93 | 77.85 | 80.52 | 2.9 | 3.4 |
| Carpenter - Formwork | Minimum | 90.72 | 91.33 | 78.69 | 80.69 | 0.7 | 2.5 |
| | Maximum | 109.00 | 112.83 | 95.67 | 100.17 | 3.5 | 4.7 |
| | Common | 97.96 | 100.75 | 86.65 | 89.39 | 2.8 | 3.2 |
| Bricklayer | Minimum | 80.20 | 82.20 | 58.33 | 60.33 | 2.5 | 3.4 |
| | Maximum | 99.53 | 103.46 | 79.00 | 82.67 | 3.9 | 4.6 |
| | Common | 90.30 | 93.21 | 69.23 | 72.01 | 3.2 | 4.0 |
| Roofer | Minimum | 94.64 | 96.64 | 80.58 | 82.58 | 2.1 | 2.5 |
| | Maximum | 115.33 | 119.50 | 94.33 | 98.50 | 3.6 | 4.4 |
| | Common | 103.81 | 106.57 | 87.11 | 89.84 | 2.7 | 3.1 |
| Carpenter - Joinery | Minimum | 94.97 | 96.97 | 83.73 | 85.73 | 2.1 | 2.4 |
| | Maximum | 117.33 | 121.17 | 100.33 | 104.17 | 3.3 | 3.8 |
| | Common | 104.65 | 107.47 | 91.51 | 94.27 | 2.7 | 3.0 |
| Steel structure fabricator | Minimum | 93.65 | 95.65 | 84.93 | 86.93 | 2.1 | 2.4 |
| | Maximum | 115.00 | 123.17 | 102.00 | 105.83 | 7.1 | 3.8 |
| | Common | 106.37 | 109.22 | 93.64 | 96.35 | 2.7 | 2.9 |
| General welder | Minimum | 84.81 | 86.81 | 78.29 | 80.29 | 2.4 | 2.6 |
| | Maximum | 114.33 | 118.17 | 98.71 | 102.04 | 3.4 | 3.4 |
| | Common | 101.17 | 103.95 | 89.66 | 92.43 | 2.8 | 3.1 |
| Plumber – Building and sanitary | Minimum | 81.13 | 84.00 | 72.73 | 74.73 | 3.5 | 2.7 |
| | Maximum | 108.00 | 111.83 | 91.33 | 95.50 | 3.5 | 4.6 |
| | Common | 94.62 | 97.44 | 80.98 | 83.86 | 3.0 | 3.5 |
| Plumber - Reticulation | Minimum | 97.04 | 99.04 | 89.74 | 91.74 | 2.1 | 2.2 |
| | Maximum | 125.33 | 129.17 | 114.00 | 117.83 | 3.1 | 3.4 |
| | Common | 110.95 | 113.66 | 99.16 | 101.94 | 2.4 | 2.8 |
| Building Wiring Installer | Minimum | - | - | 100.49 | 102.49 | - | 2.0 |
| | Maximum | - | - | 117.33 | 121.17 | - | 3.3 |
| | Common | - | - | 107.56 | 110.29 | - | 2.5 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 2,068.67 | 2,070.67 | - | - | 0.1 | - |
| | Maximum | 2,821.87 | 2,825.20 | - | - | 0.1 | - |
| | Common | 2,428.66 | 2,431.56 | - | - | 0.1 | - |
| Electrical Wireman PW4 (RM Monthly | Minimum | 2,882.17 | 2,884.17 | - | - | 0.1 | - |
| | Maximum | 3,528.92 | 3,532.25 | - | - | 0.1 | - |
| | Common | 3,216.19 | 3,219.09 | - | - | 0.1 | - |
| Scaffolder -Prefabricated | Minimum | 90.67 | 92.67 | 71.33 | 73.33 | 2.2 | 2.8 |
| | Maximum | 102.33 | 105.67 | 88.67 | 92.50 | 3.3 | 4.3 |
| | Common | 97.28 | 100.07 | 80.87 | 83.59 | 2.9 | 3.4 |
| Scaffolder - Tubular | Minimum | 87.11 | 89.11 | 72.10 | 74.10 | 2.3 | 2.8 |
| | Maximum | 109.00 | 113.17 | 90.00 | 94.17 | 3.8 | 4.6 |
| | Common | 97.81 | 100.54 | 79.95 | 82.68 | 2.8 | 3.4 |
| Plasterer | Minimum | 88.87 | 90.87 | 72.37 | 74.37 | 2.3 | 2.8 |
| | Maximum | 103.57 | 107.33 | 93.33 | 97.17 | 3.6 | 4.1 |
| | Common | 95.97 | 98.80 | 82.54 | 85.27 | 2.9 | 3.3 |
| Tiler | Minimum | 92.60 | 94.60 | 73.09 | 75.09 | 2.2 | 2.7 |
| | Maximum | 109.86 | 113.83 | 93.00 | 97.17 | 3.6 | 4.5 |
| | Common | 100.27 | 103.05 | 84.07 | 86.82 | 2.8 | 3.3 |
| Painter - Building | Minimum | 77.51 | 79.51 | 65.00 | 67.00 | 2.6 | 3.1 |
| | Maximum | 104.49 | 107.83 | 85.33 | 89.17 | 3.2 | 4.5 |
| | Common | 87.48 | 90.31 | 74.76 | 77.34 | 3.2 | 3.5 |
| General Worker - Civil | Minimum | 65.63 | 67.63 | - | - | 3.0 | - |
| | Maximum | 84.33 | 88.50 | - | - | 4.9 | - |
| | Common | 75.46 | 78.22 | - | - | 3.7 | - |

## IBS Component Installer

Generally in 2014, minimum average daily wage rates for all categories of skilled IBS component installer rose between 9.4% and 16.0%. That also accounted for the maximum average daily wage rate where increases were between 0.9% and 13.8%. Common average daily wage rates also rose by 9.0% to 11.6%. The common daily rate for Roof Truss Installer (Light Gauge Steel ) saw highest increase at 11.6% (from RM88.47 per day to RM98.70 per day), followed by Roof Truss Installer (Timber) at 11.0% (from RM85.78 per day to RM95.23 per day). Highest maximum wage rate was paid to IBS Precast Concrete Installer at RM171.33 per day (refer Table 3.31)

In 2014, minimum average daily wage for all categories of semi-skilled IBS component installer rose between 2.6% and 7.4%. The maximum average daily wage rate also increased by between 7.6% and 22.4%. Common average daily wage rates also increased by 7.1% to 14.6%. The common daily rate for Roof Truss Installer (Timber) saw highest increase at 14.6% (from RM64.08 per day to RM73.41 per day), followed by Roof Truss Installer (Light Gauge Steel) at 14.1% (from RM66.65 per day to RM76.06 per day). Highest maximum wage rate was paid to IBS Lightweight Panel Installer at RM121.17 per day (refer Table 3.31).

**Table 3.31 IBS Component Installer Average Daily Wage Rate in Malaysia for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled | Semi-skilled |
| | | 2013 | 2014 | 2013 | 2014 | | |
| IBS Precast Concrete Installer | Minimum | 81.67 | 92.67 | 65.67 | 70.50 | 13.5 | 7.4 |
| | Maximum | 150.50 | 171.33 | 109.67 | 118.00 | 13.8 | 7.6 |
| | Common | 115.75 | 126.20 | 85.13 | 94.02 | 9.0 | 10.4 |
| IBS Lightweight Panel Installer | Minimum | 78.33 | 87.33 | 64.00 | 65.83 | 11.5 | 2.9 |
| | Maximum | 137.00 | 145.00 | 110.00 | 121.17 | 5.8 | 10.2 |
| | Common | 103.97 | 113.69 | 80.81 | 89.62 | 9.3 | 10.9 |
| Lightweight Blockwall Installer | Minimum | 69.67 | 77.67 | 57.33 | 58.83 | 11.5 | 2.6 |
| | Maximum | 111.67 | 112.67 | 85.00 | 93.33 | 0.9 | 9.8 |
| | Common | 84.94 | 93.91 | 65.36 | 74.53 | 10.6 | 14.0 |
| System Formwork Installer | Minimum | 69.17 | 75.67 | 54.00 | 57.50 | 9.4 | 6.5 |
| | Maximum | 113.33 | 121.33 | 94.00 | 104.33 | 7.1 | 11.0 |
| | Common | 85.74 | 94.71 | 73.35 | 78.53 | 10.5 | 7.1 |
| Roof Truss Installer (Timber) | Minimum | 66.67 | 77.33 | 55.00 | 57.67 | 16.0 | 4.8 |
| | Maximum | 107.33 | 112.00 | 82.00 | 100.33 | 4.3 | 22.4 |
| | Common | 85.78 | 95.23 | 64.08 | 73.41 | 11.0 | 14.6 |
| Roof Truss Installer (Light Gauge Steel) | Minimum | 69.00 | 76.33 | 54.67 | 57.67 | 10.6 | 5.5 |
| | Maximum | 115.33 | 118.00 | 87.33 | 105.00 | 2.3 | 20.2 |
| | Common | 88.47 | 98.70 | 66.65 | 76.06 | 11.6 | 14.1 |

In 2014, minimum average daily wage rate for all skilled IBS component installer categories in Peninsular Malaysia increased by 30.0% to 48.3%, while most maximum average daily wage declined by between 3.3% and 22.0%. The common average daily rate rose by 7.8% to 11.0%. The common average daily rate for Roof Truss Installer (Light Gauge Steel) gained highest raise by 11.0% (from RM94.62 per day to RM105.00 per day), followed by IBS precast concrete installer whose average daily rate increased by 10.8%(from RM108.46 per day to RM120.21 per day). The highest maximum wage was paid to IBS precast concrete Installer at RM185.00 per day. Highest wage paid to system formwork installer in the west coast was at RM210.00 per day and the common rate for this worker was RM106.81 per day (refer Table 3.32 and Appendix 3.25).

Minimum average daily wage rate for all semi-skilled IBS component installer categories in Peninsular Malaysia increased by 0.9% to 21.0%, while most maximum average daily wage declined by between 1.9% and 8.5%. The common average daily rate increased by 9.1% to 12.0%. The common average daily rate for lightweight blockwall installer saw highest increase by 12.0% (from RM69.09 per day to RM76.23 per day), followed by roof truss installer (timber) whose average daily rate increased by 11.4%(from RM69.45 per day to RM77.39 per day). The maximum daily rate was paid to IBS lightweight panel installer at RM132.50 per day. The highest maximum wage earned by IBS lightweight panel installer, roof truss installer (timber) and, roof truss installer (light gauge steel ) in the West Coast was RM150.00 per day and the common daily rate for these workers were in the range of RM79.36 and RM84.55 per day (refer Table 3.32 and Appendix 3.25).

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**Table 3.32 IBS Component Installer Average Daily Wage Rate in Peninsular Malaysia for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled | Semi-skilled |
| | | 2013 | 2014 | 2013 | 2014 | | |
| IBS Precast Concrete Installer | Minimum | 60.00 | 89.00 | 50.00 | 60.50 | 48.3 | 21.0 |
| | Maximum | 156.50 | 185.00 | 130.00 | 119.00 | 18.2 | -8.5 |
| | Common | 108.46 | 120.21 | 80.09 | 87.40 | 10.8 | 9.1 |
| IBS Lightweight Panel Installer | Minimum | 60.00 | 83.00 | 55.00 | 56.50 | 38.3 | 2.7 |
| | Maximum | 160.00 | 148.00 | 135.00 | 132.50 | -7.5 | -1.9 |
| | Common | 100.41 | 109.96 | 78.14 | 85.26 | 9.5 | 9.1 |
| Lightweight Blockwall Installer | Minimum | 65.00 | 85.00 | 55.00 | 55.50 | 30.8 | 0.9 |
| | Maximum | 150.00 | 117.00 | 110.00 | 101.00 | -22.0 | -8.2 |
| | Common | 92.31 | 99.63 | 68.09 | 76.23 | 7.9 | 12.0 |
| System Formwork Installer | Minimum | 60.00 | 81.00 | 50.00 | 56.50 | 35.0 | 13.0 |
| | Maximum | 150.00 | 145.00 | 120.00 | 115.00 | -3.3 | -4.2 |
| | Common | 95.41 | 102.88 | 75.74 | 82.73 | 7.8 | 9.2 |
| Roof Truss Installer (Timber) | Minimum | 60.00 | 88.00 | 50.00 | 54.00 | 46.7 | 8.0 |
| | Maximum | 140.00 | 118.00 | 105.00 | 124.00 | -15.7 | 18.1 |
| | Common | 94.54 | 103.25 | 69.45 | 77.39 | 9.2 | 11.4 |
| Roof Truss Installer (Light Gauge Steel) | Minimum | 60.00 | 78.00 | 50.00 | 55.00 | 30.0 | 10.0 |
| | Maximum | 150.00 | 122.00 | 115.00 | 132.00 | -18.7 | 14.8 |
| | Common | 94.62 | 105.00 | 73.16 | 81.37 | 11.0 | 11.2 |

In 2014, minimum average daily wage rate for most of skilled IBS component installer categories in Sabah increased between 2.1% and 2.7%, whilst all maximum average daily rates rose by 10.4% to 19.6%. The situation led to an increase in the common average daily wage rate to between 7.9% and 12.0%. The common average daily wage rate for lightweight blockwall installer had the highest increase at 12.0% (from RM82.00 per day to RM91.80 per day), followed by roof truss installer (timber) at 11.7% (from RM83.50 per day to RM93.25 per day). The highest maximum wage earned by IBS precast concrete installer was RM170.00 per day. The minimum daily rate for this worker was RM75.00 (refer Table 3.33).

Most semi-skilled IBS component installer categories in Sabah received higher minimum average daily wage rates by 2.3% to 3.6%, together with an increase in the maximum average daily wage rates of between 16.8% and 25.7%. Following that, common average daily rates also rose by 10.6% to 16.7%. Common average wage daily rate for roof truss installer (timber) had the highest increase by 16.7% (from RM61.00 per day to RM71.20 per day), followed by roof truss installer (light gauge steel ) whose average daily rate rose by 15.7% (from RM64.00 per day to RM74.05 per day). Highest maximum wage rate received by IBS lightweight panel installer was RM125.00 per day. The lowest minimum wage rate received by roof truss installer (timber) was RM58.00 per day (refer Table 3.33).

**Table 3.33 IBS Component Installer Average Daily Wage Rate in Sabah for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled | Semi-skilled |
| | | 2013 | 2014 | 2013 | 2014 | | |
| IBS Precast Concrete Installer | Minimum | 94.00 | 96.00 | 86.00 | 88.00 | 2.1 | 2.3 |
| | Maximum | 154.00 | 170.00 | 100.00 | 118.00 | 10.4 | 18.0 |
| | Common | 123.50 | 133.25 | 91.00 | 100.65 | 7.9 | 10.6 |
| IBS Lightweight Panel Installer | Minimum | 94.00 | 96.00 | 70.00 | 72.00 | 2.1 | 2.9 |
| | Maximum | 134.00 | 152.00 | 107.00 | 125.00 | 13.4 | 16.8 |
| | Common | 111.00 | 120.90 | 87.00 | 96.40 | 8.9 | 10.8 |
| Lightweight Blockwall Installer | Minimum | 73.00 | 75.00 | 61.00 | 63.00 | 2.7 | 3.3 |
| | Maximum | 94.00 | 112.00 | 78.00 | 94.00 | 19.1 | 20.5 |
| | Common | 82.00 | 91.80 | 66.00 | 75.70 | 12.0 | 14.7 |
| System Formwork Installer | Minimum | 83.50 | 80.00 | 61.00 | 63.00 | -4.2 | 3.3 |
| | Maximum | 99.00 | 110.00 | 77.00 | 95.00 | 11.1 | 23.4 |
| | Common | 83.50 | 93.05 | 66.00 | 75.50 | 11.4 | 14.4 |
| Roof Truss Installer (Timber) | Minimum | 75.00 | 77.00 | 56.00 | 58.00 | 2.7 | 3.6 |
| | Maximum | 92.00 | 110.00 | 70.00 | 88.00 | 19.6 | 25.7 |
| | Common | 83.50 | 93.25 | 61.00 | 71.20 | 11.7 | 16.7 |
| Roof Truss Installer (Light Gauge Steel) | Minimum | 79.00 | 81.00 | 58.00 | 60.00 | 2.5 | 3.4 |
| | Maximum | 100.00 | 118.00 | 76.00 | 94.00 | 18.0 | 23.7 |
| | Common | 88.50 | 98.70 | 64.00 | 74.05 | 11.5 | 15.7 |

n 2014, minimum average daily wage rate for all skilled IBS component installer categories in Sarawak increased between 2.2% and 3.1%, with all maximum average daily rates also recording increases by 12.8% to 20.0%. This led to the increase in the common average daily wage rate of between 8.5% and 12.6%. The common average daily wage rate for system formwork installer had the highest increase at 12.6% (from RM78.30 per day to RM88.20 per day), followed by roof truss installer (timber) at 12.5% (from RM79.30 per day to RM89.20 per day). The highest maximum wage earned by IBS precast concrete installer was RM159.00 per day. The lowest minimum daily wage rate received system formwork installer was RM66.00 per day(refer Table 3.34).

