



**DEPARTMENT OF BUILDING
UNIVERSITI TEKNOLOGI MARA
(PERAK)**

DEFECT OF FLOOR TILING

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(PERAK)

DECEMBER 2019

It is recommended that the report of this practical training provided

by

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entitled

Defect Of Floor Tiling

be accepted in partial fulfillment of the requirement for obtaining the Diploma In Building.

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(PERAK)

DECEMBER 2019

STUDENT'S DECLARATION

I hereby declare that this report is my own work, except for extract and summaries for which the original references are stated herein, prepared during a practical training session that I underwent at Setiakon Builders Sdn Bhd for a duration of 20 weeks starting from 5 August 2019 and ended on 20 December 2019. It is submitted as one of the prerequisite requirements of BGN310 and accepted as a partial fulfillment of the requirements for obtaining the Diploma in Building.

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Grateful to Allah for giving me the strength to through all this in the practical period with patience.

First of all, just only one precious sentence that I could express to all who guide me at the site of Riana Dutamas. Thanks a million to Mr. Chai Sin Koi which always make me spirit when I was in need and teach me on how to survive in the industry of construction. Other than that, I am grateful to have Mr. Wilson as my senior architect which giving his best to guide me for proficient in checking the types of defect in building such as defect of wall, floor and so on. After that, I would also to thankful to Mr. Nuruddin and Mr. Huzairah. They as the supervisor of block A and block B. They act as the right senior staff to help me as the intern student to know more about the progress work of two blocks of building and also guide me in the right way to complete my report properly. Furthermore , not forget too Miss Shuhada which gave me the information about the regulation of checking the defect of tile that need to follow before start to check by using the equipment. Without them, my report will not complete. It is very precious for me to work with this Setiakon Builder's team.

I would also to extend my deepest appreciation to my Supervising Lecterur ' Miss Nor Azizah Talkis' that always be the great lecturer which always guide me to be better and also thanks to Mr. Muhammad Naim Bin Mahyuddin, practical training coordinator for giving me the valuable remind for me to beware myself in the construction site to ensure my safety.

Last but not least, I would also to thank to my family who always be my side to support until the end of intern date.

ABSTRACT

Defect is one of the most common occurrences in any construction site, therefore this report will discuss in depth about the types of floor tile defect and how to determine it by follow the regulation that has been set. The aims for this report is to achieve the goal in solving the problem of floor tile defect by following the correct method. The objective of the report is to identify the general requirement of floor tiling. This is because the right installation method is depend upon the requirement that has been set. Furthermore, to determine the types of defect of floor tiling. This will make it easier to know why that problem occurred and how the way to fix it. This report has been carried out by means of observation while the supervisor is checking the defect and self repeated practices to proficient in determine it. To conclude, the tools and standard requirement of architectural work is very important to complete this report in order to check the floor tile defect with the right way by following the requirement.

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CHAPTER 1.0

INTRODUCTION

1.1 Background and Scope of Study

The place to carried out of this report is in level 7 in every room in block A of Riana Dutamas's construction site. The place is at Segambut, Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur. Then, this report is focus to identify the types and method to check the floor tile defect. However, the duration in checking the floor tile defect is depend on the their types. Basically, the time scope to check the floor tile defect is around one minute to five minute for one defect. The tools that needed in this task also important to ensure the defect of floor tile are accurate during the inspection. The quantity of workers need for this work is only two because the procedure is simple and easy. The first worker check the defect and the second worker just note the all of defect to report to the architect coordinator.

1.2 Objectives

1. To identify the requirement of floor tiling.
2. To determine the types and causes of defect of floor tiling.
3. To identify the corrective action for defects of floor tiling.

1.3 Methods of study

1. Observation – The observation was carried out by determining the type of defect of floor tiling and why the defect occurred and how to solve that problem. Observation was also made for standard of architectural work for floor finishes to make sure that the floor tile installed correctly according to the requirement. After that, the time required to understand of this knowledge is three weeks to a month. This observation was carried out by written notes and pictures.
2. Document reviews – The documents reviews was carried out by referring the standard of architectural work for floor finishes which have the information about the general requirements of floor tile that need to follow to complete the defect inspection.
3. Interviews – The interview with supervisor are conducted to find out what the tools used at area to be inspected, types of floor tile defect and how the method to check the defect of floor tile.

CHAPTER 2.0

COMPANY BACKGROUND

2.1 Introduction of Company

Setiakon Builders Sdn Bhd as the G7 grade act as the main contractor has been incorporated on 12 December 1994. The grade of this company is G7 The Headquarters office is located at 13, Jalan Cempaka SD 12/1, Bandar Sri Damansara, 52200 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur. They started off as a sub-contractor, focusing mainly on building and infrastructure works. Some of the notable projects completed were Putrajaya's Dataran Putra, Customs, Immigration and Quarantine Complex at Tanjung Kupang Johor and Kuala Lumpur Flood Mitigation.