Minimum average daily wage rate for all semi-skilled IBS component installer categories in Sarawak increased between 3.0% and 3.9%, and all maximum average daily rates had increases of 18.2% to 26.9%. This led to the increase in the common average daily wage rate of between 11.5% and 15.9%. The common average daily wage rate for roof truss installer (timber) had the highest increase at 15.9% (from RM61.80 per day to RM71.65 per day), followed by roof truss installer (light gauge steel )at 15.8% (from RM62.80 per day to RM72.75 per day). The highest maximum wage earned by IBS precast concrete installer was RM117.00 per day. The lowest minimum daily wage rate received system formwork installer was RM53.00 per day (refer Table 3.34).

**Table 3.34 IBS Component Installer Average Daily Wage Rate in Sarawak for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled | Semi-skilled |
| | | 2013 | 2014 | 2013 | 2014 | | |
| IBS Precast Concrete Installer | Minimum | 91.00 | 93.00 | 61.00 | 63.00 | 2.2 | 3.3 |
| | Maximum | 141.00 | 159.00 | 99.00 | 117.00 | 12.8 | 18.2 |
| | Common | 115.30 | 125.15 | 84.30 | 94.00 | 8.5 | 11.5 |
| IBS Lightweight Panel Installer | Minimum | 81.00 | 83.00 | 67.00 | 69.00 | 2.5 | 3.0 |
| | Maximum | 117.00 | 135.00 | 88.00 | 106.00 | 15.4 | 20.5 |
| | Common | 100.50 | 110.20 | 77.30 | 87.20 | 9.7 | 12.8 |
| Lightweight Blockwall Installer | Minimum | 71.00 | 73.00 | 56.00 | 58.00 | 2.8 | 3.6 |
| | Maximum | 91.00 | 109.00 | 67.00 | 85.00 | 19.8 | 26.9 |
| | Common | 80.50 | 90.30 | 62.00 | 71.65 | 12.2 | 15.6 |
| System Formwork Installer | Minimum | 64.00 | 66.00 | 51.00 | 53.00 | 3.1 | 3.9 |
| | Maximum | 91.00 | 109.00 | 85.00 | 103.00 | 19.8 | 21.2 |
| | Common | 78.30 | 88.20 | 78.30 | 77.35 | 12.6 | -1.2 |
| Roof Truss Installer (Timber) | Minimum | 65.00 | 67.00 | 59.00 | 61.00 | 3.1 | 3.4 |
| | Maximum | 90.00 | 108.00 | 71.00 | 89.00 | 20.0 | 25.4 |
| | Common | 79.30 | 89.20 | 61.80 | 71.65 | 12.5 | 15.9 |
| Roof Truss Installer (Light Gauge Steel) | Minimum | 68.00 | 70.00 | 56.00 | 58.00 | 2.9 | 3.6 |
| | Maximum | 96.00 | 114.00 | 71.00 | 89.00 | 18.8 | 25.4 |
| | Common | 82.30 | 92.40 | 62.80 | 72.75 | 12.3 | 15.8 |

## Wage Rates of Foreign Construction Worker

### Foreign Construction Machine Operator

Overall in 2014, minimum average daily wage rates for most skilled foreign construction machinery operator categories increased between 0.5% and 5.2% whilst all maximum average daily wage rates also increased between 3.0% and 14.7%. The growth in these rates led to the common average daily wage rate to rise by between 1.1% and 6.0%. The common average daily wage rate for excavator operator posted highest increase by 6.0% (from RM71.34 per day to RM75.63 per day), followed by backhoe loader operator at 5.8% (from RM67.26 per day to RM71.16 per day). The highest maximum wage was that received by mobile crane operator at RM122.08 per day (refer Table 3.35).

Minimum average daily wage rates for most semi-skilled foreign construction machinery operator categories increased between 2.7% and 5.0% whilst all maximum average daily wage rates also increased between 2.4% and 13.7%. The changes in these rates led to the common average daily wage rate to increase by between 1.5% and 7.3%. The common average daily wage rate for forklift operator posted highest increase by 7.3% (from RM52.21 per day to RM56.01 per day), followed by wheel loader operator at 6.9% (from RM56.43 per day to RM60.34 per day). The highest maximum wage was that received by mobile crane operator at RM90.71 per day (refer Table 3.35).

**Table 3.35 Foreign Machine Operator Average Daily Wage in Malaysia for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machinery Operator | Semi-skilled Machinery Operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 55.17 | 52.36 | - | - | -5.1 | - |
| | Maximum | 92.69 | 103.00 | - | - | 11.1 | - |
| | Common | 71.34 | 75.63 | - | - | 6.0 | - |
| Pile Rigger | Minimum | 56.71 | 57.00 | 43.43 | 44.61 | 0.5 | 2.7 |
| | Maximum | 91.62 | 95.75 | 71.75 | 75.83 | 4.5 | 5.7 |
| | Common | 73.27 | 74.09 | 57.20 | 58.76 | 1.1 | 2.7 |
| Off Road Truck Operator | Minimum | 55.60 | 57.13 | 42.48 | 44.41 | 2.8 | 4.6 |
| | Maximum | 86.63 | 89.80 | 71.92 | 76.78 | 3.7 | 6.8 |
| | Common | 69.58 | 72.69 | 55.84 | 58.97 | 4.5 | 5.6 |
| Backhoe Loader Operator | Minimum | 51.36 | 53.06 | - | - | 3.3 | - |
| | Maximum | 86.42 | 90.01 | - | - | 4.2 | - |
| | Common | 67.26 | 71.16 | - | - | 5.8 | - |
| Roller Machine Operator | Minimum | 53.65 | 56.42 | 44.11 | 43.43 | 5.2 | -1.5 |
| | Maximum | 85.39 | 91.18 | 73.46 | 73.02 | 6.8 | -0.6 |
| | Common | 67.53 | 71.38 | 53.11 | 56.34 | 5.7 | 6.1 |
| Roller/Compactor Operator | Minimum | 55.32 | 53.10 | 46.65 | 42.21 | -4.0 | -9.5 |
| | Maximum | 89.72 | 93.18 | 76.69 | 78.56 | 3.9 | 2.4 |
| | Common | 72.38 | 73.41 | 57.26 | 59.79 | 1.4 | 4.4 |
| Scrapper Operator | Minimum | 59.50 | 60.19 | 49.64 | 47.34 | 1.2 | -4.6 |
| | Maximum | 88.11 | 90.90 | 79.25 | 78.60 | 3.2 | -0.8 |
| | Common | 75.27 | 77.37 | 61.31 | 62.21 | 2.8 | 1.5 |
| Motor Grader Operator | Minimum | 54.93 | 56.15 | - | - | 2.2 | - |
| | Maximum | 90.77 | 96.58 | - | - | 6.4 | - |
| | Common | 77.46 | 76.34 | - | - | -1.4 | - |
| Wheel Loader Operator | Minimum | 55.67 | 57.61 | 43.89 | 46.08 | 3.5 | 5.0 |
| | Maximum | 91.67 | 96.39 | 71.93 | 77.56 | 5.2 | 7.8 |
| | Common | 70.98 | 74.73 | 56.43 | 60.34 | 5.3 | 6.9 |
| Paver Operator | Minimum | 59.74 | 62.38 | 46.16 | 47.91 | 4.4 | 3.8 |
| | Maximum | 91.33 | 94.10 | 75.75 | 78.89 | 3.0 | 4.1 |
| | Common | 75.30 | 77.47 | 59.79 | 62.26 | 2.9 | 4.1 |
| Mobile Crane Operator | Minimum | 72.27 | 72.97 | 52.69 | 54.63 | 1.0 | 3.7 |
| | Maximum | 106.42 | 122.08 | 79.75 | 90.71 | 14.7 | 13.7 |
| | Common | 88.47 | 92.79 | 67.71 | 69.61 | 4.9 | 2.8 |
| Crawler Crane Operator | Minimum | 73.22 | 75.81 | 53.33 | 55.39 | 3.5 | 3.9 |
| | Maximum | 104.56 | 112.52 | 80.33 | 84.18 | 7.6 | 4.8 |
| | Common | 87.76 | 92.60 | 68.20 | 69.49 | 5.5 | 1.9 |
| Tower Crane Operator | Minimum | 74.83 | 74.49 | 54.63 | 53.86 | -0.4 | -1.4 |
| | Maximum | 114.46 | 119.48 | 87.17 | 90.44 | 4.4 | 3.8 |
| | Common | 93.52 | 95.11 | 69.83 | 71.67 | 1.7 | 2.6 |
| Forklift Operator | Minimum | 53.47 | 54.50 | 41.08 | 43.08 | 1.9 | 4.9 |
| | Maximum | 82.14 | 86.83 | 66.19 | 70.63 | 5.7 | 6.7 |
| | Common | 67.01 | 70.25 | 52.21 | 56.01 | 4.8 | 7.3 |
| Slinger/Dogger | Minimum | 52.22 | 53.22 | 41.84 | 43.67 | 1.9 | 4.4 |
| | Maximum | 84.61 | 88.68 | 69.14 | 74.46 | 4.8 | 7.7 |
| | Common | 67.14 | 69.83 | 53.53 | 56.62 | 4.0 | 5.8 |

In 2014, minimum average daily wage rates most skilled foreign construction machinery operator categories in Peninsular Malaysia posted changes between -27.1% and 4.1% whilst all maximum average daily wage rates increased between 0.4% and 31.0%. The changes in these rates led to the common average daily wage rate to rise by between 1.6% and 9.4%. The common average daily wage rate for moblie crane operator saw highest increase by 9.4% (from RM89.86 per day to RM98.29 per day), followed by crawler crane operator at 6.7% (from RM88.73 per day to RM94.66 per day). The highest maximum wage was that received by mobile crane operator in the central region at RM250.00 per day and the common average daily wage rate for this worker was RM112.85 per day (refer Table 3.36 and Appendix 3.26).

In Peninsular Malaysia, minimum average daily wage rate for most foreign semi-skilled construction machinery operators increased by 1.2% to 3.0%, whereas all maximum average daily wage rates saw increases between 1.3% and 30.5%. The movement in these rates led to the common average daily wage rate to settle at an increase of between 4.4% and 10.2%. The common average daily wage rate for mobile crane operator showed highest increase at 10.2% (from RM67.07 per day to RM73.89 per day), followed by roller/compactor operator at 9.7% (from RM58.71 per day to RM64.42 per day). The top maximum wage rate was received by mobile crane operator at RM115.13 per day. The highest wage attainable by mobile crane operator in the central region was RM180.00 per day and the common wage rate for this operator was RM80.65 per day (refer Table 3.36 and Appendix 3.27).

**Table 3.36 Foreign Machine Operator Average Daily Wage in Peninsular Malaysia for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machinery Operator | Semi-skilled Machinery Operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 52.50 | 38.25 | - | - | -27.1 | - |
| | Maximum | 106.75 | 119.00 | - | - | 11.5 | - |
| | Common | 76.95 | 79.89 | - | - | 3.8 | - |
| Pile Rigger | Minimum | 55.00 | 55.00 | 41.25 | 42.50 | 0.0 | 3.0 |
| | Maximum | 116.25 | 121.25 | 91.25 | 98.25 | 4.3 | 7.7 |
| | Common | 78.77 | 81.29 | 61.33 | 64.52 | 3.2 | 5.2 |
| Off Road Truck Operator | Minimum | 50.00 | 47.50 | 38.75 | 38.25 | -5.0 | -1.3 |
| | Maximum | 104.25 | 106.75 | 84.75 | 91.00 | 2.4 | 7.4 |
| | Common | 72.60 | 75.85 | 58.41 | 61.30 | 4.5 | 5.0 |
| Backhoe Loader Operator | Minimum | 45.75 | 45.00 | - | - | -1.6 | - |
| | Maximum | 109.25 | 110.38 | - | - | 1.0 | - |
| | Common | 74.74 | 77.67 | - | - | 3.9 | - |
| Roller Machine Operator | Minimum | 48.75 | 50.75 | 40.00 | 40.00 | 4.1 | 0.0 |
| | Maximum | 101.50 | 108.88 | 78.00 | 79.00 | 7.3 | 1.3 |
| | Common | 75.20 | 77.81 | 56.51 | 58.99 | 3.5 | 4.4 |
| Roller/Compactor Operator | Minimum | 47.50 | 35.00 | 38.75 | 31.25 | -26.3 | -19.4 |
| | Maximum | 102.50 | 104.88 | 78.75 | 88.00 | 2.3 | 11.7 |
| | Common | 74.42 | 75.60 | 58.71 | 64.42 | 1.6 | 9.7 |
| Scrapper Operator | Minimum | 47.50 | 43.75 | 38.75 | 37.50 | -7.9 | -3.2 |
| | Maximum | 99.00 | 99.38 | 82.75 | 86.13 | 0.4 | 4.1 |
| | Common | 78.03 | 79.29 | 61.75 | 63.62 | 1.6 | 3.0 |
| Motor Grader Operator | Minimum | 51.25 | 48.75 | - | - | -4.9 | - |
| | Maximum | 100.00 | 107.75 | - | - | 7.8 | - |
| | Common | 77.71 | 80.08 | - | - | 3.0 | - |
| Wheel Loader Operator | Minimum | 55.00 | 54.50 | 40.00 | 40.75 | -0.9 | 1.9 |
| | Maximum | 110.00 | 112.50 | 82.00 | 86.00 | 2.3 | 4.9 |
| | Common | 78.88 | 80.86 | 60.98 | 63.79 | 2.5 | 4.6 |
| Paver Operator | Minimum | 53.00 | 54.75 | 40.00 | 41.25 | 3.3 | 3.1 |
| | Maximum | 110.00 | 111.63 | 88.25 | 90.00 | 1.5 | 2.0 |
| | Common | 80.88 | 82.73 | 61.59 | 64.48 | 2.3 | 4.7 |
| Mobile Crane Operator | Minimum | 66.25 | 62.50 | 46.25 | 46.25 | -5.7 | 0.0 |
| | Maximum | 120.00 | 157.25 | 88.25 | 115.13 | 31.0 | 30.5 |
| | Common | 89.86 | 98.29 | 67.07 | 73.89 | 9.4 | 10.2 |
| Crawler Crane Operator | Minimum | 65.00 | 66.25 | 45.75 | 47.00 | 1.9 | 2.7 |
| | Maximum | 116.75 | 130.25 | 92.00 | 96.88 | 11.6 | 5.3 |
| | Common | 88.73 | 94.66 | 68.04 | 72.77 | 6.7 | 7.0 |
| Tower Crane Operator | Minimum | 70.25 | 63.75 | 53.00 | 46.25 | -9.3 | -12.7 |
| | Maximum | 137.50 | 146.25 | 105.50 | 109.00 | 6.4 | 3.3 |
| | Common | 97.84 | 101.18 | 74.98 | 79.21 | 3.4 | 5.6 |
| Forklift Operator | Minimum | 53.75 | 50.00 | 43.25 | 43.75 | -7.0 | 1.2 |
| | Maximum | 94.75 | 98.50 | 76.75 | 80.88 | 4.0 | 5.4 |
| | Common | 73.14 | 75.10 | 58.56 | 61.49 | 2.7 | 5.0 |
| Slinger/Dogger | Minimum | 52.00 | 49.50 | 42.50 | 42.50 | -4.8 | 0.0 |
| | Maximum | 97.50 | 102.38 | 82.75 | 85.38 | 5.0 | 3.2 |
| | Common | 74.66 | 76.51 | 59.85 | 62.87 | 2.5 | 5.0 |

In 2014, minimum average daily wage rates for all skilled foreign construction machinery operator categories in Sabah increased between 2.3% and 4.6%. All maximum average daily wage rates increased between 2.7% and 6.3%. These rates movement led to the common average daily wage rate to rise by between 0.8% and 3.4%. The common average daily wage rate for paver operator saw highest increase by 3.4% (from RM59.14 per day to RM61.13 per day), followed by crawler crane operator at 3.2% (from RM86.22 per day to RM88.94 per day). The highest maximum wage received by crawler crane operator in Kota Kinabalu at was RM105.00 per day and the common daily wage rate for this operator was RM91.25 per day (refer Table 3.37 and Appendix 3.28).

Minimum average daily wage rate for most foreign semi-skilled construction machinery operators in Sabah increased by 3.1% to 7.5%, whereas most maximum average daily wage rates saw increases between 3.1% and 5.7%. The movement in these rates led to the common average daily wage rate to settle an increase of between 0.1% and 4.5%. The common average daily wage rate for pile rigger saw highest increase at 4.5% (from RM44.50 per day to RM46.49 per day), followed by forklift operator at 3.9% (from RM43.87 per day to RM45.57 per day). The highest maximum wage rate was received by tower crane operator at RM71.00 per day. The highest wage attainable by tower crane operator in Kota Kinabalu was RM80.00 per day and the common wage rate for this operator was RM63.42 per day (refer Table 3.37 and Appendix 3.29).