After a lot of experience being as the sub-contractor. They has grown and become a main contractor completing residential projects in Klang Valley and Johor. That is Tropez Residences at Johor, 28 Dutamas at Kuala Lumpur, Mirage By The Lake at Cyberjaya, Tropicana Gardens at Selangor and Mirage Residence at Kuala Lumpur.

However, the latest string of project that setiakon Builders has secured over the last few years are located in Klang Valley such as D'sara Sentral at Selangor, Lumi Tropicana Residences at Selangor, Skyluxe on the Park at Kuala Lumpur, Arte+ Jalan Ampang at Kuala Lumpur and Tropicana Metropark Paloma at Selangor.

They have their objectives to ensure their company can survive and get better in the construction industry. The objective is to ensure customer satisfactions by delivering construction work of the highest standard in a cost-effective and timely manner. The second objective is to deliver quality and productivity by consistently raising their capabilities and professionalism. The last of objective is to provide forward-looking construction solutions to meet their client's requirement and needs.

Setiakon strives to consistently ensure the projects are successfully delivered on time within the budget and not compromising on the quality. Based on their track record in completing residential, commercial, industrial and infrastructure projects coupled with a team of experienced and highly skilled personnel. They is positioning theirself to be a prominent construction company in the future.

2.2 Company Profile

Setiakon Builders Sdn Bhd is the main contractor which has been involved in various of construction projects, especially in Kuala Lumpur and Selangor. The vision of the company is to be one of the most distinguished building solution providers in Malaysia and the region while the mission is to build quality, efficient and conducive environment that fulfils people's dreams, aspirations and vision for a better world. Table 2.2 below summarizes the details of the company.

Table 2.1 Setiakon Builders Sdn Bhd company profile

Title	Description
Name of company	Setiakon Builders Sdn Bhd
Address	13, Jalan Cempaka SD 12/1, Bandar Sri Damansara, 52200 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur
Project director	Chop Yap
Contract director	Yong Han Wei
Incorporation date	12 December 1994
Website	www.setiakonbuilders.com.my
Tel	
Fax	(contracts) (admin) (finance) (purchasing)
Email	info@setiakon.com.my

Sources : The weekly report of Riana Dutamas's site progress



Figure 2.1 : Company logo

Sources : The company profile of Setiakon Builders Sdn Bhd

Reliability, quality workmanship and on time delivery is the main sentences for this company to make their staff or labours always enthusiasm for working together on a given project. Other than that, Setiakon also have their own certificate which prove that they are qualified and recognized. Among the certificates that make them recognized are :

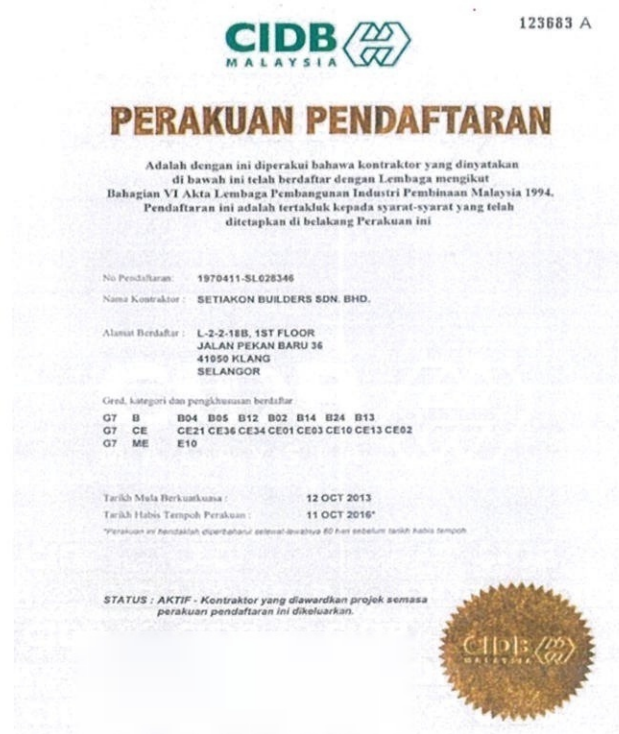


Figure 2.2 : Certificate of registration

Sources : The company profile of Setiakon Builders Sdn Bhd

Sijil Perolehan Kerja Kerajaan

NO. SIJIL PENDAFTARAN
1970411-SL028346

Adalah disahkan Syarikat/Firma seperti butir-butir berdaftar dengan Lembaga Pembangunan Industri Pembinaan Malaysia dan tertakluk kepada syarat-syarat termaktub di belakang sijil.