**Table 3.37 Foreign Machine Operator Average Daily Wage in Sabah for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machinery Operator | Semi-skilled Machinery Operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 47.00 | 49.00 | - | - | 4.3 | - |
| | Maximum | 74.67 | 77.67 | - | - | 4.0 | - |
| | Common | 64.02 | 62.87 | - | - | -1.8 | - |
| Pile Rigger | Minimum | 52.67 | 54.67 | 35.33 | 38.00 | 3.8 | 7.5 |
| | Maximum | 74.33 | 77.33 | 54.00 | 55.67 | 4.0 | 3.1 |
| | Common | 63.83 | 65.13 | 44.50 | 46.49 | 2.0 | 4.5 |
| Off Road Truck Operator | Minimum | 50.51 | 52.51 | 34.00 | 36.00 | 4.0 | 5.9 |
| | Maximum | 65.98 | 68.98 | 53.33 | 55.33 | 4.5 | 3.8 |
| | Common | 60.07 | 60.87 | 44.91 | 45.66 | 1.3 | 1.7 |
| Backhoe Loader Operator | Minimum | 47.67 | 49.67 | - | - | 4.2 | - |
| | Maximum | 69.00 | 72.33 | - | - | 4.8 | - |
| | Common | 61.22 | 62.39 | - | - | 1.9 | - |
| Roller Machine Operator | Minimum | 51.67 | 53.67 | 45.33 | 38.47 | 3.9 | -15.1 |
| | Maximum | 68.67 | 72.00 | 65.67 | 55.00 | 4.9 | -16.2 |
| | Common | 61.19 | 62.33 | 44.94 | 46.22 | 1.9 | 2.9 |
| Roller/Compactor Operator | Minimum | 53.88 | 55.88 | 47.67 | 38.50 | 3.7 | -19.2 |
| | Maximum | 73.67 | 78.33 | 64.00 | 55.67 | 6.3 | -13.0 |
| | Common | 65.07 | 65.06 | 45.62 | 45.71 | 0.0 | 0.2 |
| Scrapper Operator | Minimum | 49.33 | 51.33 | 43.67 | 36.00 | 4.1 | -17.6 |
| | Maximum | 70.67 | 73.67 | 68.00 | 56.67 | 4.2 | -16.7 |
| | Common | 62.35 | 61.56 | 46.00 | 45.53 | -1.3 | -1.0 |
| Motor Grader Operator | Minimum | 43.33 | 45.33 | - | - | 4.6 | - |
| | Maximum | 69.67 | 73.00 | - | - | 4.8 | - |
| | Common | 69.85 | 60.51 | - | - | -13.4 | - |
| Wheel Loader Operator | Minimum | 47.33 | 49.33 | 35.33 | 37.33 | 4.2 | 5.7 |
| | Maximum | 69.00 | 72.33 | 54.00 | 57.00 | 4.8 | 5.6 |
| | Common | 59.35 | 59.82 | 45.50 | 45.55 | 0.8 | 0.1 |
| Paver Operator | Minimum | 50.57 | 52.57 | 34.00 | 36.00 | 4.0 | 5.9 |
| | Maximum | 67.67 | 70.67 | 53.33 | 56.33 | 4.4 | 5.6 |
| | Common | 59.14 | 61.13 | 44.55 | 45.58 | 3.4 | 2.3 |
| Mobile Crane Operator | Minimum | 71.23 | 73.23 | 45.33 | 47.33 | 2.8 | 4.4 |
| | Maximum | 95.20 | 98.20 | 65.67 | 68.67 | 3.2 | 4.6 |
| | Common | 86.88 | 85.71 | 60.53 | 56.51 | -1.3 | -6.7 |
| Crawler Crane Operator | Minimum | 73.33 | 75.00 | 47.67 | 49.33 | 2.3 | 3.5 |
| | Maximum | 94.87 | 97.87 | 64.00 | 67.33 | 3.2 | 5.2 |
| | Common | 86.22 | 88.94 | 60.38 | 57.41 | 3.2 | -4.9 |
| Tower Crane Operator | Minimum | 71.23 | 72.90 | 43.67 | 45.00 | 2.3 | 3.1 |
| | Maximum | 94.20 | 97.20 | 68.00 | 71.00 | 3.2 | 4.4 |
| | Common | 86.88 | 85.50 | 58.39 | 57.58 | -1.6 | -1.4 |
| Forklift Operator | Minimum | 48.33 | 50.00 | 32.67 | 34.33 | 3.4 | 5.1 |
| | Maximum | 71.67 | 74.67 | 53.00 | 56.00 | 4.2 | 5.7 |
| | Common | 63.18 | 63.98 | 43.87 | 45.57 | 1.3 | 3.9 |
| Slinger/Dogger | Minimum | 48.00 | 49.67 | 37.00 | 38.67 | 3.5 | 4.5 |
| | Maximum | 74.67 | 76.67 | 55.33 | 58.33 | 2.7 | 5.4 |
| | Common | 60.91 | 61.43 | 46.70 | 46.03 | 0.9 | -1.4 |

In 2014, minimum average daily wage rates for most skilled foreign construction machinery operator categories in Sarawak increased between 4.6% and 8.9% whilst all maximum average daily wage rates also increased between 3.0% and 16.2%. The changes in these rates led to the common average daily wage rate to rise by between 2.5% and 15.2%. The common average daily wage rate for excavator operator posted highest increase by 15.2% (from RM73.04 per day to RM84.12 per day), followed by wheel loader operator at 11.8% (from RM74.70 per day to RM83.51 per day). The highest maximum wage was that received by tower crane operator in Kuching at RM118.00 per day and the common daily wage for this operator was RM95.33 per day (refer Table 3.38 and Appendix 3.30).

In Sarawak, minimum average daily wage rate for most foreign semi-skilled construction machinery operators increased by 3.0% to 10.3%, whereas all maximum average daily wage rates saw increases between 3.5% and 14.9%. The change in these rates led to the common average daily wage rate to increase by between 1.7% and 14.1%. The common average daily wage rate for wheel loader operator attained highest increase at 14.1% (from RM62.82 per day to RM71.68 per day), followed by slinger/dogger at 12.8% (from RM54.04 per day to RM60.97 per day). The top maximum wage rate was attained and received by scrapper operator at RM93.00 per day. The highest wage attainable by scrapper operator in Sibu was at RM99.00 per day, the common wage for this operator was RM81.17 (refer Table 3.38 and Appendix 3.31).

**Table 3.38 Foreign Machine Operator Average Daily Wage in Sarawak for 2013 and 2014 (RM/Day)**

| Worker Category | Minimum/ Maximum Wage | Machine Operator Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Machinery Operator | Semi-skilled Machinery Operator |
| | | 2013 | 2014 | 2013 | 2014 | | |
| Excavator Operator | Minimum | 66.00 | 69.83 | - | - | 5.8 | - |
| | Maximum | 96.67 | 112.33 | - | - | 16.2 | - |
| | Common | 73.04 | 84.12 | - | - | 15.2 | - |
| Pile Rigger | Minimum | 62.46 | 61.33 | 53.72 | 53.33 | -1.8 | -0.7 |
| | Maximum | 84.29 | 88.67 | 70.00 | 73.59 | 5.2 | 5.1 |
| | Common | 77.22 | 75.83 | 65.77 | 65.28 | -1.8 | -0.7 |
| Off Road Truck Operator | Minimum | 66.29 | 71.39 | 54.68 | 58.99 | 7.7 | 7.9 |
| | Maximum | 89.67 | 93.67 | 77.67 | 84.00 | 4.5 | 8.2 |
| | Common | 76.07 | 81.37 | 64.21 | 69.95 | 7.0 | 8.9 |
| Backhoe Loader Operator | Minimum | 60.67 | 64.50 | - | - | 6.3 | - |
| | Maximum | 81.00 | 87.33 | - | - | 7.8 | - |
| | Common | 65.83 | 73.42 | - | - | 11.5 | - |
| Roller Machine Operator | Minimum | 60.54 | 64.83 | 47.00 | 51.83 | 7.1 | 10.3 |
| | Maximum | 86.00 | 92.67 | 76.72 | 85.05 | 7.8 | 10.9 |
| | Common | 66.20 | 74.00 | 57.88 | 63.80 | 11.8 | 10.2 |
| Roller/Compactor Operator | Minimum | 64.58 | 68.41 | 53.55 | 56.88 | 5.9 | 6.2 |
| | Maximum | 93.00 | 96.33 | 87.33 | 92.00 | 3.6 | 5.3 |
| | Common | 77.66 | 79.57 | 67.46 | 69.24 | 2.5 | 2.6 |
| Scrapper Operator | Minimum | 81.67 | 85.50 | 66.51 | 68.51 | 4.7 | 3.0 |
| | Maximum | 94.67 | 99.67 | 87.00 | 93.00 | 5.3 | 6.9 |
| | Common | 85.44 | 91.27 | 76.19 | 77.50 | 6.8 | 1.7 |
| Motor Grader Operator | Minimum | 70.20 | 74.37 | - | - | 5.9 | - |
| | Maximum | 102.64 | 109.00 | - | - | 6.2 | - |
| | Common | 84.82 | 88.44 | - | - | 4.3 | - |
| Wheel Loader Operator | Minimum | 64.67 | 69.00 | 56.33 | 60.17 | 6.7 | 6.8 |
| | Maximum | 96.00 | 104.33 | 79.78 | 89.67 | 8.7 | 12.4 |
| | Common | 74.70 | 83.51 | 62.82 | 71.68 | 11.8 | 14.1 |
| Paver Operator | Minimum | 75.64 | 79.80 | 64.47 | 66.48 | 5.5 | 3.1 |
| | Maximum | 96.33 | 100.00 | 85.67 | 90.33 | 3.8 | 5.4 |
| | Common | 85.88 | 88.54 | 73.23 | 76.71 | 3.1 | 4.8 |
| Mobile Crane Operator | Minimum | 79.33 | 83.17 | 66.47 | 70.31 | 4.8 | 5.8 |
| | Maximum | 104.06 | 110.79 | 85.33 | 88.33 | 6.5 | 3.5 |
| | Common | 88.67 | 94.38 | 75.53 | 78.42 | 6.4 | 3.8 |
| Crawler Crane Operator | Minimum | 81.33 | 86.17 | 66.56 | 69.83 | 5.9 | 4.9 |
| | Maximum | 102.06 | 109.45 | 85.00 | 88.33 | 7.2 | 3.9 |
| | Common | 88.33 | 94.20 | 76.17 | 78.27 | 6.6 | 2.8 |
| Tower Crane Operator | Minimum | 83.00 | 86.83 | 67.23 | 70.33 | 4.6 | 4.6 |
| | Maximum | 111.67 | 115.00 | 88.00 | 91.33 | 3.0 | 3.8 |
| | Common | 95.83 | 98.64 | 76.12 | 78.22 | 2.9 | 2.8 |
| Forklift Operator | Minimum | 58.33 | 63.50 | 47.33 | 51.17 | 8.9 | 8.1 |
| | Maximum | 80.00 | 87.33 | 68.83 | 75.00 | 9.2 | 9.0 |
| | Common | 64.70 | 71.69 | 54.20 | 60.99 | 10.8 | 12.5 |
| Slinger/Dogger | Minimum | 56.67 | 60.50 | 46.01 | 49.85 | 6.8 | 8.3 |
| | Maximum | 81.67 | 87.00 | 69.33 | 79.67 | 6.5 | 14.9 |
| | Common | 65.87 | 71.55 | 54.04 | 60.97 | 8.6 | 12.8 |

## Foreign Construction Worker

As a whole, for 2014, minimum average daily wage rate for most skilled foreign construction worker categories increased by 0.4% to 5.0%, whilst all maximum average daily wage rates rose by 1.8% to 15.1%. These changes affected common average daily wage rates to also increase by 2.9% to 5.8%. The common daily average wage rate for general construction worker – civil saw the highest increase at 5.8% (from RM59.65 per day to RM63.11 per day), followed by plumber – reticulation's 4.8% increased rate (from RM91.69 per day to RM96.06 per day). The top maximum wage received by plumber-reticulation was RM120.24 per day (refer Table 3.39).

Minimum average daily wage rate for all semi-skilled foreign construction worker categories increased by 1.5% to 4.5%, whilst all maximum average daily wage rates rose by 3.7% to 7.9%. These increases resulted in common average daily wage rates to also increase by 3.3% to 5.1%. The common daily average wage rate for bricklayer (from RM57.54 per day to RM60.48 per day) and tiler (fromRM68.08 per day to RM71.54 per day) saw highest increase by 5.1%. The top maximum wage received by building wire installer was RM113.38 per day (refer Table 3.39).

**Table 3.39 Foreign Construction Worker Average Daily Wage Rate in Malaysia for 2013 and 2014 (RM/Day)**

| Construction Worker Category | Minimum/ Maximum Wage | Construction Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Construction Worker | Semi-skilled Construction Worker |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 39.47 | 40.30 | - | - | - | - |
| | Maximum | 61.31 | 68.63 | - | - | - | - |
| | Common | 49.50 | 51.92 | - | - | - | - |
| Concretor | Minimum | 60.87 | 62.54 | 51.55 | 52.88 | 2.7 | 2.6 |
| | Maximum | 93.49 | 99.72 | 76.89 | 82.33 | 6.7 | 7.1 |
| | Common | 77.38 | 79.85 | 63.40 | 66.27 | 3.2 | 4.5 |
| Barbender | Minimum | 64.12 | 66.06 | 49.39 | 50.81 | 3.0 | 2.9 |
| | Maximum | 88.67 | 102.07 | 74.58 | 78.99 | 15.1 | 5.9 |
| | Common | 76.92 | 79.87 | 61.15 | 63.73 | 3.8 | 4.2 |
| Carpenter - Formwork | Minimum | 68.27 | 68.78 | 59.71 | 60.63 | 0.7 | 1.5 |
| | Maximum | 94.19 | 99.06 | 84.42 | 87.51 | 5.2 | 3.7 |
| | Common | 82.40 | 85.27 | 70.41 | 72.86 | 3.5 | 3.5 |
| Bricklayer | Minimum | 59.47 | 57.17 | 44.82 | 46.82 | -3.9 | 4.5 |
| | Maximum | 89.21 | 91.54 | 70.09 | 74.93 | 2.6 | 6.9 |
| | Common | 72.26 | 75.32 | 57.54 | 60.48 | 4.2 | 5.1 |
| Roofer | Minimum | 71.29 | 73.31 | 55.60 | 57.35 | 2.8 | 3.1 |
| | Maximum | 100.22 | 105.61 | 82.11 | 86.40 | 5.4 | 5.2 |
| | Common | 86.29 | 89.11 | 67.55 | 70.46 | 3.3 | 4.3 |
| Carpenter - Joinery | Minimum | 73.92 | 77.42 | 59.24 | 61.57 | 4.7 | 3.9 |
| | Maximum | 104.86 | 112.88 | 89.44 | 92.71 | 7.6 | 3.6 |
| | Common | 90.16 | 93.78 | 74.54 | 77.57 | 4.0 | 4.1 |
| Steel structure fabricator | Minimum | 76.45 | 78.23 | 61.69 | 63.02 | 2.3 | 2.2 |
| | Maximum | 107.08 | 111.68 | 88.49 | 92.65 | 4.3 | 4.7 |
| | Common | 93.03 | 95.72 | 75.38 | 78.19 | 2.9 | 3.7 |
| General welder | Minimum | 72.35 | 71.44 | 59.66 | 61.41 | -1.3 | 2.9 |
| | Maximum | 104.39 | 111.63 | 88.44 | 92.83 | 6.9 | 5.0 |
| | Common | 88.78 | 91.81 | 74.20 | 77.10 | 3.4 | 3.9 |
| Plumber – Building and sanitary | Minimum | 66.53 | 69.86 | 51.89 | 53.23 | 5.0 | 2.6 |
| | Maximum | 99.28 | 105.72 | 81.92 | 87.01 | 6.5 | 6.2 |
| | Common | 81.71 | 85.51 | 64.58 | 67.77 | 4.6 | 4.9 |
| Plumber - Reticulation | Minimum | 73.77 | 77.24 | 63.54 | 64.87 | 4.7 | 2.1 |
| | Maximum | 108.89 | 120.24 | 92.95 | 100.33 | 10.4 | 7.9 |
| | Common | 91.69 | 96.06 | 77.64 | 80.94 | 4.8 | 4.2 |
| Building Wiring Installer | Minimum | - | - | 72.01 | 73.34 | - | 1.9 |
| | Maximum | - | - | 107.28 | 113.38 | - | 5.7 |
| | Common | - | - | 87.45 | 90.33 | - | 3.3 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 1,369.80 | 1,321.46 | - | - | -3.5 | - |
| | Maximum | 2,433.11 | 2,586.69 | - | - | 6.3 | - |
| | Common | 1,887.40 | 1,918.53 | - | - | 1.6 | - |
| Electrical Wireman PW4 (RM Monthly) | Minimum | 1,843.38 | 1,618.31 | - | - | -12.2 | - |
| | Maximum | 2,947.96 | 2,999.69 | - | - | 1.8 | - |
| | Common | 2,396.04 | 2,256.80 | - | - | -5.8 | - |
| Scaffolder -Prefabricated | Minimum | 64.71 | 64.98 | 54.07 | 54.98 | 0.4 | 1.7 |
| | Maximum | 96.64 | 104.64 | 85.36 | 89.33 | 8.3 | 4.7 |
| | Common | 81.44 | 83.96 | 68.77 | 71.13 | 3.1 | 3.4 |
| Scaffolder - Tubular | Minimum | 66.83 | 69.13 | 52.69 | 54.02 | 3.5 | 2.5 |
| | Maximum | 94.84 | 102.36 | 78.61 | 82.68 | 7.9 | 5.2 |
| | Common | 79.97 | 83.34 | 64.70 | 67.38 | 4.2 | 4.1 |
| Plasterer | Minimum | 63.35 | 65.46 | 47.99 | 49.74 | 3.3 | 3.6 |
| | Maximum | 94.53 | 104.33 | 82.92 | 88.49 | 10.4 | 6.7 |
| | Common | 79.82 | 83.14 | 67.38 | 70.56 | 4.2 | 4.7 |
| Tiler | Minimum | 70.22 | 69.81 | 54.10 | 55.43 | -0.6 | 2.5 |
| | Maximum | 99.19 | 104.83 | 84.67 | 88.26 | 5.7 | 4.2 |
| | Common | 85.04 | 88.38 | 68.08 | 71.54 | 3.9 | 5.1 |
| Painter - Building | Minimum | 60.22 | 62.42 | 48.57 | 50.07 | 3.6 | 3.1 |
| | Maximum | 90.11 | 97.58 | 74.31 | 78.19 | 8.3 | 5.2 |
| | Common | 74.27 | 77.27 | 59.82 | 62.62 | 4.0 | 4.7 |
| General Worker - Civil | Minimum | 47.22 | 48.53 | - | - | 2.8 | - |
| | Maximum | 71.11 | 78.58 | - | - | 10.5 | - |
| | Common | 59.65 | 63.11 | - | - | 5.8 | - |

In 2014, minimum average daily wage rate for most skilled foreign construction worker categories in Peninsular Malaysia increased by 1.0% to 10.6%, whilst all maximum average daily wage rates rose by 4.2% to 33.4%. These changes common usual average daily wage rates to also increase by 2.5% to 9.6%. The common daily average wage rate for plumber-reticulation saw the highest increase at 9.6% (from RM79.03 per day to RM86.62 per day), followed by general construction worker-civil at 9.1% (from RM52.99 per day to RM57.81 per day). The top maximum wage that was paid to barbender in the central region was RM200.00 per day and the common wage rate for this worker was RM82.10 per day (refer Table 3.40 and Appendix 3.32).

Minimum average daily wage rate for most semi-skilled foreign construction worker categories in Peninsular Malaysia increased by 0.6% to 7.6%, whereas all maximum average daily wage rates rose by 2.6% to 17.3%. These changes caused common average daily wage rates to also increase by 2.2% to 7.7%. The common daily average wage rate for tiler saw the highest increase at 7.7% (from RM61.42 per day to RM66.14 per day), followed by plumber-building and sanitation at 7.1% (from RM58.09 per day to RM62.17 per day). The highest maximum wage was paid to building wire installer at RM114.63 per day. The highest wage for building wire installer in the central region was RM130.00 per day and the common wage rate for this worker was RM75.60 per day (refer Table 3.40 and Appendix 3.33).

**Table 3.40 Foreign Construction Worker Average Daily Wage Rate in Peninsular Malaysia for 2013 and 2014 (RM/Day)**

| Construction Worker Category | Minimum/ Maximum Wage | Construction Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Construction Worker | Semi-skilled Construction Worker |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 37.00 | 34.50 | - | - | -6.8 | - |
| | Maximum | 69.25 | 82.38 | - | - | 19.0 | - |
| | Common | 51.86 | 53.51 | - | - | 3.2 | - |
| Concretor | Minimum | 43.75 | 43.75 | 40.00 | 40.00 | 0.0 | 0.0 |
| | Maximum | 98.00 | 107.88 | 80.00 | 90.00 | 10.1 | 12.5 |
| | Common | 71.84 | 73.68 | 56.42 | 59.42 | 2.6 | 5.3 |
| Barbender | Minimum | 49.50 | 50.00 | 38.75 | 39.00 | 1.0 | 0.6 |
| | Maximum | 94.00 | 125.38 | 75.75 | 81.13 | 33.4 | 7.1 |
| | Common | 71.73 | 74.93 | 55.47 | 57.46 | 4.5 | 3.6 |
| Carpenter - Formwork | Minimum | 53.75 | 48.75 | 41.25 | 40.00 | -9.3 | -3.0 |
| | Maximum | 97.25 | 103.00 | 83.25 | 85.38 | 5.9 | 2.6 |
| | Common | 75.55 | 78.51 | 60.87 | 62.63 | 3.9 | 2.9 |
| Bricklayer | Minimum | 50.00 | 47.50 | 37.50 | 39.50 | -5.0 | 5.3 |
| | Maximum | 98.75 | 102.63 | 78.75 | 86.13 | 3.9 | 9.4 |
| | Common | 73.26 | 76.80 | 56.36 | 59.52 | 4.8 | 5.6 |
| Roofer | Minimum | 53.75 | 55.00 | 40.75 | 42.00 | 2.3 | 3.1 |
| | Maximum | 101.00 | 108.00 | 78.00 | 83.38 | 6.9 | 6.9 |
| | Common | 78.39 | 81.35 | 59.89 | 63.02 | 3.8 | 5.2 |
| Carpenter - Joinery | Minimum | 52.00 | 57.50 | 39.50 | 42.50 | 10.6 | 7.6 |
| | Maximum | 106.25 | 121.13 | 88.00 | 90.63 | 14.0 | 3.0 |
| | Common | 83.31 | 88.59 | 65.23 | 68.65 | 6.3 | 5.2 |
| Steel structure fabricator | Minimum | 57.50 | 56.25 | 42.50 | 42.50 | -2.2 | 0.0 |
| | Maximum | 109.25 | 113.88 | 86.75 | 91.25 | 4.2 | 5.2 |
| | Common | 85.40 | 88.30 | 63.61 | 66.53 | 3.4 | 4.6 |
| General welder | Minimum | 54.75 | 47.00 | 40.75 | 42.00 | -14.2 | 3.1 |
| | Maximum | 102.50 | 115.38 | 85.00 | 90.50 | 12.6 | 6.5 |
| | Common | 79.73 | 83.20 | 62.32 | 65.45 | 4.4 | 5.0 |
| Plumber – Building and sanitary | Minimum | 48.75 | 53.75 | 40.00 | 40.00 | 10.3 | 0.0 |
| | Maximum | 109.50 | 119.00 | 86.75 | 94.88 | 8.7 | 9.4 |
| | Common | 74.10 | 79.91 | 58.09 | 62.17 | 7.8 | 7.0 |
| Plumber - Reticulation | Minimum | 48.75 | 52.50 | 40.00 | 40.00 | 7.7 | 0.0 |
| | Maximum | 104.00 | 128.88 | 87.25 | 102.38 | 23.9 | 17.3 |
| | Common | 79.03 | 86.62 | 62.97 | 67.19 | 9.6 | 6.7 |
| Building Wiring Installer | Minimum | - | - | 43.75 | 43.75 | - | 0.0 |
| | Maximum | - | - | 103.50 | 114.63 | - | 10.7 |
| | Common | - | - | 74.06 | 77.14 | - | 4.2 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 1,150.00 | 1,000.00 | - | - | -13.0 | - |
| | Maximum | 2,710.50 | 3,162.25 | - | - | 16.7 | - |
| | Common | 1,866.43 | 1,954.23 | - | - | 4.7 | - |
| Electrical Wireman PW4 (RM Monthly) | Minimum | 1,437.50 | 1,320.00 | - | - | -8.2 | - |
| | Maximum | 3,138.00 | 3,876.25 | - | - | 23.5 | - |
| | Common | 2,258.68 | 2,422.05 | - | - | 7.2 | - |
| Scaffolder -Prefabricated | Minimum | 55.00 | 50.00 | 44.25 | 43.00 | -9.1 | -2.8 |
| | Maximum | 109.50 | 124.25 | 90.75 | 95.50 | 13.5 | 5.2 |
| | Common | 80.01 | 81.97 | 63.28 | 64.69 | 2.5 | 2.2 |
| Scaffolder - Tubular | Minimum | 57.50 | 58.75 | 40.00 | 40.00 | 2.2 | 0.0 |
| | Maximum | 98.75 | 112.50 | 78.50 | 83.88 | 13.9 | 6.8 |
| | Common | 76.33 | 80.73 | 59.46 | 61.90 | 5.8 | 4.1 |
| Plasterer | Minimum | 55.00 | 55.00 | 38.75 | 40.00 | 0.0 | 3.2 |
| | Maximum | 96.25 | 116.50 | 79.75 | 89.63 | 21.0 | 12.4 |
| | Common | 75.83 | 80.34 | 59.22 | 63.14 | 6.0 | 6.6 |
| Tiler | Minimum | 57.50 | 51.25 | 40.75 | 40.75 | -10.9 | 0.0 |
| | Maximum | 107.25 | 115.00 | 86.00 | 89.63 | 7.2 | 4.2 |
| | Common | 80.82 | 85.22 | 61.42 | 66.14 | 5.4 | 7.7 |
| Painter - Building | Minimum | 48.75 | 50.00 | 39.50 | 40.00 | 2.6 | 1.3 |
| | Maximum | 95.00 | 108.25 | 76.25 | 80.75 | 13.9 | 5.9 |
| | Common | 71.00 | 74.48 | 54.98 | 57.75 | 4.9 | 5.0 |
| General Worker - Civil | Minimum | 38.25 | 36.25 | - | - | -5.2 | - |
| | Maximum | 70.00 | 83.25 | - | - | 18.9 | - |
| | Common | 52.99 | 57.81 | - | - | 9.1 | - |

In 2014, minimum average daily wage rate for most skilled foreign construction worker categories in Sabah increased by 3.7% to 7.9%, and most of maximum average daily wage rates increased by 4.8% to 8.8%. This resulted in common average daily wage rates to also increase by 3.0% to 5.8%. The common daily average wage rate for general construction worker-building saw the highest increase at 5.8% (from RM47.91 per day to RM50.67 per day), followed by general construction worker-civil at 4.5% (from RM61.28 per day to RM64.01 per day). The highest maximum wage received by plumber-reticulation was RM111.00 per day. The top wage that was paid to plumber-reticulation in Kota Kinabalu was RM117.00 per day and the common wage rate for this worker was RM104.17 per day (refer Table 3.41 and Appendix 3.34).

Minimum average daily wage rate for most semi-skilled foreign construction worker categories in Sabah experienced a increased by 2.9% to 6.0%, whereas all maximum average daily wage rates rose by 2.6% to 17.3%. These daily rates' increases caused common average daily wage rates to also increase by 3.1% to 5.1%. The common daily average wage rate for bricklayer was increased the most at 5.1% (from RM56.73 per day to RM59.61 per day), followed by barbender at 4.6% (from RM62.39 per day to RM65.29 per day). The highest maximum wage was paid to building wiring installer at RM107.67 per day. The highest wage attained and paid to building wiring installer in Tawau was RM115.00 per day and the common wage rate for this worker was RM99.30 per day (refer Table 3.41 and Appendix 3.35).

**Table 3.41 Foreign Construction Worker Average Daily Wage Rate in Sabah for 2013 and 2014 (RM/Day)**

| Construction Worker Category | Minimum/ Maximum Wage | Construction Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Construction Worker | Semi-skilled Construction Worker |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 40.13 | 43.13 | - | - | 7.5 | - |
| | Maximum | 56.67 | 61.67 | - | - | 8.8 | - |
| | Common | 47.91 | 50.67 | - | - | 5.8 | - |
| Concretor | Minimum | 67.70 | 70.70 | 56.03 | 58.03 | 4.4 | 3.6 |
| | Maximum | 87.80 | 92.80 | 74.00 | 77.00 | 5.7 | 4.1 |
| | Common | 78.31 | 81.07 | 65.25 | 68.02 | 3.5 | 4.3 |
| Barbender | Minimum | 71.46 | 74.79 | 52.42 | 54.42 | 4.7 | 3.8 |
| | Maximum | 84.33 | 89.33 | 74.00 | 78.00 | 5.9 | 5.4 |
| | Common | 79.76 | 82.64 | 62.39 | 65.29 | 3.6 | 4.6 |
| Carpenter - Formwork | Minimum | 74.24 | 78.77 | 66.99 | 68.99 | 6.1 | 3.0 |
| | Maximum | 89.33 | 94.33 | 82.00 | 85.33 | 5.6 | 4.1 |
| | Common | 84.64 | 87.51 | 72.94 | 75.75 | 3.4 | 3.8 |
| Bricklayer | Minimum | 68.73 | 62.33 | 47.00 | 49.00 | -9.3 | 4.3 |
| | Maximum | 86.87 | 86.33 | 62.87 | 66.67 | -0.6 | 6.0 |
| | Common | 72.83 | 75.64 | 56.73 | 59.61 | 3.9 | 5.1 |
| Roofer | Minimum | 76.99 | 79.99 | 60.68 | 62.68 | 3.9 | 3.3 |
| | Maximum | 95.33 | 100.33 | 82.00 | 85.33 | 5.2 | 4.1 |
| | Common | 87.51 | 90.23 | 69.05 | 71.85 | 3.1 | 4.1 |
| Carpenter - Joinery | Minimum | 82.08 | 85.08 | 66.99 | 68.99 | 3.7 | 3.0 |
| | Maximum | 103.33 | 108.33 | 88.00 | 91.33 | 4.8 | 3.8 |
| | Common | 91.81 | 94.65 | 76.83 | 79.71 | 3.1 | 3.7 |
| Steel structure fabricator | Minimum | 82.49 | 87.07 | 68.92 | 70.92 | 5.6 | 2.9 |
| | Maximum | 102.67 | 107.67 | 88.00 | 92.33 | 4.9 | 4.9 |
| | Common | 94.10 | 96.89 | 79.26 | 81.99 | 3.0 | 3.4 |
| General welder | Minimum | 76.95 | 79.99 | 66.99 | 68.99 | 3.9 | 3.0 |
| | Maximum | 102.33 | 107.33 | 88.00 | 92.00 | 4.9 | 4.5 |
| | Common | 90.38 | 93.19 | 77.95 | 80.70 | 3.1 | 3.5 |
| Plumber – Building and sanitary | Minimum | 75.12 | 78.12 | 56.16 | 58.16 | 4.0 | 3.6 |
| | Maximum | 94.33 | 100.00 | 78.33 | 81.33 | 6.0 | 3.8 |
| | Common | 87.17 | 89.91 | 65.73 | 68.50 | 3.1 | 4.2 |
| Plumber - Reticulation | Minimum | 82.49 | 87.15 | 72.49 | 74.49 | 5.7 | 2.8 |
| | Maximum | 105.67 | 111.00 | 94.33 | 98.00 | 5.0 | 3.9 |
| | Common | 94.96 | 97.77 | 83.11 | 85.94 | 3.0 | 3.4 |
| Building Wiring Installer | Minimum | - | - | 83.49 | 85.49 | - | 2.4 |
| | Maximum | - | - | 104.67 | 107.67 | - | 2.9 |
| | Common | - | - | 91.01 | 93.79 | - | 3.1 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 1,430.78 | 1,433.78 | - | - | 0.2 | - |
| | Maximum | 2,237.00 | 2,242.67 | - | - | 0.3 | - |
| | Common | 1,864.76 | 1,867.56 | - | - | 0.1 | - |
| Electrical Wireman PW4 (RM Monthly) | Minimum | 2,001.33 | 2,004.33 | - | - | 0.1 | - |
| | Maximum | 2,762.33 | 2,767.67 | - | - | 0.2 | - |
| | Common | 2,411.64 | 2,414.55 | - | - | 0.1 | - |
| Scaffolder -Prefabricated | Minimum | 67.62 | 71.42 | 58.20 | 60.20 | 5.6 | 3.4 |
| | Maximum | 87.67 | 93.33 | 79.67 | 83.00 | 6.5 | 4.2 |
| | Common | 81.03 | 83.80 | 69.51 | 72.38 | 3.4 | 4.1 |
| Scaffolder - Tubular | Minimum | 68.70 | 72.04 | 57.13 | 59.13 | 4.9 | 3.5 |
| | Maximum | 90.00 | 95.00 | 77.33 | 80.33 | 5.6 | 3.9 |
| | Common | 80.31 | 83.09 | 65.43 | 68.25 | 3.5 | 4.3 |
| Plasterer | Minimum | 64.52 | 68.85 | 51.61 | 53.61 | 6.7 | 3.9 |
| | Maximum | 91.33 | 96.67 | 82.00 | 85.00 | 5.8 | 3.7 |
| | Common | 79.70 | 82.37 | 69.87 | 72.71 | 3.4 | 4.1 |
| Tiler | Minimum | 74.83 | 77.83 | 59.95 | 61.95 | 4.0 | 3.3 |
| | Maximum | 94.00 | 99.00 | 81.33 | 84.67 | 5.3 | 4.1 |
| | Common | 86.54 | 89.30 | 69.44 | 72.32 | 3.2 | 4.1 |
| Painter - Building | Minimum | 65.10 | 68.44 | 51.94 | 53.94 | 5.1 | 3.9 |
| | Maximum | 88.67 | 94.00 | 72.00 | 75.33 | 6.0 | 4.6 |
| | Common | 76.11 | 78.90 | 60.43 | 63.16 | 3.7 | 4.5 |
| General Worker - Civil | Minimum | 49.53 | 53.46 | - | - | 7.9 | - |
| | Maximum | 70.00 | 75.00 | - | - | 7.1 | - |
| | Common | 61.28 | 64.01 | - | - | 4.5 | - |

In 2014, minimum average daily wage rate for most skilled foreign construction worker categories in Sarawak increased by 2.2% to 4.8%, and all maximum average daily wage rates increased by 3.3% to 6.6%. This resulted in common average daily wage rates to also increase by 2.4% to 5.9%. The common daily average wage rate for general construction worker-building saw the highest increase at 5.9% (from RM48.72 per day to RM51.57 per day), followed by general construction worker-civil at 4.3% (from RM64.70 per day to RM67.50 per day). The highest maximum wage received by plumber-reticulation was RM120.83 per day. The highest wage that was paid to plumber-reticulation in Miri was RM123.50 per day and the common wage rate for this worker was RM103.18 per day (refer Table 3.42 and Appendix 3.36).