Tarikh Mula Berdaftar Dengan CIDB : 11/04/1997

NAMA DAN ALAMAT BERDAFTAR

SETIAKON BUILDERS SDN. BHD.
L-2-2-18B, 1ST FLOOR
JALAN PEKAN BARU 36
41050 KLANG
SELANGOR

TEMPOH SAH LAKU

DARI : 12/10/2013
HINGGA: 11/10/2016

GRAD

G7
G7
G7

KATEGORI

B (Pembinaan Bangunan)
CE (Pembinaan Kejuruteraan Awam)
ME (Mekanikal Dan Elektrikal)

PEGAWAI SYARIKAT YANG DITAUJAHKAN

TAN TONG KWEE

NO. K/P

Jawatan



Figure 2.3 : Certificate of Government Procurement
Sources : The company profile of Setiakon Builders Sdn Bhd



Figure 2.4 : Certificate of CIDB Malaysia achievement
Sources : The company profile of Setiakon Builders Sdn Bhd

2.3 Organization Chart

Site of Riana Dutamas is managed by the senior project manager, Mr. Chai Sin Kooi who responsible to ensure the progress of work is run smoothly by follow the schedule in the contract period. In addition, there are have twenty two staff at the site office which collaborating together in completing the project. Among those important staff involved is Quality Assurance & Quality Control Engineer, Pn. Nur Shuhada and her assistant, Pn. Syafiza which always to ensure the quality of their company's products by participating in each stage of a product's creation, beginning with development and ending with packaging. Furthermore, Pn. Anisah Syafiqah who act as the document controller and Pn. Amalina Syazwani as the site clerk. After that, staff which responsible to make the site in the safe condition is Mr. Nantha Kumar who act as the safety officer and Mechanical and Electrical coordinator, Mr. Wan Abdul Muiz. However, site supervisor who involved is Muhamad Huzaifah, Abu Bakar and Nuruddin. Lastly, the department of architecture who positioned out by Mr. Poon Ah Sin which act as the architect coordinator and Lee Jun Quan and Wilson Chang who act as the architect supervisor. Below is the figure 2.5 about organization chart at site of Riana Dutamas.

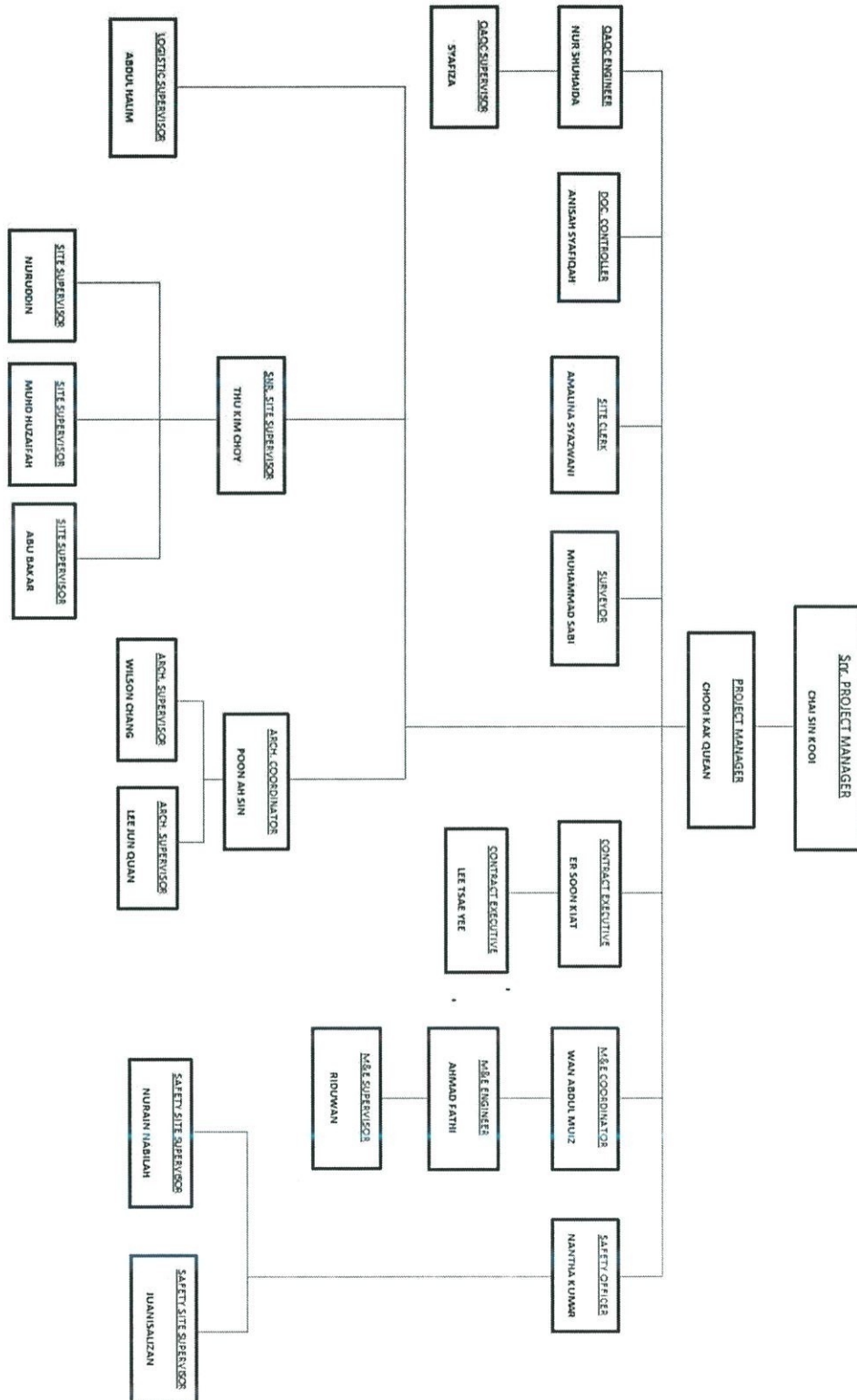


Figure 2.5 : Riana Dutamas's site Organization Chart

Sources : The monthly report of Riana Dutamas's site progress

2.4 List of Project

2.4.1 Completed Project

Table 2.2 : Completed project

No	Project Title	Client	Project Value	Completed Date
1.	Lumi Tropicana, Selangor : Proposed to build a Business Development.	MayFair Ventures Sdn Bhd	RM 223,538,379.36	1st July 2019
2.	Kia Peng, Kuala Lumpur : Proposed Development of 1 Block of 50-Level Serviced Apartment / Soh	I-Marcom Sdn Bhd	RM 240,038,000.00	11th April 2019
3.	Tropicana Metropark Subang Jaya, Selangor : Main Building Works For 29-Level Business Building Proposal.	Tropicana Metropark Sdn Bhd	RM 212,688,000.00	13 th June 2017

Sources : The company profile of Setiakon Builders Sdn Bhd

2.4.2 Project in progress

Table 2.3 : Project in progress

No	Project Title	Client	Project Value	Commencement Date
1.	Riana Dutamas, Segambut : Proposed development of 2 blocks of 37-story apartment building (1018 units) -	368 Segambut Sdn Bhd	RM 188,000,000.00	16 th January 2018 (contract period : 30 month)
2.	Cluster C, Bukit Bintang : Proposed development of 1 storey office block	Pedoman Cekap Sdn Bhd	RM 168,800,000.00	26 th february 2018 (contract period 26 month)

Sources : The company profile of Setiakon Builders Sdn Bhd

CHAPTER 3.0

CASE STUDY (DEFECT OF FLOOR TILING)

3.1 Introduction to Case Study

The project in progress is proposed to develop of 2 blocks of 37 story apartment building that included 1018 units. The name of the condominium is Riana Dutamas and it is located at Segambut, Kuala Lumpur. This project is divided into two phase. Phase 1A and phase 1B which have 509 units from level 5 to level 36, 1 level of population facilities at level 5, 1 level of mezzanine at the podium level and 5 levels of parking on the ground floor up to level 4. After that, the project value is RM 188,000,000.00 and expected to be done by the end of March 2020.

Other than that, the location of this project is at Segambut, Kuala Lumpur. During practical industrial training at this site, the case study is more focus about the general requirement of floor tiling that need to know before start to install the tile, the type and causes of defects of floor tiling and the corrective action to avoid that kind of defect to occur. In figure 3.1 and 3.2 below shows the location of site and figure 3.3 shows the key plan.