Minimum average daily wage rate for most semi-skilled foreign construction worker categories in Sarawak increased by 2.3% to 4.0%, whereas all maximum average daily wage rates increased by 3.4% to 5.2%. These changes caused common average daily wage rates to increase by 2.9% to 4.7%. The common daily average wage rate for bricklayer was increased highest at 4.7% (from RM59.53 per day to RM62.30 per day), followed by painter-building at 4.5% (from RM64.06 per day to RM66.95 per day). The highest maximum wage was paid to building wiring installer at RM117.83 per day. The highest wage for building wiring installer in Miri was RM124.50 per day and the common wage rate for this worker was RM99.43 per day (refer Table 3.42 and Appendix 3.37).

**Table 3.42 Foreign Construction Worker Average Daily Wage Rate in Sarawak for 2013 and 2014 (RM/Day)**

| Construction Worker Category | Minimum/ Maximum Wage | Construction Worker Skill Level | | | | % Change | |
|---|---|---|---|---|---|---|---|
| | | Skilled | | Semi-skilled | | Skilled Construction Worker | Semi-skilled Construction Worker |
| | | 2013 | 2014 | 2013 | 2014 | | |
| General construction worker - Building | Minimum | 41.27 | 43.27 | - | - | 4.8 | - |
| | Maximum | 58.00 | 61.83 | - | - | 6.6 | - |
| | Common | 48.72 | 51.57 | - | - | 5.9 | - |
| Concretor | Minimum | 71.16 | 73.16 | 58.62 | 60.62 | 2.8 | 3.4 |
| | Maximum | 94.67 | 98.50 | 76.67 | 80.00 | 4.0 | 4.3 |
| | Common | 81.99 | 84.80 | 68.52 | 71.36 | 3.4 | 4.1 |
| Barbender | Minimum | 71.40 | 73.40 | 57.00 | 59.00 | 2.8 | 3.5 |
| | Maximum | 87.67 | 91.50 | 74.00 | 77.83 | 4.4 | 5.2 |
| | Common | 79.29 | 82.04 | 65.60 | 68.46 | 3.5 | 4.4 |
| Carpenter - Formwork | Minimum | 76.83 | 78.83 | 70.89 | 72.89 | 2.6 | 2.8 |
| | Maximum | 96.00 | 99.83 | 88.00 | 91.83 | 4.0 | 4.4 |
| | Common | 87.02 | 89.79 | 77.42 | 80.19 | 3.2 | 3.6 |
| Bricklayer | Minimum | 59.67 | 61.67 | 49.97 | 51.97 | 3.4 | 4.0 |
| | Maximum | 82.00 | 85.67 | 68.67 | 72.00 | 4.5 | 4.9 |
| | Common | 70.70 | 73.53 | 59.53 | 62.30 | 4.0 | 4.7 |
| Roofer | Minimum | 83.13 | 84.93 | 65.38 | 67.38 | 2.2 | 3.1 |
| | Maximum | 104.33 | 108.50 | 86.33 | 90.50 | 4.0 | 4.8 |
| | Common | 92.96 | 95.73 | 73.72 | 76.52 | 3.0 | 3.8 |
| Carpenter - Joinery | Minimum | 87.68 | 89.68 | 71.23 | 73.23 | 2.3 | 2.8 |
| | Maximum | 105.00 | 109.17 | 92.33 | 96.17 | 4.0 | 4.2 |
| | Common | 95.34 | 98.09 | 81.56 | 84.35 | 2.9 | 3.4 |
| Steel structure fabricator | Minimum | 89.38 | 91.38 | 73.65 | 75.65 | 2.2 | 2.7 |
| | Maximum | 109.33 | 113.50 | 90.71 | 94.38 | 3.8 | 4.0 |
| | Common | 99.58 | 101.96 | 83.28 | 86.05 | 2.4 | 3.3 |
| General welder | Minimum | 85.33 | 87.33 | 71.23 | 73.23 | 2.3 | 2.8 |
| | Maximum | 108.33 | 112.17 | 92.33 | 96.00 | 3.5 | 4.0 |
| | Common | 96.24 | 99.05 | 82.33 | 85.14 | 2.9 | 3.4 |
| Plumber – Building and sanitary | Minimum | 75.71 | 77.71 | 59.52 | 61.52 | 2.6 | 3.4 |
| | Maximum | 94.00 | 98.17 | 80.67 | 84.83 | 4.4 | 5.2 |
| | Common | 83.88 | 86.71 | 69.92 | 72.64 | 3.4 | 3.9 |
| Plumber - Reticulation | Minimum | 90.08 | 92.08 | 78.13 | 80.13 | 2.2 | 2.6 |
| | Maximum | 117.00 | 120.83 | 97.27 | 100.60 | 3.3 | 3.4 |
| | Common | 101.08 | 103.79 | 86.84 | 89.67 | 2.7 | 3.3 |
| Building Wiring Installer | Minimum | - | - | 88.79 | 90.79 | - | 2.3 |
| | Maximum | - | - | 113.67 | 117.83 | - | 3.7 |
| | Common | - | - | 97.27 | 100.05 | - | 2.9 |
| Electrical Wireman PW2 (RM Monthly) | Minimum | 1,528.61 | 1,530.61 | - | - | 0.1 | - |
| | Maximum | 2,351.83 | 2,355.17 | - | - | 0.1 | - |
| | Common | 1,931.00 | 1,933.80 | - | - | 0.1 | - |
| Electrical Wireman PW4 (RM Monthly) | Minimum | 2,091.31 | 1,530.61 | - | - | -26.8 | - |
| | Maximum | 2,943.54 | 2,355.17 | - | - | -20.0 | - |
| | Common | 2,517.80 | 1,933.80 | - | - | -23.2 | - |
| Scaffolder -Prefabricated | Minimum | 71.51 | 73.51 | 59.75 | 61.75 | 2.8 | 3.3 |
| | Maximum | 92.76 | 96.33 | 85.67 | 89.50 | 3.9 | 4.5 |
| | Common | 83.30 | 86.10 | 73.52 | 76.33 | 3.4 | 3.8 |
| Scaffolder - Tubular | Minimum | 74.27 | 76.61 | 60.93 | 62.93 | 3.1 | 3.3 |
| | Maximum | 95.76 | 99.59 | 80.00 | 83.83 | 4.0 | 4.8 |
| | Common | 83.27 | 86.19 | 69.19 | 71.98 | 3.5 | 4.0 |
| Plasterer | Minimum | 70.54 | 72.54 | 53.62 | 55.62 | 2.8 | 3.7 |
| | Maximum | 96.00 | 99.83 | 87.00 | 90.83 | 4.0 | 4.4 |
| | Common | 83.93 | 86.71 | 73.06 | 75.82 | 3.3 | 3.8 |
| Tiler | Minimum | 78.33 | 80.33 | 61.60 | 63.60 | 2.6 | 3.2 |
| | Maximum | 96.33 | 100.50 | 86.67 | 90.50 | 4.3 | 4.4 |
| | Common | 87.76 | 90.61 | 73.39 | 76.18 | 3.2 | 3.8 |
| Painter - Building | Minimum | 66.82 | 68.82 | 54.25 | 56.25 | 3.0 | 3.7 |
| | Maximum | 86.67 | 90.50 | 74.67 | 78.50 | 4.4 | 5.1 |
| | Common | 75.70 | 78.44 | 64.06 | 66.95 | 3.6 | 4.5 |
| General Worker - Civil | Minimum | 53.88 | 55.88 | - | - | 3.7 | - |
| | Maximum | 73.33 | 77.50 | - | - | 5.7 | - |
| | Common | 64.70 | 67.50 | - | - | 4.3 | - |

## RENTAL RATES OF MAJOR CONSTRUCTION MACHINERIES AND EQUIPMENT

The utilization of plant, machinery and equipement in construction is just one development in construction technology. Though its contribution to total construction cost is only about 3%, the techniques have been found to allow for the mechanization of the construction process, quicken and expedite the construction process, assures construction output quality, increase productivity, enhance the construction units statistics, improve added-value income and reduce the dependency on foreign construction workers. Taking the whole lease cost of plant, machinery and equipment for the prupose of construction works into account, on the average about 1.3% is the cost of leasing mobile cranes and 0.5% is for leasing bar and rebar cutter/bender machine. In addition, only skilled and competent machine operators are needed to handle these construction plant, machinery and equipment.

Contractors must make suitable selection of mechanisms in accordance to various types of work to be done and the condition of the project site. A tight-spaced project site located within traffic congested city limits may call for the utilization of ready mixed concrete that would be delivered by a cement mixer truck. A water bogged and muddy site would need crawler mounted haulers rather than wheeled ones. The condition of the building under construction such as location and its height would also influence the choice of types of cranes to be used for lifting and placement of building materials. Large, hazarduous plant and machinery would need to be suitably positioned so as not to hinder the construction process work flow.

Contractors require large capital for the purchase of plant, machinery and equipment. This is due to the fact that most plant, machinery and equipment for construction works are imported from other countries. Owners will face high overhead costs on these assets. There are maintenance and operational cost, depreciation, storage and holding as well as cost of spare parts that are borne by the owner. That is why ownership of plant, machinery and equipment especially the high capacity ones will put a strain on the cashflow of the owner, ever so if it is a small contractor. The location of a project site that is greatly distanced from the main contractor's base, plus the condition of unsuitable terrain would further add to the burden of a tight cashflow. This is a long term investment for returns and is profitable if the assets utilisation are optimized, especially in instances where the machinery can be leased out to other contractors. Therefore, purchase of machinery is cost effective only when a contractor has adequate, continuous as well as large scaled construction projects. This has been a decision factor as to why contractors prefer to lease/hire machinery and equipment.

There are numerous supplier companies that offer rental services of construction machineries and equipment on contract, daily, or for an agreed duration. The contractor will hire the plant, machinery and equipment from a supplier nearest to the project site to expedite supplies and maintenance.

CIDB Malaysia had collected nationwide data on construction machinery lease/hire rates. Data for Peninsular Malaysia were derived from leasor companies in Selangor and Kuala Lumpur, representing the central region, Penang for the northern region, Pahang for the eastern region and Johor for the southern region. Lease/hire rates from Kota Kinabalu representing Sabah and those from Kuching for Sarawak.

A construction project involves the usage of various machineries and equiptment. For the purpose of this report, only 22 types of machinery that has been grouped into 10 categories are shown. The daily and monthly rental rates displayed are for assorted brand names, usage, models, and specifications that are normally utilised for construction works in Malaysia. The rates include cost of installation, operator hire, machinery insurance and maintenance. Cost of delivery of machinery to project site and cost of diesel or petrol are excluded since these are borne by the contractor.

The disparities in the rental rates of plant, machinery and equipment are evident in different states and regions. In 2014, the rental rates in the east coast was much higher than those in other regions. This is due to the limited number of rental companies in the region as well as the lack of construction activities available. On the other hand, the rental rates in the Kota Kinablu region (Sabah) and Kuching (Sarawak) were generally much lower than in Peninsular mlaysia. The lower operator hire rates and the ease with which to acquire the machinery cause the rental rates to be much lower in these regions.

Year 2014 saw daily and monthly machinery rental rates making changes over 2013 rates. Amongst the machinery subjected to rental rates changes were loaders, bulldozers, and motor graders. Amongst the contributing factors to the rental rates movement were:

i. Government policies
   - Changes in fuel prices e.g petrol and diesel
   - Imposition of goods and services taxation
   - Implementation of development under the five year Malaysia plans
   - Governement housing development plans such as PR1MA

ii. The level of demand for machinery

iii. Import cost of machinery

There were no drastic changes in the overall average rental rates for construction plant, equipment and heavy machinery in Malaysia in 2014 in comparison to 2013.One of the changes in rental rates for construction machinery and equipment was that for bulldozers whereby there was a reduction in daily rental rate by 3.9% (from RM1,297.78 er day to RM1,247.22 per day). Apart from that there was an increase in the minimum daily rental rate for loaders by 1.5% (from RM376.11 per day to RM381.67 per day) (refer Table 3.43).

**Table 3.43 Average Rental Rates for Major Machinery in Malaysia for 2013 and 2014**

| Work Type | Category | Minimum/ Maximum Price | Rental Type | | | | % Change | |
|---|---|---|---|---|---|---|---|---|
| | | | Daily Rental (RM per unit) | | Monthly Rental (RM per unit) | | Daily Rental (RM per unit) | Monthly Rental (RM per unit) |
| | | | 2013 | 2014 | 2013 | 2014 | | |
| Earthworks | Excavator | Minimum | 450.00 | 449.89 | 7,288.89 | 7,288.89 | 0.0 | 0.0 |
| | | Maximum | 916.67 | 916.67 | 11,711.11 | 11,711.11 | 0.0 | 0.0 |
| | Loader | Minimum | 376.11 | 381.67 | 6,422.22 | 6,433.33 | 1.5 | 0.2 |
| | | Maximum | 1,566.67 | 1,566.67 | 17,655.56 | 17,655.56 | 0.0 | 0.0 |
| | Bulldozer | Minimum | 494.44 | 494.44 | 8,322.22 | 8,205.55 | 0.0 | -1.4 |
| | | Maximum | 1,297.78 | 1,247.22 | 16,027.78 | 15,800.00 | -3.9 | -1.4 |
| | Compacter | Minimum | 447.22 | 447.22 | 7,566.67 | 7,583.33 | 0.0 | 0.2 |
| | | Maximum | 1,214.44 | 1,214.44 | 15,177.78 | 15,288.89 | 0.0 | 0.7 |
| | Motor Grader | Minimum | 437.22 | 438.89 | 7,544.44 | 7,566.67 | 0.4 | 0.3 |
| | | Maximum | 593.89 | 593.89 | 9,450.00 | 9,450.00 | 0.0 | 0.0 |
| | Backhoe | Minimum | 488.89 | 491.11 | 8,472.22 | 8,488.89 | 0.5 | 0.2 |
| | | Maximum | 653.89 | 657.22 | 11,250.00 | 11,266.67 | 0.5 | 0.1 |
| Roadwork | Paver | Minimum | 567.79 | 571.11 | 8,800.00 | 8,800.00 | 0.6 | 0.0 |
| | | Maximum | 1,015.56 | 1,015.56 | 12,922.22 | 12,922.22 | 0.0 | 0.0 |
| Truck and Haulage | Dump Truck | Minimum | 623.33 | 623.33 | 9,800.00 | 9,800.00 | 0.0 | 0.0 |
| | | Maximum | 786.67 | 786.67 | 11,733.33 | 11,733.33 | 0.0 | 0.0 |
| | Lorry | Minimum | 666.67 | 666.67 | 10,450.00 | 10,450.00 | 0.0 | 0.0 |
| | | Maximum | 899.44 | 899.44 | 13,816.67 | 13,794.44 | 0.0 | -0.2 |
| Hoisting and Lifting | Crane | Minimum | 550.00 | 550.00 | 7,722.22 | 7,722.22 | 0.0 | 0.0 |
| | | Maximum | 1,064.44 | 1,064.44 | 12,916.67 | 12,916.67 | 0.0 | 0.0 |

There were only marginal changes in some average rental rates for construction plant, machinery and heavy equipment in 2014 over that of 2013 in Peninsular Malaysia. The highest rental rate increase was on the maximum daily rental rate for backhoe at 2.2% (from RM450.00 per day to RM460.00 per day). Lorry rental suffered a marginal decrease in maximum average monthly rental rate of 0.4% (from RM16,666.67 per day to RM16,000.00 per day). The highest maximum rental for construction plant was for cranes which was RM1,766.67 per day and RM20,333.33 per month. The minimum daily rental of hydraulic excavators increased by 8.6% (from RM350.00 per day to RM380.00 per day) in the eastern region whilst, maximum monthly rental of backhoe excavators rose by 2.5% (from RM6,833.33 per month to RM6,666.70 per month) in the northern region. The minimum daily rental rate for landfill compactor declined by 6.2% (from RM541.67 per day to RM508.33 per day) in the northern region, meanwhile the minimum monthly rental rate for asphalt paver – vibrator asphalt compactor decreased by 7.6% (from RM7,650.00 per month to RM7,066.67 per month) in the central region (refer Table 3.44, Appendices 3.38 and 3.39).