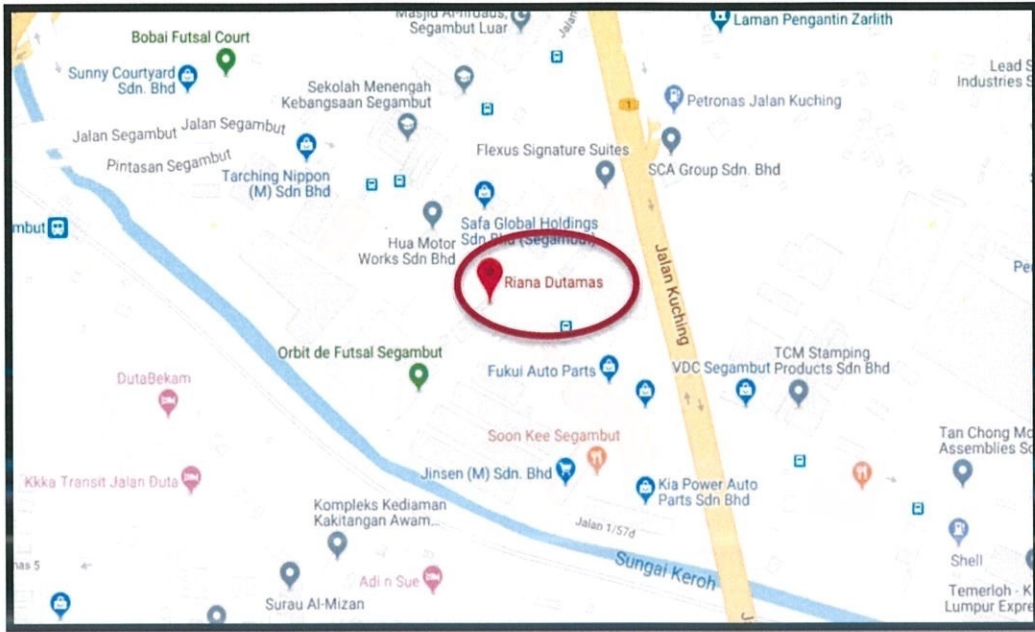


Figure 3.1 : Location of site

Sources : Google maps



Figure 3.2 : Riana Dutamas's site from beside of the road

Sources : Google image

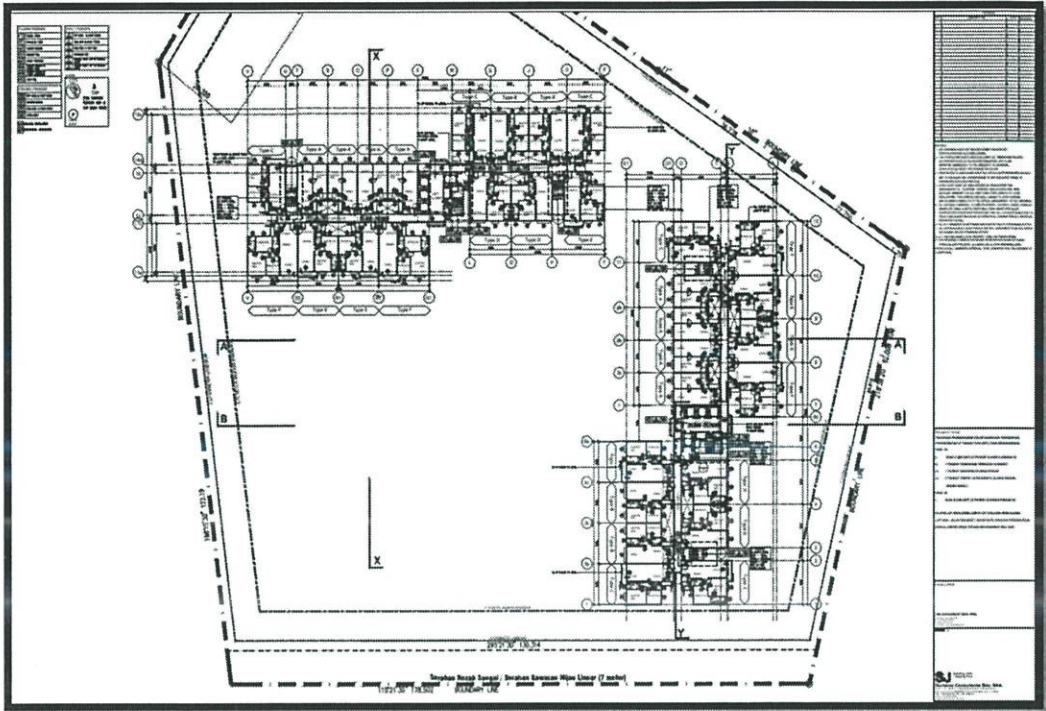


Figure 3.3 : key plan

Sources : The layout of Riana Dutamas's site

3.2 The requirement of floor tiling

The defect of floor tiling occur due to non-compliance with the requirement that contained in this document. Therefore, this architectural floor tile document is crucial to ensure the work of the floor tiling can be controlled well. So, below is the detail for general requirement of floor tiling that need to follow while install the tile on the screed finishes.

General Requirement for floor tiling :

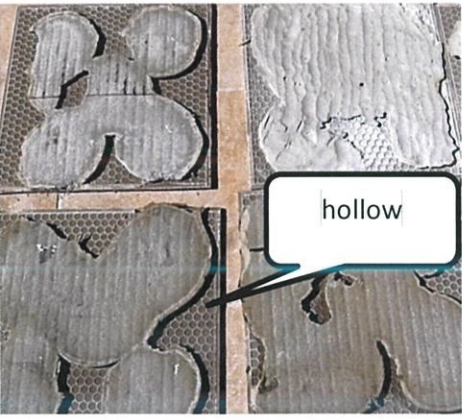
- i. Alignment and evenness.
 - The surface of the tiling must be evenness with according to the tolerance that the evenness of tile must below of 3 mm .
 - The floor tile must be falls in right direction to the floor trap at the wet areas such as toilet and balcony.
 - For staircases, the variance in lengths of treads and risers must not exceed 5 mm from dimensions specified in the approved drawings.
- ii. Cracks and damages.
 - The floor tile must be no visible of crack or damage during installation process.
- iii. Hollowness.
 - The sound of hollow of tile must be not exist when tapped.
- iv. Jointing of tile
 - The skirting thickness must be consistent and no visible gaps between wall and skirting.
 - The edge of floor tile should be straight and aligned.
- v. Lippage
 - The lippage between of tiles must be below of 1 mm.
- vi. Finishing
 - The tile must be clear without stain or other marking.
 - The color tone of tile must be consistent like as usual.