**Table 3.44 Average Rental Rates for Main Machinery in Peninsular Malaysia for 2013 and 2014**

| Work Type | Category | Minimum/ Maximum Price | Rental Type | | | | % Change | |
|---|---|---|---|---|---|---|---|---|
| | | | Daily Rental (RM per unit) | | Monthly Rental (RM per unit) | | Daily Rental (RM per unit) | Monthly Rental (RM per unit) |
| | | | 2013 | 2014 | 2013 | 2014 | | |
| Earthworks | Excavator | Minimum | 316.67 | 316.67 | 5,000.00 | 5,000.00 | 0.0 | 0.0 |
| | | Maximum | 1,600.00 | 1,600.00 | 16,633.33 | 16,633.33 | 0.0 | 0.0 |
| | Loader | Minimum | 325.00 | 325.00 | 6,500.00 | 6,500.00 | 0.0 | 0.0 |
| | | Maximum | 1,500.00 | 1,500.00 | 16,066.67 | 16,066.67 | 0.0 | 0.0 |
| | Bulldozer | Minimum | 633.33 | 633.33 | 9,583.33 | 9,600.00 | 0.0 | 0.2 |
| | | Maximum | 1,150.00 | 1,150.00 | 13,800.00 | 13,800.00 | 0.0 | 0.0 |
| | Compacter | Minimum | 491.67 | 491.67 | 7,250.00 | 7,300.00 | 0.0 | 0.7 |
| | | Maximum | 750.00 | 750.00 | 10,333.33 | 10,333.33 | 0.0 | 0.0 |
| | Motor Grader | Minimum | 500.00 | 500.00 | 8,000.00 | 8,066.67 | 0.0 | 0.8 |
| | | Maximum | 700.00 | 700.00 | 9,800.00 | 9,800.00 | 0.0 | 0.0 |
| | Backhoe | Minimum | 443.33 | 450.00 | 6,650.00 | 6,700.00 | 1.5 | 0.8 |
| | | Maximum | 450.00 | 460.00 | 7,000.00 | 7,050.00 | 2.2 | 0.7 |
| Roadwork | Paver | Minimum | 276.67 | 276.67 | 5,300.00 | 5,300.00 | 0.0 | 0.0 |
| | | Maximum | 666.67 | 666.67 | 9,350.00 | 9,350.00 | 0.0 | 0.0 |
| Truck and Haulage | Dump Truck | Minimum | 450.00 | 450.00 | 8,600.00 | 8,600.00 | 0.0 | 0.0 |
| | | Maximum | 716.67 | 716.67 | 12,000.00 | 12,000.00 | 0.0 | 0.0 |
| | Lorry | Minimum | 400.00 | 400.00 | 8,433.33 | 8,433.33 | 0.0 | 0.0 |
| | | Maximum | 950.00 | 950.00 | 16,666.67 | 16,600.00 | 0.0 | -0.4 |
| Hoisting and Lifting | Crane | Minimum | 500.00 | 500.00 | 7,666.67 | 7,666.67 | 0.0 | 0.0 |
| | | Maximum | 1,766.67 | 1,766.67 | 20,333.33 | 20,333.33 | 0.0 | 0.0 |

There were only marginal changes in the average machinery rental rates for construction plant, machine and heavy equipment in Sabah in 2014 as compared to 2013. The highest increase in the minimum daily rental rate was for asphalt compactor vibrator was at 2.6% (from RM643.33 per day to RM660.00 per day). A decline in the minimum daily rental rate occured for bulldozer at -10.0% (from RM1,510.00 per day to RM1,358.33 per day). The average daily rental rate for hydraulic crawler crane was the highest at RM1,933.33 per day and RM22,600.00 per month (refer Table 3.45 and Appendix 3.40).

**Table 3.45 Average Rental Rates for Main Machinery in Sabah for 2013 and 2014**

| Work Type | Category | Minimum/ Maximum Price | Rental Type | | | | % Change | |
|---|---|---|---|---|---|---|---|---|
| | | | Daily Rental (RM per unit) | | Monthly Rental (RM per unit) | | Daily Rental (RM per unit) | Monthly Rental (RM per unit) |
| | | | 2013 | 2014 | 2013 | 2014 | | |
| Earthworks | Excavator | Minimum | 550.00 | 550.00 | 8,600.00 | 8,600.00 | 0.0 | 0.0 |
| | | Maximum | 600.00 | 600.00 | 9,300.00 | 9,300.00 | 0.0 | 0.0 |
| | Loader | Minimum | 420.00 | 420.00 | 6,500.00 | 6,500.00 | 0.0 | 0.0 |
| | | Maximum | 1,700.00 | 1,700.00 | 18,750.00 | 18,750.00 | 0.0 | 0.0 |
| | Bulldozer | Minimum | 450.00 | 450.00 | 8,150.00 | 7,783.33 | 0.0 | -4.5 |
| | | Maximum | 1,510.00 | 1,358.33 | 18,000.00 | 17,316.67 | -10.0 | -3.8 |
| | Compacter | Minimum | 450.00 | 450.00 | 8,150.00 | 8,150.00 | 0.0 | 0.0 |
| | | Maximum | 1,510.00 | 1,510.00 | 18,000.00 | 18,333.33 | 0.0 | 1.9 |
| | Motor Grader | Minimum | 420.00 | 425.00 | 7,450.00 | 7,450.00 | 1.2 | 0.0 |
| | | Maximum | 578.33 | 578.33 | 9,516.67 | 9,516.67 | 0.0 | 0.0 |
| | Backhoe | Minimum | 528.33 | 528.33 | 9,383.33 | 9,383.33 | 0.0 | 0.0 |
| | | Maximum | 783.33 | 783.33 | 13,483.33 | 13,483.33 | 0.0 | 0.0 |
| Roadwork | Paver | Minimum | 700.00 | 710.00 | 10,933.33 | 10,933.33 | 1.4 | 0.0 |
| | | Maximum | 1,186.67 | 1,186.67 | 14,950.00 | 14,950.00 | 0.0 | 0.0 |
| Truck and Haulage | Dump Truck | Minimum | 753.33 | 753.33 | 10,800.00 | 10,800.00 | 0.0 | 0.0 |
| | | Maximum | 850.00 | 850.00 | 11,866.67 | 11,866.67 | 0.0 | 0.0 |
| | Lorry | Minimum | 816.67 | 816.67 | 11,800.00 | 11,800.00 | 0.0 | 0.0 |
| | | Maximum | 883.33 | 883.33 | 12,350.00 | 12,350.00 | 0.0 | 0.0 |
| Hoisting and Lifting | Crane | Minimum | 600.00 | 600.00 | 7,800.00 | 7,800.00 | 0.0 | 0.0 |
| | | Maximum | 733.33 | 733.33 | 9,316.67 | 9,316.67 | 0.0 | 0.0 |

Rental rates also made marginal changes on construction plant, machinery and heavy equipment in Sarawak for the year 2014. The highest increase was for the minimum daily rate for hydraulic crane (from Rm383.33 per day to RM400.00 per day). Average daily rental of hydraulic crawler crane was highest at RM2,150 per day and RM24,833.33 per month (refer Table 3.46 and Appendix 3.40).

**Table 3.46 Average Rental Rates for Main Machinery in Sarawak for 2013 and 2014**

| Work Type | Category | Minimum/ Maximum Price | Rental Type | | | | % Change | |
|---|---|---|---|---|---|---|---|---|
| | | | Daily Rental (RM per unit) | | Monthly Rental (RM per unit) | | Daily Rental (RM per unit) | Monthly Rental (RM per unit) |
| | | | 2013 | 2014 | 2013 | 2014 | | |
| Earthworks | Excavator | Minimum | 483.33 | 483.00 | 8,266.67 | 8,266.67 | -0.1 | 0.0 |
| | | Maximum | 550.00 | 550.00 | 9,200.00 | 9,200.00 | 0.0 | 0.0 |
| | Loader | Minimum | 383.33 | 400.00 | 6,266.67 | 6,300.00 | 4.3 | 0.5 |
| | | Maximum | 1,500.00 | 1,500.00 | 18,150.00 | 18,150.00 | 0.0 | 0.0 |
| | Bulldozer | Minimum | 400.00 | 400.00 | 7,233.33 | 7,233.33 | 0.0 | 0.0 |
| | | Maximum | 1,233.33 | 1,233.33 | 16,283.33 | 16,283.33 | 0.0 | 0.0 |
| | Compacter | Minimum | 400.00 | 400.00 | 7,300.00 | 7,300.00 | 0.0 | 0.0 |
| | | Maximum | 1,383.33 | 1,383.33 | 17,200.00 | 17,200.00 | 0.0 | 0.0 |
| | Motor Grader | Minimum | 391.67 | 391.67 | 7,183.33 | 7,183.33 | 0.0 | 0.0 |
| | | Maximum | 503.33 | 503.33 | 9,033.33 | 9,033.33 | 0.0 | 0.0 |
| | Backhoe | Minimum | 495.00 | 495.00 | 9,383.33 | 9,383.33 | 0.0 | 0.0 |
| | | Maximum | 728.33 | 728.33 | 13,266.67 | 13,266.67 | 0.0 | 0.0 |
| Roadwork | Paver | Minimum | 726.70 | 726.67 | 10,166.67 | 10,166.67 | 0.0 | 0.0 |
| | | Maximum | 1,193.33 | 1,193.33 | 14,466.67 | 14,466.67 | 0.0 | 0.0 |
| Truck and Haulage | Dump Truck | Minimum | 666.67 | 666.67 | 10,000.00 | 10,000.00 | 0.0 | 0.0 |
| | | Maximum | 793.33 | 793.33 | 11,333.33 | 11,333.33 | 0.0 | 0.0 |
| | Lorry | Minimum | 783.33 | 783.33 | 11,116.67 | 11,116.67 | 0.0 | 0.0 |
| | | Maximum | 865.00 | 865.00 | 12,433.33 | 12,433.33 | 0.0 | 0.0 |
| Hoisting and Lifting | Crane | Minimum | 550.00 | 550.00 | 7,700.00 | 7,700.00 | 0.0 | 0.0 |
| | | Maximum | 693.33 | 693.33 | 9,100.00 | 9,100.00 | 0.0 | 0.0 |

## CONSTRUCTION COST INDICES

CIDB Malaysia had generated 4 construction cost indices i.e building cost index, construction material cost index, construction worker cost index, and construction plant, machinery and equipment cost index. These indices had been developed on the basis of 9 building categories, 17 construction materials; 12 construction worker categories and, 7 groups of construction plant, machinery and equipment. The categories of building, construction materials, worker and, plant, machinery and equipment have been selected based on common construction resources that were used in construction of buildings and their influence on total construction cost.

Construction cost indices are useful in:

- The measurement and analysis of current year average construction resources cost movements against those in the base year;
- The estimation of compensation value or payback based on changes in construction cost ;
- Assessment of potential risk to be borne by the contractor before value quotation on a tender;
- Tracing the possible causes of escalating property prices
- Estimation of current building project cost accruals and making adjustments to basic costs; and
- Fixation of property prices.

July 2012 has been set as base month to indicate changes in current year costs. For the purpose of this report, 2014 indices for building cost, construction material cost; construction worker cost, and, plant, machinery and equipment rental cost were analysed against 2013 indices. CIDB Malaysia has developed construction cost indices for all states within Peninsular Malaysia, whilst that of Kota Kinabalu, sandakan and Tawau for Sabah; and Kuching, Miri and Sibu for Sarawak.

### Building Cost Index

Building cost index is a numbered index that measures the average rate of change in building cost via comparison between current and base reference months' costs in accordance to type of building categories. In 2014, generally, the nationwide average building cost indicated index points exceeding 100 points.This showed that the construction cost as at July 2012 (the base year) was much lower than that in 2014. In 2014, average index points for all building categories displayed a rise of between 1.3 to 2.0 points over those in 2013. Average cost of auxiliary buildings indicated highest rise in index points at 2.0 points (refer Table 3.47).

**Table 3.47 Building Cost Index by Building Categories in Malaysia in 2013 and 2014 (July 2012 = 100 )**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 100.4 | 102.0 | 1.6 | 1.6 |
| Hotel | 100.4 | 101.9 | 1.6 | 1.6 |
| Office | 100.2 | 101.7 | 1.5 | 1.5 |
| Commercial and Industrial | 100.4 | 101.7 | 1.3 | 1.3 |
| Education | 100.5 | 102.1 | 1.6 | 1.6 |
| Health | 100.2 | 101.7 | 1.5 | 1.5 |
| Social Amenities | 100.5 | 102.0 | 1.5 | 1.5 |
| Safety | 100.5 | 102.1 | 1.6 | 1.5 |
| Ancillary Building | 100.9 | 102.9 | 2.0 | 2.0 |

The average building cost index for Peninsular Malaysia rose by 1.6 to 2.4 points in 2014. The ancillary building average cost index showed highest increase, from 101.6 to 104.0 points. The ancillary building cost index is also the highest at 104.0 points. The office building cost index showed highest increase in points at 3.0 points in Pahang, followed by ancillary building cost index in Kelantan and Terengganu that rose by 2.8 points (refer Table 3.48 and Appendix 3.41).

**Table 3.48 Building Cost Index by Building Categories in Peninsular Malaysia in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 100.7 | 102.7 | 2.1 | 2.0 |
| Hotel | 100.5 | 102.6 | 2.0 | 2.0 |
| Office | 100.4 | 102.3 | 1.9 | 1.9 |
| Commercial and Industrial | 101.1 | 102.7 | 1.6 | 1.6 |
| Education | 101.0 | 102.9 | 2.0 | 1.9 |
| Health | 100.3 | 102.2 | 1.9 | 1.9 |
| Social Amenities | 101.0 | 102.7 | 1.7 | 1.7 |
| Safety | 100.9 | 102.9 | 2.0 | 1.9 |
| Ancillary Building | 101.6 | 104.0 | 2.4 | 2.3 |

The average building cost index for Sabah rose by 0.6 to 1.0 points in 2014. The ancillary building average cost index showed highest increase, from 100.8 to 101.9 points. The ancillary building cost index is also the highest at 101.9 points. The commercial and industrial building cost index showed highest increase in points at 1.4 points, followed by ancillary building cost index in Sandakan that rose by 1.3 points (refer Table 3.49 and Appendix 3.42).

**Table 3.49 Building Cost Index by Building Categories in Sabah in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 100.6 | 101.3 | 0.7 | 0.7 |
| Hotel | 100.5 | 101.2 | 0.7 | 0.7 |
| Office | 100.4 | 101.0 | 0.6 | 0.6 |
| Commercial and Industrial | 100.6 | 101.5 | 0.9 | 0.9 |
| Education | 100.5 | 101.3 | 0.8 | 0.8 |
| Health | 100.4 | 101.1 | 0.7 | 0.7 |
| Social Amenities | 100.6 | 101.3 | 0.7 | 0.7 |
| Safety | 100.7 | 101.5 | 0.8 | 0.8 |
| Ancillary Building | 100.8 | 101.9 | 1.0 | 1.0 |

The average building cost index for Sarawak rose by 1.3 to 2.6 points in 2014. The ancillary building average cost index showed highest increase, from 100.4 to 103.0 points. The ancillary building cost index is also the highest at 103.0 points. The ancillary building cost index showed highest increase in points at 2.8 points in Sibu, followed by office building cost index in Kuching that rose by 2.3 points (refer Table 3.50 and Appendix 3.43).

**Table 3.50 Building Cost Index by Building Categories in Sarawak in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 100.0 | 102.0 | 2.0 | 2.0 |
| Hotel | 100.0 | 102.0 | 1.9 | 1.9 |
| Office | 99.8 | 101.7 | 1.9 | 1.9 |
| Commercial and Industrial | 99.6 | 100.8 | 1.3 | 1.3 |
| Education | 100.0 | 102.0 | 2.0 | 2.0 |
| Health | 100.0 | 101.7 | 1.8 | 1.8 |
| Social Amenities | 100.0 | 102.0 | 2.0 | 2.0 |
| Safety | 100.0 | 101.9 | 1.9 | 1.9 |
| Ancillary Building | 100.4 | 103.0 | 2.6 | 2.6 |

## Construction Materials Cost Index

Construction materials cost index has been described as an input price index that measures the movement in transacted construction material prices in Malaysia. It also traces the transacted construction materials cost during the construction process and monitors material prices for choice buildings.

## Building Construction Materials Unit Cost Index

Generally in 2014, average cost per unit of construction material indicated an index change of between -7.2 point and 3.8 points. Flooring and wall tiles showed highest increase in average cost index at 100.7 points to 104.5 points, followed by cement from 100.8 points to 103.7 points. Plywood saw a decline in index points from 92.0 points to 84.8 points. Cost index for steel reinforcement (96.4 points), steel and metal sections (97.6 points), timber (95.9 points) and plywood (84.8 points) maintained below 100 index points. These index points show that these materials prices were still low compared to their prices in 2012. On the other hand, wall and floor tiles cost index and that for cement were amongst the highest at 104.5 points and 103.7 points respectively (refer Table 3.51).

**Table 3.51 Construction Materials Average Unit Cost Index in Malaysia for 2013 and 2014 (July 2012 = 100)**

| Construction Materials | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Cement | 100.8 | 103.7 | 2.9 | 2.8 |
| Aggregate | 101.3 | 103.0 | 1.6 | 1.6 |
| Sand | 100.7 | 102.0 | 1.3 | 1.3 |
| Steel Reinforcement | 97.4 | 96.4 | -1.0 | -1.0 |
| Ready Mixed Concrete | 100.2 | 102.7 | 2.5 | 2.5 |
| Wall Bricks | 100.1 | 100.9 | 0.8 | 0.7 |
| Roofing | 100.4 | 101.8 | 1.4 | 1.4 |
| Floor and Wall Tiles | 100.7 | 104.5 | 3.8 | 3.8 |
| Ceiling Board | 100.9 | 102.6 | 1.6 | 1.6 |
| Plumbing Works | 100.1 | 102.3 | 2.2 | 2.2 |
| Sanitary fittings | 101.6 | 102.1 | 0.5 | 0.5 |
| Paint | 101.3 | 101.6 | 0.4 | 0.3 |
| Glass | 100.4 | 102.3 | 1.9 | 1.9 |
| Steel and Metal Section | 98.6 | 97.6 | -1.0 | -1.0 |
| Timber | 94.8 | 95.9 | 1.1 | 1.2 |
| Plywood | 92.0 | 84.8 | -7.2 | -7.8 |
| Ironmongery | 100.1 | 100.5 | 0.4 | 0.4 |

In 2014, in Peninsular Malaysia, the average cost per unit of construction material indicated an index change of between -7.1 point and 6.9 points. Wall and flooring tiles saw highest increase in cost index points from 102.1 points to 106.1 points; followed by sand, from 102.1 points to 106.0 points. Plywood's index points declined from 75.2 points to 68.1 points. Cost index for steel reinforcement (96.8 points), steel and metal sections (99.7 points), timber (87.7 points), plywood (68.1 points) and ironmongery (99.7 points) maintained below 100 index points. These index points show that these materials prices were still low compared to their prices in 2012. On the other hand, wall and floor tiles cost index and that for cement were amongst the highest at 107.3 points and 106.1 points respectively. In Pahang, wall and flooring tiles saw highest increase in index points at 13.3 points, followed by ceiling cost index by 9.8 points (refer Table 3.52 and Appendix 3.45).