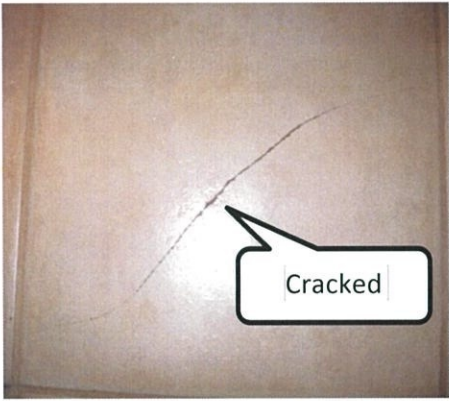

3.3 Types and causes of defect of floor tiling

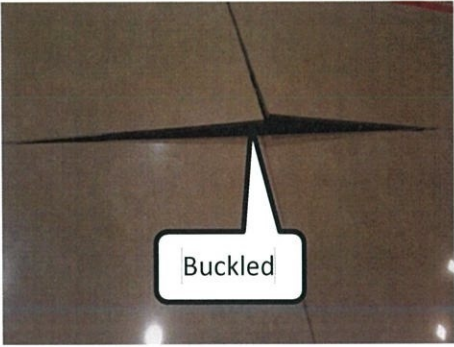
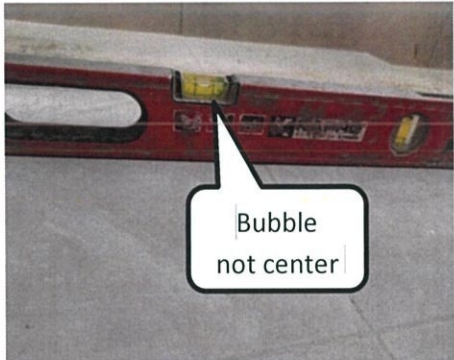
The tiles are very popular material to make the building in aesthetic look and also give more durability to support heavy loads. However, with due to the lack of proper care, the defects of tiles may appear either on the surface of tiles or below of the tiles such as cracked tiles, buckled tiles, error of alignment , hollowness, lippage between two tiles and chipped tiles. These defects arises due to many reason like the improper cleaning, uneven grout joints, absence of movement joints, poor quality adhesive and uneven floor. So, the table 3.1 below will discuss about the types of defect of floor tile. Furthermore, will explain to more detail about what the causes of that problem for every types of defect of floor tiling.

3.3.1 : Types of floor tiling defect

Table 3.1 : Description about types of defect

No.	Types of defect	Description
1	 <p data-bbox="418 1621 785 1657">Figure 3.4 : Hollow of tile</p>	<p data-bbox="868 1191 1362 1451">The tile having a hollow sound could be an indication that there is a void under those hollow sounding spots. It can be determined by using the tool called tapping rod.</p>

<p>2</p>	 <p>Figure 3.5 : Lippage of tile</p>	<p>Lippage of tiles can be described as the different in elevation between edges of adjacent tile modules. Taping rod also used to determine the defect but the extreme lippage can detected by visual. More sound hear will prove that the lippage between two tiles were very uneven. Furthermore, the extreme lippage of flooring tiles can detected without tools but visual because it's so obvious.</p>
<p>3</p>	 <p>Figure 3.6 : Cracked tile</p>	<p>Whenever tile is bonded to concrete, movement in the concrete will cause cracks to occur in the tile layer. Should cracks occur in the concrete, these cracks will reflect through the tile that often to called “reflective cracking”.</p>
<p>4</p>	 <p>Figure 3.7 : Tile not aligned</p>	<p>The figure shows that the tiles was not alignment where the position of tile were not in the right position. However, the defect of tile not alignment can knows through the observation or other word that could called visual.</p>

<p>5</p>	 <p>Figure 3.8 : Buckled tile</p>	<p>The other name for buckled tiles is pop up tiles or tented tiles. It happened when the floor tiles start to pushing other tiles against one another. This defect will appear in all types of tiles.</p>
<p>6</p>	 <p>Figure 3.9 : Uneven tile</p>	<p>The figure shows that the tile was uneven where the reason for this defect is an uneven layer of thinset mortar holding tiles on the floor. This defect can know through used the spirit level where the bubble in the spirit level at balanced position, so it shows that the tile was even except for wet place such as toilet and balcony where has falls direction for water.</p>

3.3.2 Causes of floor tiling defect

1. Hollow of tile

A low pitched sound that detected by the taping rod can also occur and not signify there is a problem because the real defect of hollow tile is when the high pitched sound be heard. Therefore, the reason of that defect occur is because of an improper installation method called spot bonding.