**Table 3.52 Construction Materials Average Unit Cost Index in Peninsular Malaysia for 2013 and 2014 (July 2012 = 100)**

| Construction Materials | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Cement | 102.1 | 106.1 | 3.9 | 3.9 |
| Aggregate | 101.7 | 105.4 | 3.7 | 3.6 |
| Sand | 102.1 | 106.0 | 3.9 | 3.8 |
| Steel Reinforcement | 97.4 | 96.8 | -0.7 | -0.7 |
| Ready Mixed Concrete | 100.9 | 103.2 | 2.3 | 2.2 |
| Wall Bricks | 99.5 | 101.1 | 1.6 | 1.6 |
| Roofing | 100.2 | 100.7 | 0.5 | 0.5 |
| Floor and Wall Tiles | 100.4 | 107.3 | 6.9 | 6.9 |
| Ceiling Board | 102.7 | 105.7 | 3.0 | 3.0 |
| Plumbing Works | 100.5 | 102.3 | 1.8 | 1.8 |
| Sanitary fittings | 100.8 | 101.8 | 1.0 | 1.0 |
| Paint | 101.3 | 102.6 | 1.3 | 1.3 |
| Glass | 101.1 | 104.3 | 3.2 | 3.2 |
| Steel and Metal Section | 99.7 | 99.7 | 0.1 | 0.1 |
| Timber | 84.4 | 87.7 | 3.3 | 3.9 |
| Plywood | 75.2 | 68.1 | -7.1 | -9.4 |
| Ironmongery | 100.0 | 99.7 | -0.3 | -0.3 |

In 2014, in Sabah, the average cost per unit of construction material indicated an index change of between -15.0 point and 2.9 points. Roofing saw highest increase in cost index points from 102.8 points to 105.7 points; followed by ceiling, from 100.0 points to 101.4 points. Plywood's index points declined from 97.9 points to 82.9 points. Unit cost index for steel reinforcement (96.5 points), glass (99.9 points), steel and metal sections (98.9 points), and, plywood (82.9 points) maintained below 100 index points. These index points show that these materials prices were still low compared to their prices in 2012. On the other hand, roofing and, wall and floor tiles cost index were amongst the highest at 105.7 points and 102.6 points respectively. In Sandakan, roofing cost index saw highest increase in index points at 8.6 points, followed by ceiling board cost index by 3.7 points (refer Table 3.53 and Appendix 3.46).

**Table 3.53 Construction Materials Average Unit Cost Index in Sabah for 2013 and 2014 (July 2012 = 100)**

| Construction Materials | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Cement | 100.3 | 101.2 | 0.9 | 0.9 |
| Aggregate | 101.3 | 101.7 | 0.4 | 0.4 |
| Sand | 100.4 | 101.0 | 0.6 | 0.6 |
| Steel Reinforcement | 97.7 | 96.5 | -1.1 | -1.2 |
| Ready Mixed Concrete | 101.0 | 101.0 | 0.0 | 0.0 |
| Wall Bricks | 100.1 | 100.3 | 0.2 | 0.2 |
| Roofing | 102.8 | 105.7 | 2.9 | 2.9 |
| Floor and Wall Tiles | 101.5 | 102.6 | 1.1 | 1.1 |
| Ceiling Board | 100.0 | 101.4 | 1.4 | 1.4 |
| Plumbing Works | 100.5 | 101.4 | 0.9 | 0.9 |
| Sanitary fittings | 102.1 | 102.4 | 0.3 | 0.3 |
| Paint | 101.3 | 101.6 | 0.3 | 0.3 |
| Glass | 100.0 | 99.9 | -0.1 | -0.1 |
| Steel and Metal Section | 99.2 | 98.9 | -0.3 | -0.3 |
| Timber | 100.0 | 100.0 | 0.0 | 0.0 |
| Plywood | 97.9 | 82.9 | -15.0 | -15.3 |
| Ironmongery | 100.3 | 101.2 | 0.9 | 0.9 |

In 2014, in Sarawak, the average cost per unit of construction material indicated an index change of between -2.7 point and 5.3 points. Ready mixed concrete saw highest increase in cost index points from 98.6 points to 103.9 points; followed by cement, from 100.0 points to 103.8 points and, plumbing works from 99.3 points to 103.2 points. Steel and metal sections saw a drop in cost index from 96.9 point to 94.2 points. Cost index for sand (99.9 points), steel reinforcement (95.8 points), roofing (99.0 points), and, steel and metal sections (94.2 points) maintained below 100 index points. These index points show that these materials prices were still low compared to their prices in 2012. On the other hand, ready mixed concrete and cement cost index were amongst the highest at 103.9 points and 103.8 points respectively. Wall and flooring tiles cost index saw highest points increase by 8.6 points in Kuching, followed by plumbing works cost index in Miri that increased in index points at 8.1 points (refer Table 3.54 and Appendix 3.46).

**Table 3.54 Construction Materials Average Unit Cost Index in Sarawak for 2013 and 2014 (July 2012 = 100)**

| Construction Materials | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Cement | 100.0 | 103.8 | 3.8 | 3.8 |
| Aggregate | 101.0 | 101.8 | 0.8 | 0.8 |
| Sand | 99.5 | 99.0 | -0.5 | -0.5 |
| Steel Reinforcement | 97.0 | 95.8 | -1.2 | -1.2 |
| Ready Mixed Concrete | 98.6 | 103.9 | 5.3 | 5.4 |
| Wall Bricks | 100.8 | 101.2 | 0.5 | 0.5 |
| Roofing | 98.3 | 99.0 | 0.7 | 0.7 |
| Floor and Wall Tiles | 100.1 | 103.6 | 3.5 | 3.5 |
| Ceiling Board | 100.0 | 100.6 | 0.5 | 0.5 |
| Plumbing Works | 99.3 | 103.2 | 3.8 | 3.9 |
| Sanitary fittings | 102.0 | 102.1 | 0.1 | 0.1 |
| Paint | 101.2 | 100.7 | -0.5 | -0.5 |
| Glass | 100.1 | 102.6 | 2.5 | 2.5 |
| Steel and Metal Section | 96.9 | 94.2 | -2.7 | -2.8 |
| Timber | 100.0 | 100.0 | 0.0 | 0.0 |
| Plywood | 102.9 | 103.5 | 0.6 | 0.6 |
| Ironmongery | 100.0 | 100.6 | 0.6 | 0.6 |

## Construction Materials Average Cost Index by Building Categories

In 2014, as a whole, the average construction materials cost across all building categories in Malaysia displayed index points exceeding level 100. This is indicative of much lower construction cost in July 2012 (base year) in comparison to that in 2014. Average index points for all building categories in 2014 showed an increase of between 0.6 points and 1.8 points from those recorded in 2013. The average construction material cost for safety building category showed highest index points increase at 1.8 points (refer Table 3.55).

**Table 3.55 Average Construction Materials Cost Index by Building Categories in Malaysia for 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 100.3 | 101.1 | 0.8 | 0.8 |
| Hotel | 100.2 | 101.3 | 1.1 | 1.1 |
| Office | 100.2 | 101.1 | 0.9 | 0.9 |
| Commercial and Industrial | 100.4 | 101.0 | 0.6 | 0.6 |
| Education | 100.2 | 101.2 | 1.0 | 1.0 |
| Health | 100.2 | 101.2 | 0.9 | 0.9 |
| Social Amenities | 99.5 | 101.2 | 1.7 | 1.7 |
| Safety | 99.3 | 101.1 | 1.8 | 1.8 |
| Ancillary Building | 99.6 | 101.1 | 1.5 | 1.5 |

In Peninsular Malaysia, average on all construction materials cost across all buidling categories rose between 0.9 point and 1.4 points. Average construction materials cost index of hotel buildings saw highest increase, from 100.4 points to 101.8 points. Average construction materials cost index of hotel buildings was also highest at 101.8 points. In Johor, the average construction materials cost index of hotel buildings showed higest points increase at 4.5 points, followed by average construction materials cost index of office buildings that rose by 3.6 points (refer Table 3.56 and Appendix 3.46).

**Table 3.56 Average Construction Materials Cost Index by Building Categories in Peninsular Malaysia for 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 100.5 | 101.5 | 1.1 | 1.1 |
| Hotel | 100.4 | 101.8 | 1.4 | 1.4 |
| Office | 100.4 | 101.7 | 1.2 | 1.2 |
| Commercial and Industrial | 100.5 | 101.4 | 0.9 | 0.9 |
| Education | 100.4 | 101.6 | 1.2 | 1.2 |
| Health | 100.4 | 101.6 | 1.2 | 1.2 |
| Social Amenities | 100.5 | 101.6 | 1.1 | 1.1 |
| Safety | 100.6 | 101.5 | 0.9 | 0.9 |
| Ancillary Building | 100.5 | 101.5 | 1.0 | 1.0 |

In Sabah, average construction materials cost across all buidling categories rose between 0.7 point and 2.0 points. Average construction materials cost index of safety buildings saw highest increase, from 99.4 points to 101.4 points. Average construction materials cost index of hotel buildings was also highest at 101.6 points. The average construction materials cost index of safety buildings showed higest points increase at 2.0 points, followed by average construction materials cost index of social amenities buildings that rose by 1.4 points in all regions in Sabah (refer Table 3.57 and Appendix 3.48).

**Table 3.57 Average Construction Materials Cost Index by Building Categories in Sabah for 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 100.7 | 101.4 | 0.7 | 0.7 |
| Hotel | 100.8 | 101.6 | 0.8 | 0.8 |
| Office | 100.8 | 101.5 | 0.7 | 0.7 |
| Commercial and Industrial | 100.6 | 101.4 | 0.8 | 0.8 |
| Education | 100.7 | 101.5 | 0.8 | 0.8 |
| Health | 100.7 | 101.4 | 0.7 | 0.7 |
| Social Amenities | 100.0 | 101.4 | 1.4 | 1.4 |
| Safety | 99.4 | 101.4 | 2.0 | 2.0 |
| Ancillary Building | 100.0 | 101.2 | 1.2 | 1.2 |

In Sarawak, average construction materials cost across all buidling categories rose between 0.1 point and 2.7 points. Average construction materials cost index of social amenities buildings saw highest increase, from 97.9 points to 100.6 points. Average construction materials cost index of social amenities buildings made highest points increase by 2.7 points, followed by safety buildings' points increase at 2.5 points in all regions in Sarawak. (refer Table 3.58 and Appendix 3.49).

**Table 3.58 Average Construction Materials Cost Index by Building Categories in Sarawak for 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 99.7 | 100.4 | 0.7 | 0.7 |
| Hotel | 99.3 | 100.4 | 1.1 | 1.1 |
| Office | 99.4 | 100.2 | 0.8 | 0.8 |
| Commercial and Industrial | 100.1 | 100.2 | 0.1 | 0.1 |
| Education | 99.5 | 100.4 | 0.9 | 0.9 |
| Health | 99.6 | 100.5 | 0.9 | 0.9 |
| Social Amenities | 97.9 | 100.6 | 2.7 | 2.8 |
| Safety | 97.9 | 100.4 | 2.5 | 2.6 |
| Ancillary Building | 98.2 | 100.6 | 2.4 | 2.4 |

## Building Construction Worker Cost Index

Building construction worker cost index is an indexed number that measures the changes in the average wage for construction workers over those in the base year (July 2012).

## Average Unit Cost Index for Construction Worker

In 2014, generally, the construction worker average wage cost showed an index increase by 3.0 to 4.7 points. The average wage cost index for a plasterer had the highest increase from 102.6 points to 107.3 points, followed by average wage cost index for plumber from 103.0 to 107.3 points. All average wage cost indices of construction workers exceeded 100 points. This showed that contruction workers wages were much higher than those in July 2012. The average wage cost index for general worker was highest at 109.8 points, followed by bricklayer at 107.6 points (refer Table 3.59).

**Table 3.59 The Average Unit Cost Index for Construction Worker in Malaysia in 2013 and 2014 (July 2012 = 100)**

| Construction Worker | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| General worker | 105.9 | 109.8 | 4.0 | 3.8 |
| Concreter | 103.3 | 106.6 | 3.3 | 3.2 |
| Barbender | 103.3 | 106.8 | 3.5 | 3.4 |
| Carpenter (Formwork) | 102.9 | 106.5 | 3.5 | 3.4 |
| Carpenter (Joinery) | 101.6 | 105.8 | 4.1 | 4.1 |
| Bricklayer | 103.4 | 107.6 | 4.2 | 4.0 |
| Roofer | 102.5 | 105.7 | 3.3 | 3.2 |
| Structure Steel Worker | 102.4 | 105.4 | 3.0 | 2.9 |
| Plumber | 103.0 | 107.3 | 4.3 | 4.1 |
| Plasterer | 102.6 | 107.3 | 4.7 | 4.6 |
| Tiler | 102.5 | 106.3 | 3.8 | 3.7 |
| Painter | 102.3 | 106.3 | 4.0 | 4.0 |

In 2014, in Peninsular Malaysia, the construction worker average wage cost showed an index increase by 1.0 to 7.6 points. The average wage unit cost index for a plasterer had the highest increase from 104.40 points to 112.0 points, followed by average wage cost index for carpenter (formworks) from 101.8 to 108.5 points. All average wage cost indices of construction workers exceeded 100 points. This showed that contruction workers wages were much higher than those in July 2012. The average wage cost index for general worker was highest at 112.5 points, followed by plasterer at 112.0 points. The average wage cost index for plasterer saw highest points increase by 22.5 points, followed by average wage cost index for tiler that rose by 13.5 points in Perak (refer Table 3.60 and Appendix 3.50).

**Table 3.60 The Average Unit Cost Index for Construction Worker in Peninsular Malaysia in 2013 and 2014 (July 2012 = 100)**

| Construction Worker | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| General worker | 111.6 | 112.5 | 1.0 | 0.9 |
| Concreter | 106.2 | 109.4 | 3.2 | 3.0 |
| Barbender | 106.3 | 110.5 | 4.2 | 3.9 |
| Carpenter (Formwork) | 105.4 | 109.9 | 4.5 | 4.2 |
| Carpenter (Joinery) | 101.8 | 108.5 | 6.7 | 6.6 |
| Bricklayer | 106.4 | 111.7 | 5.3 | 5.0 |
| Roofer | 104.2 | 108.1 | 3.9 | 3.7 |
| Structure Steel Worker | 103.4 | 106.8 | 3.4 | 3.3 |
| Plumber | 105.2 | 111.8 | 6.6 | 6.3 |
| Plasterer | 104.4 | 112.0 | 7.6 | 7.3 |
| Tiler | 104.4 | 109.8 | 5.4 | 5.2 |
| Painter | 103.3 | 108.6 | 5.3 | 5.1 |

In 2014, in Sabah, the construction worker average wage cost showed an index increase by 2.9 to 5.4 points. The average wage cost index for a general worker had the highest increase from 103.0 points to 108.4 points, followed by average wage cost index for concreter, bricklayer and painter (from 101.9 to 105.4 points). All average wage cost indices of construction workers exceeded 100 points. This showed that contruction workers wages were much higher than those in July 2012. The average wage cost index for general worker was highest at 108.4 points, followed by concreter, bricklayer, structure steel worker and painter at 105.4 points. The average wage cost index for general worker saw highest points increase by 5.7 points in Tawau, followed by average wage cost index for bricklayer that rose by 4.1 points in Sandakan (refer Table 3.61 and Appendix 3.51).

**Table 3.61 The Average Unit Cost Index for Construction Worker in Sabah in 2013 and 2014 (July 2012 = 100)**

| Construction Worker | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| General worker | 103.0 | 108.4 | 5.4 | 5.2 |
| Concreter | 101.9 | 105.4 | 3.5 | 3.4 |
| Barbender | 101.8 | 105.0 | 3.2 | 3.2 |
| Carpenter (Formwork) | 101.7 | 104.9 | 3.2 | 3.1 |
| Carpenter (Joinery) | 101.6 | 104.4 | 2.9 | 2.8 |
| Bricklayer | 101.9 | 105.4 | 3.5 | 3.4 |
| Roofer | 101.7 | 104.7 | 3.1 | 3.0 |
| Structure Steel Worker | 102.4 | 105.4 | 3.0 | 2.9 |
| Plumber | 102.2 | 105.2 | 3.0 | 2.9 |
| Plasterer | 101.8 | 105.1 | 3.3 | 3.2 |
| Tiler | 101.6 | 104.6 | 2.9 | 2.9 |
| Painter | 101.9 | 105.4 | 3.5 | 3.4 |

In 2014, in Sarawak, the construction worker average wage cost showed an index increase by 2.6 to 5.6 points. The average wage cost index for a general worker had the highest increase from 103.1 points to 108.6 points, followed by average wage cost index for bricklayer from 102.0 to 105.6 points. All average wage cost indices of construction workers exceeded 100 points. This showed that contruction workers wages were much higher than those in July 2012. The average wage cost index for general worker was highest at 108.6 points, followed by bricklayer at 105.6 points. The average wage cost index for general worker saw highest points increase by 5.9 points, followed by average wage cost index for bricklayer that rose by 4.0 points in Miri (refer Table 3.62 and Appendix 3.52).