The spot bonding of the tile is typically can be seen after it is reopened during repair that has various spots on the back of the tile that leaves substantial voids behind the tile.

However , the taping rod that used to check the hollow sounding also can cause the hollow defect. This problem will happened when the inspector using the taping rod with incorrect method. The incorrect method is when the inspector heavily tap on the whole surface of tile many times using taping rod but the correct method is they need to sweep and after found the hollow sound. They must tap slowly repeatedly to conform it is correct. This is the major problem that have in Riana Dutamas's site where their staff has use the wrong method to check the hollow until cause a lot of hollow defect.

2. Lippage of tile

Lippage is the difference in height between two adjacent floor tiles. Therefore, the higher of the lippage not only affect of the aesthetics but it is a potential tripping hazard. Subsurface is the first major causes of lippage tile that need to be careful. Thus, the installer should give their best attention to ensure there is a solid and level subsurface before laying the tile on the slab.

Other than that, the size of tiles is also will affect the lippage. The bigger of size tiles will give more challenge. This is compounded by the increasing demand for larger tiles. However, the small tiles are easily to handle and aligned to adjacent tiles because easy adjust if have any lippage that has been seen. Unfortunately, larger tiles are not as expected and an unlevel surface will increase lippage.

Furthermore, the small causes also one of the reason why the tile is getting lippage. That is the proper cleaning before start the tile installation. This is because if not cleaning properly, it may be that some hard debris such as small steel or timber is stuck in the adhesive tile at the edge of tiles causing lippage problems.

3. Cracked tile

The defect about crack is the problem that was often heard because it can be seen that crack can occur anywhere if not properly monitored during the scratch of installation flooring tile. The first major reason why the floor tile is crack is due to the uneven concrete slabs where at the starting of casting the concrete were not according the formwork with accurate. Therefore, when the floor tile has been installed and many labour stepped on or walking on the floor tile, it will give the pressure to the tiles that can cause the cracked.

After that, the heavy object dropped on the floor tiles such as the tools that used during installation of the floor tile. Furthermore, poor handling by the installer also the one of reason why the tile is cracked. This is happened when the installer just doing their work without guidance form their sub-contractor or supervisor and they did not take the series to install the tile.

4. Tile not aligned

The installer not follow the layout of position of each tile. This is to ensure the position of each tile are at the right position because the layout is very important to avoid the misalignment of tile. So that, this is the first causes of that the installer must to be careful.

Moreover, the installer not put the plastic spacer between the floor tile after it has been install also the causes of why the tile are not alignment. The plastic spacer used to ensure the space between tile are follow the right size of space and also make the tile in the right position. Thus , the plastic spacer are very important to make the tile in the right size of alignment. The standard space between tile is 2mm to 3mm.

5. Buckled tile

Improper set tiles by the installer are the reason why buckled tile was happened. The wide tiles require a certain technique to ensure that it will achieve a strong bond with the adhesive. Furthermore, the major reason the tile get buckled is uneven subfloor . For example, when the pressure to the tiles was given by the heavy object, it will causes the tiles got buckled or pop up.

Moreover, the tiles not using the adhesive or adhesive were not solid also the reason of this defect was appear. Therefore, the installer need to give more attention while the tiles was laying the adhesive. Lastly, if the poor quality adhesive are used for floor tiles and it exposed to the sunlight. This will make the tiles easy to buckled or tented because of the adhesive are not strong.

6. Uneven tile

According to the requirement of floor tiling, the surface of the tiling must be evenness with follow the tolerance that the evenness of tile must below of 3 mm . Therefore, the first causes of unevenness floor tile is because the installer not use the spirit level while install the tiling. The spirit level is important to know that the tiles that has been installed are below of 3mm or not. From that , the installer can repair as fast as possible before the tile adhesive are getting hard.

After that, the installer also not use the spirit level during installation the floor tile at the wet area such as toilet, yard and balcony. It will cause stagnant water during raining if the tile does not falls into the trap. Therefore, the requirement has set that the area that will be exposed to water should be falls in right direction.

3.4 The corrective action for floor tile defects

Each of floor tile defects is dependent on how the installation was done at the early stages. Therefore, the right installation is very important to avoid the defects to occur. So, the first solution taken for floor tile defects is install the tile with the correct way. Thus, the defect will not occur again due to the attention given about the floor tile installation in the right way. Below will discuss more about the method to install the floor tile by follow the right method and explain the detail about each solution for the types of floor tile defect.