**Table 3.62 The Average Unit Cost Index for Construction Worker in Sarawak in 2013 and 2014 (July 2012 = 100)**

| Construction Worker | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| General worker | 103.1 | 108.6 | 5.6 | 5.4 |
| Concreter | 101.8 | 105.0 | 3.2 | 3.1 |
| Barbender | 101.8 | 105.0 | 3.2 | 3.1 |
| Carpenter (Formwork) | 101.7 | 104.7 | 3.0 | 3.0 |
| Carpenter (Joinery) | 101.5 | 104.3 | 2.8 | 2.8 |
| Bricklayer | 102.0 | 105.6 | 3.7 | 3.6 |
| Roofer | 101.6 | 104.4 | 2.9 | 2.8 |
| Structure Steel Worker | 101.4 | 104.0 | 2.6 | 2.5 |
| Plumber | 101.7 | 104.9 | 3.2 | 3.1 |
| Plasterer | 101.7 | 104.9 | 3.2 | 3.1 |
| Tiler | 101.6 | 104.6 | 3.0 | 3.0 |
| Painter | 101.7 | 105.1 | 3.4 | 3.3 |

## Average Unit Cost Index for Construction Worker by Building Category

In 2014, as a whole, average unit cost index for construction worker in all building categories exceeded 100 points. This showed that the wage cost of a worker in July 2012 (base year) was much lower than in 2014. Average index points in 2014 for all building categories displayed an increase by 3.7 to 4.0 points over those in 2013. The average wage cost of a worker in the ancillary building category saw the highest points increase by 4.0 points (refer Table 3.63)

**Table 3.63 Average Unit Cost Index for Construction Worker by Building Category in Malaysia in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 103.7 | 107.6 | 3.9 | 3.7 |
| Hotel | 103.7 | 107.6 | 3.9 | 3.8 |
| Office | 103.8 | 107.6 | 3.8 | 3.7 |
| Commercial and Industrial | 103.7 | 107.4 | 3.7 | 3.6 |
| Education | 103.8 | 107.7 | 3.9 | 3.7 |
| Health | 103.8 | 107.8 | 3.9 | 3.8 |
| Social Amenities | 103.7 | 107.6 | 3.8 | 3.7 |
| Safety | 103.7 | 107.6 | 3.9 | 3.7 |
| Ancillary Building | 103.9 | 107.8 | 4.0 | 3.8 |

In 2014, in Peninsular Malaysia, average unit cost index of a construction worker in all building categories increased by 3.6 to 4.2 points. The average cost index of a construction worker in hotel building category saw highest increase from 106.9 points to 111.1 points. Average cost index of a construction worker in ancillary building category was highest at 111.3 points. The average wage cost of a worker in the ancillary building category saw the highest points increase by 6.7 points, whilst average wage cost of a worker in the hotel building category rose by 5.4 points in Perak (refer Table 3.64 and Appendix 3.53)

**Table 3.64 Average Unit Cost Index for Construction Worker by Building Category in Peninsular Malaysia in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 106.9 | 111.0 | 4.0 | 3.8 |
| Hotel | 106.9 | 111.1 | 4.2 | 3.9 |
| Office | 107.1 | 110.9 | 3.8 | 3.5 |
| Commercial and Industrial | 106.7 | 110.3 | 3.6 | 3.3 |
| Education | 107.2 | 111.1 | 3.9 | 3.6 |
| Health | 107.2 | 111.2 | 4.0 | 3.7 |
| Social Amenities | 106.9 | 110.9 | 3.9 | 3.7 |
| Safety | 107.0 | 111.0 | 4.0 | 3.7 |
| Ancillary Building | 107.2 | 111.3 | 4.1 | 3.8 |

In 2014, in Sabah, average cost index of a construction worker in all building categories increased by 3.7 to 3.9 points. The average cost index of a construction worker in education, health and ancillary building categories saw highest increase. Average cost index of a construction worker in the commercial and industrial building, and ancillary building categories were highest at 106.1 points. The average wage cost of a worker in the health building and ancillary building categories saw the highest points increase by 4.2 points in Sandakan (refer Table 3.65 and Appendix 3.54)

**Table 3.65 Average Unit Cost Index for Construction Worker by Building Category in Sabah in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 102.1 | 105.9 | 3.8 | 3.7 |
| Hotel | 102.1 | 105.9 | 3.7 | 3.7 |
| Office | 102.1 | 105.9 | 3.8 | 3.8 |
| Commercial and Industrial | 102.2 | 106.1 | 3.8 | 3.7 |
| Education | 102.1 | 106.0 | 3.9 | 3.8 |
| Health | 102.2 | 106.0 | 3.9 | 3.8 |
| Social Amenities | 102.1 | 105.9 | 3.8 | 3.7 |
| Safety | 102.1 | 105.9 | 3.8 | 3.7 |
| Ancillary Building | 102.2 | 106.1 | 3.9 | 3.8 |

In 2014, in Sarawak, average unit cost index for construction worker in all building categories increased by 3.8 and 4.0 points. The average cost index of a construction worker in health and ancillary building categories saw highest increase. Average cost index of a construction worker in health, and ancillary building categories were highest at 106.1 points. The average wage cost of a worker in the health building category saw the highest points increase by 4.3 points, followed by the average wage cost of a worker in the education and ancillary building categories at 4.2 points in Miri (refer Table 3.66 and Appendix 3.55).

**Table 3.66 Average Unit Cost Index for Construction Worker by Building Category in Sarawak in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 102.1 | 105.9 | 3.8 | 3.7 |
| Hotel | 102.1 | 105.9 | 3.8 | 3.8 |
| Office | 102.1 | 105.9 | 3.8 | 3.8 |
| Commercial and Industrial | 102.1 | 105.8 | 3.8 | 3.7 |
| Education | 102.1 | 106.0 | 3.9 | 3.8 |
| Health | 102.1 | 106.1 | 4.0 | 3.9 |
| Social Amenities | 102.1 | 105.9 | 3.8 | 3.7 |
| Safety | 102.1 | 106.0 | 3.9 | 3.8 |
| Ancillary Building | 102.2 | 106.1 | 4.0 | 3.9 |

## Construction Plant, Machinery and Equipment Rental Cost Index

Construction plant, machinery and equipment rental cost index is an index number that measures the changes in the average rental rate of 7 groups construction plant, machinery and equipment in comparison to rates in July 2012. The 7 groups of construction plant, machinery and equipment comprise of those items that are usually utilized at construction sites in Malaysia.

## Average Unit Cost Index for Construction Plant, Machinery and Equipment

In 2014, generally, average rental cost of construction machinery index showed an increase by 0.5 points to 2.0 points. The average rental cost index for a bar cutter/bender saw highest increase from 99.7 points to 101.7 points. All rental cost indices for machinery recorded above 100 points. These index points indicated that machinery rental cost were much higher than in 2012. The average rental cost index for concrete vibrator was highest at 101.8 points (refer table 3.67).

**Table 3.67 The Average Rental Cost Index for Construction Machinery in Malaysia in 2013 and 2014 (July 2012 = 100)**

| Machine Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Excavator/Backhoe | 100.4 | 101.5 | 1.2 | 1.2 |
| Mobile Crane | 100.4 | 100.9 | 0.5 | 0.5 |
| Bar Cutter/Bender | 99.7 | 101.7 | 2.0 | 2.0 |
| Concrete Mixer | 100.5 | 100.9 | 0.5 | 0.5 |
| Power Trowel | 101.3 | 101.3 | 0.0 | 0.0 |
| Concrete Vibrator C/W Poker | 100.5 | 101.8 | 1.4 | 1.4 |
| Marble/Granite Polisher | 100.1 | 100.4 | 0.3 | 0.3 |

In 2014, in Peninsular Malaysia, average rental cost of construction machinery index showed an increase by 0.7 points to 2.6 points. The average rental cost index for a concrete vibrator saw highest increase from 99.5 points to 102.1 points. All rental cost indices for machinery recorded above 100 points. These index points indicated that machinery rental cost were much higher than in 2012. The average rental cost index for a bar cutter/bender was highest at 102.5 points. The average rental cost index for a bar cutter/bender also posted highest points increase at 11.8 points in Johor (refer table 3.68 and Appendix 3.56).

**Table 3.68 The Average Rental Cost Index for Construction Machinery in Peninsular Malaysia in 2013 and 2014 (July 2012 = 100)**

| Machine Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Excavator/Backhoe | 100.5 | 102.1 | 1.6 | 1.6 |
| Mobile Crane | 100.6 | 101.3 | 0.7 | 0.7 |
| Bar Cutter/Bender | 100.1 | 102.5 | 2.4 | 2.4 |
| Concrete Mixer | 100.6 | 101.5 | 0.9 | 0.9 |
| Power Trowel | 101.2 | 101.0 | -0.2 | -0.2 |
| Concrete Vibrator C/W Poker | 99.5 | 102.1 | 2.6 | 2.6 |
| Marble/Granite Polisher | 100.2 | 101.1 | 0.9 | 0.9 |

In 2014, in Sabah, average rental cost of construction machinery index showed an increase by 0.2 points to 0.8 points. The average rental cost index for a mobile crane, bar cutter/bender and, concrete vibrator saw highest increase. All rental cost indices for machinery recorded above 100 points. These index points indicated that machinery rental cost were much higher than in 2012. The average rental cost index for a concrete vibrator was highest at 102.4 points. The average rental cost index for a mobile crane, bar cutter/bender and concrete vibrator posted highest points increase at 0.8 points across all regions in Sabah (refer table 3.69 and Appendix 3.57).

**Table 3.69 The Average Rental Cost Index for Construction Machinery in Sabah in 2013 and 2014 (July 2012 = 100)**

| Machine Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Excavator/Backhoe | 100.1 | 100.7 | 0.6 | 0.6 |
| Mobile Crane | 100.6 | 101.4 | 0.8 | 0.8 |
| Bar Cutter/Bender | 101.3 | 102.1 | 0.8 | 0.8 |
| Concrete Mixer | 100.8 | 101.3 | 0.5 | 0.5 |
| Power Trowel | 101.3 | 101.5 | 0.2 | 0.2 |
| Concrete Vibrator C/W Poker | 101.6 | 102.4 | 0.8 | 0.8 |
| Marble/Granite Polisher | 100.0 | 100.0 | 0.0 | 0.0 |

In 2014, in Sarawak, most average rental cost of construction machinery indices did not indicate any change. The average rental cost index for a bar cutter/bender saw highest increase from 97.8 points to 100.6 points. All machinery average rental cost indices recorded above 100 points. These index points indicated that machinery rental cost were much higher than in 2012. The average rental cost index for a excavator/backhoe was highest at 101.8 points. The average rental cost index for a bar cutter/bender posted highest points increase at 2.8 points across all regions in Sarawak (refer table 3.70 and Appendix 3.58).

**Table 3.70 The Average Rental Cost Index for Construction Machinery in Sarawak in 2013 and 2014 (July 2012 = 100)**

| Machine Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Excavator/Backhoe | 100.5 | 101.8 | 1.3 | 1.3 |
| Mobile Crane | 100.0 | 100.0 | 0.0 | 0.0 |
| Bar Cutter/Bender | 97.8 | 100.6 | 2.8 | 2.9 |
| Concrete Mixer | 100.0 | 100.0 | 0.0 | 0.0 |
| Power Trowel | 101.4 | 101.4 | 0.0 | 0.0 |
| Concrete Vibrator C/W Poker | 100.3 | 101.0 | 0.7 | 0.7 |
| Marble/Granite Polisher | 100.0 | 100.0 | 0.0 | 0.0 |

## Average Unit Cost Index for Construction Plant, Machinery and Equipment by Building Category

In 2014, generally, the average rental cost index for construction machinery for all building categories throughout Malaysia were below 100 points. This showed that machinery rental cost in July 2012 (base year) was higher than in 2014. Average rental cost indices for construction machinery in 2014 for all building categories showed an increase by 0.2 points to 0.9 points as compared to 2013. Average rental cost index for construction machinery in the ancillary building category showed highest points increase by 0.9 points (refer Table 3.71).

**Table 3.71 Average Rental Cost Index for Construction Machinery by Building Category in Malaysia in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 98.8 | 99.2 | 0.5 | 0.5 |
| Hotel | 98.8 | 99.3 | 0.5 | 0.5 |
| Office | 98.9 | 99.5 | 0.6 | 0.6 |
| Commercial and Industrial | 99.1 | 99.3 | 0.2 | 0.2 |
| Education | 98.8 | 99.3 | 0.5 | 0.5 |
| Health | 98.7 | 99.1 | 0.4 | 0.4 |
| Social Amenities | 99.0 | 99.5 | 0.5 | 0.5 |
| Safety | 99.0 | 99.5 | 0.5 | 0.5 |
| Ancillary Building | 99.3 | 100.2 | 0.9 | 0.9 |

In 2014, in Peninsular Malaysia, average rental cost index for construction machinery for all building categories increased by 0.8 points to 1.4 points. Average rental cost index for construction machinery for ancillary building category showed highest increase, from 98.5 points to 99.9 points. Average rental cost index for construction machinery in the ancillary building category was highest at 99.9 points. Average rental cost indices for construction machinery for all building categories in Peninsular Malaysia were below 100 points. This showed that machinery rental cost in July 2012 (base year) was higher than in 2014. Average rental cost index for construction machinery in the residential, and, commercial and industrial building categories saw highest points increase by 2.9 points in Pahang (refer Table 3.72 and Appendix 3.59).

**Table 3.72 Average Rental Cost Index for Construction Machinery by Building Category in Peninsular Malaysia in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 97.5 | 98.6 | 1.2 | 1.2 |
| Hotel | 97.6 | 98.6 | 1.1 | 1.1 |
| Office | 97.9 | 99.1 | 1.2 | 1.3 |
| Commercial and Industrial | 98.8 | 99.6 | 0.8 | 0.8 |
| Education | 97.8 | 98.9 | 1.0 | 1.1 |
| Health | 97.3 | 98.3 | 1.1 | 1.1 |
| Social Amenities | 98.0 | 99.0 | 1.0 | 1.0 |
| Safety | 98.1 | 99.1 | 1.1 | 1.1 |
| Ancillary Building | 98.5 | 99.9 | 1.4 | 1.5 |

In 2014, in Sabah, average rental cost index for construction machinery for all building categories decreased by 0.3 points to 0.9 points. Average rental cost index for construction machinery for residential building category showed most decrease, from 99.8 points to 98.9 points. Average rental cost index for construction machinery in the commercial and industrial building category was highest at 99.6 points. Average rental cost indices for construction machinery for all building categories were below 100 points. This showed that machinery rental cost in July 2012 (base year) was higher than in 2014. Average rental cost index for construction machinery in the residential, health and, social amenities building categories saw most points decrease by 1.2 points in the Kota Kinabalu region (refer Table 3.73 and Appendix 3.60).

**Table 3.73 Average Rental Cost Index for Construction Machinery by Building Category in Sabah in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 99.8 | 98.9 | -0.9 | -0.9 |
| Hotel | 99.7 | 99.1 | -0.7 | -0.7 |
| Office | 99.7 | 99.1 | -0.6 | -0.6 |
| Commercial and Industrial | 99.9 | 99.6 | -0.3 | -0.3 |
| Education | 99.7 | 98.9 | -0.8 | -0.8 |
| Health | 99.7 | 99.0 | -0.7 | -0.7 |
| Social Amenities | 99.9 | 99.2 | -0.7 | -0.7 |
| Safety | 100.0 | 99.4 | -0.6 | -0.6 |
| Ancillary Building | 100.1 | 99.5 | -0.6 | -0.6 |

In 2014, in Sarawak, average rental cost index for construction machinery for all building categories increased by 0.3 points to 1.8 points. Average rental cost index for construction machinery for ancillary building category showed highest increase, from 99.4 points to 101.2 points. Average rental cost index for construction machinery in the ancillary building category was highest at 101.2 points. Most average rental cost indices for construction machinery for all building categories exceeded 100 points. This showed that machinery rental cost in July 2012 (base year) was lower than in 2014. Average rental cost index for construction machinery in the ancillary building category saw highest points increase by 2.2 points in the Sibu region (refer Table 3.74 and Appendix 3.61).

**Table 3.74 Average Rental Cost Index for Construction Machinery by Building Category in Sarawak in 2013 and 2014 (July 2012 = 100)**

| Building Category | Year | | Change | |
|---|---|---|---|---|
| | 2013 | 2014 | Points | % |
| Residential | 99.1 | 100.1 | 1.1 | 1.1 |
| Hotel | 99.1 | 100.1 | 1.0 | 1.0 |
| Office | 99.0 | 100.3 | 1.3 | 1.3 |
| Commercial and Industrial | 98.5 | 98.7 | 0.3 | 0.3 |
| Education | 99.0 | 100.0 | 1.1 | 1.1 |
| Health | 99.0 | 99.8 | 0.8 | 0.8 |
| Social Amenities | 99.0 | 100.2 | 1.2 | 1.2 |
| Safety | 99.0 | 100.0 | 1.0 | 1.0 |
| Ancillary Building | 99.4 | 101.2 | 1.8 | 1.8 |