3.4.1 General corrective action of floor tile defect

- i. Unload of tiles by mechanical means and stored. Each tile shall be loaded into trolley and transported to area to be laid.
- ii. The tile was unload place and lay tiles by hand into position over neatly cement screed
- iii. A control joint shall be established with regard to structure location and tiles are not to be set out symmetrically with each are and laid to regular line and pattern as required.
- iv. Tap the tiles firmly with a rubber mallet to neatly level fresh cement screed.
- v. All joint in floor tiles shall be truly aligned and even. Grout shall be worked well into joints to completely filled. All joints shall be used plastic spacer 2 – 3 mm.
- vi. All floor tiling shall be laid to fall to avoid pounding. All tiles shall be laid by the tile layer.
- vii. Ensure not to allow water onto new tiling until bedding and jointing have completely set.
- viii. After that, ensure no traffic on flooring within 48 hours after completion.
- ix. Tiles with any chips, cracks or otherwise defective shall not be used for the work.

3.4.2 Corrective action for types of floor tile defect

1. Hollow of tile

- a) The primary method to repair the hollow of tiles is reopened , then fill the empty area or the hollow area with the adhesive until it pass to closed again. This method must to do care fully to ensure the tile not broken to avoid from replaced with the new tiles. Thus, it will reduce the cost of tiling.
- b) However, if the tiles are broken while the reopened process. The tiles will replaced to the new tiles and install again.
- c) Lastly, after the repair process is done. The defect area will inspected by the installer using the taping rod after 24 hours to make sure the tiles are successfully repaired.

2. Lippage of tile

- a) The primary method to repair the lippage between tiles is the tiles will reopened and reinstalled after ensure the adhesive back of tiles in the align condition.
- b) While the reopened process of tiles, the installer need to be careful to avoid the tiles from crack or pop up.
- c) The installer should to use the tile spacer to ensure the position of tiles are align.

3. Cracked tile

- a) There are two types of repair for the crack tiles. First is apply the paint that closely match the colour of that floor tiles if the cracks are not too large.
- b) The second is replace the new tiles which have same design if the cracks are too large. This is because, if use the closely match colour paint to the floor tile. The large crack still will reveal itself too.
- c) Allow to use the movement joints in tiles to avoid the tiles cracking.
- d) Add the steel reinforcing bars to the concrete slab to prevent cracks in the concrete from forming into the surface of tiles.
- e) Use the proper cutting equipment when cut the tiles to prevent from cracking.

4. Tile not alignment

- a) The defect area will reopened to repair their base at layer of thinset mortar which holding tiles on the floor. Then, the tiles will reinstalled after the base are align.
- b) The tile spacer will used to avoid the tiles from misalignment again.
- c) Lastly, after the tile has repaired. The inspection by the architecture department will approve that it has passed or not.

5. Buckled tile

- a) The solution for buckled tile is not use old tiles but use the good quality adhesives and good quality material such as cement, sand and each other. After that, the installer must to ensure the tiles are clean and in good environmental condition and need to always according to the manufacturer guidelines strictly during using bonding material for installation of tiles. Lastly, If the tiles are buckled over the large area, the tile must to replace into all tiles with new one of same design. Below will discuss about how to repair the buckled tiles in general .
- b) The old tiles will replaced into the new tiles because of old tiles could not be used due to the defect.
- c) In the wet area, the method is same. The floor tile that was buckling will carefully removed to install the new tiles.
- d) The other way is reinstall the tiles if they can inject the areas with the spot of adhesives.

6. Uneven tile

- a) Usually, the all unevenness floor tiles at wet area like toilet, balcony or yard will reopened because want to repair at the base of tiles. The repair method is to ensure the direction of fall of tiles are directly to the trap. This is important to avoid that area from stagnant water during raining. Lastly, after the repair process has done, the installer will checked the tiles using the spirit level to make sure the tiles surfaces are falls into the trap.
- b) For the area which not exposed to the water like living room, kitchen and bedroom. If the defect was detected , the all tiles will reopened to align the base of tiles. After the tiles has reinstalled , the tiles will checked by the installer using the spirit level to ensure the tiles are even.

CHAPTER 4.0

CONCLUSION

4.1 Conclusion

As a conclusion, this report has been investigated in depth about the types of floor tile defect and how to determine the causes of floor tile defect. After that, the solution taken to solve the problem of floor tile defect also has been investigated by observation and interview the responsible person to handle that problem. Therefore, the whole of report has discovered the various of floor tile defect and how to repair it. However, the general requirement of floor tiling that need to follow before start install the tile also helps a lot in finishing this report.

Moreover, the different about to carried out the method on how to repair the defect of floor tile also have at that site which proof that there have other method to repair the defect of floor tile which can give more easy to handle it and reduced the working time to finish the work either in repair the defect or during the early stage to install the tile. Other than that, the problem hard to solve is where the installation of tile that has been finish but have a lot of defect which shows the installer were not follow the layout that has been given by the sub contractor. This case will delay the time for tile work to be done and can give a lot of problem from financial because need to buy new tiles.

Last but not least, the defect of tile are of the most common occurrences in any construction site. Thus, the responsible person in handle the work of tiling need to be always ready on many defect that will occur without they not realized. So, the aim to solving the problem of floor tile defects by following the correct method has achieved after got a lot of relevant information about the defect of floor tiling.

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