



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

FINISHING WORK

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(PERAK)**

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It is recommended that the report of this practical training provided

By

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entitled

FINISHING WORK

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

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(PERAK)**

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STUDENT'S DECLARATION

I hereby declare that this report is my own work, except for extract and summaries for which the original references stated herein, prepared during a practical training session that I underwent at WCT BERHAD for duration of 20 weeks starting from 23 August 2021 and ended on 7 January 2021. 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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ABSTRACT

Finishing work is the concluding stage of construction; in many cases, the overall quality of a building or structure being put into service depends on the quality of its execution. The main types of finishing work for interior finishing are screeding, plastering, ceiling plaster, flooring, painting, skim coating, marble and tiling. This report explain how was the detail of finishing work been done by architect finishing work. The objective of this report is to carried out the knowledge and information about one of the most important part in construction. This study shows how tiling is done by method statement, works sequences, and problem solving.

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WCT TILING METHOD STATEMENT

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CHAPTER 1.0

INTRODUCTION

1.1 Background of Study

In this report, we focus on the site which is Bomba Lift Lobby OT8 at Site DTC Pavillion Damansara W407, Kuala Lumpur . this study shows how was the tiling finishing works was done by proper sequences professionally. As we know tiling is one of the most common finishes in construction. Tiling was used in construstion in a long time. The word tiles is derived from the French word tuile, which is, in turn, from the Latin word tegula, meaning a roof tile composed of fired clay.

Tiles are often used to form wall and floor coverings, and can range from simple square tiles to complex or mosaics. Tiles are most often made of ceramic, typically glazed for internal uses and unglazed for roofing, but other materials are also commonly used, such as glass, cork, concrete and other composite materials, and stone. Tiling stone is typically marble, onyx, granite or slate. Thinner tiles can be used on walls than on floors, which require more durable surfaces that will resist impacts.

1.2 Objectives

- i.** To Demonstrate method of tiling.
- ii.** To identify problem and solution of tiling.

1.3 Scope of Study

This study is carried out at Basement 5 OT8 Bomba Lift Lobby at Pavilion Damansara Trade Center site- DTC W407, Kuala Lumpur from 23 September 2021 until 1 December. The focus of this study is the Method of tiling finishing work. Throughout this report, demonstrate Method of tiling and identify their problem will be aim of this study. The study will be conduct in site inspection, site progress and interview. From this study, information and knowledge gain is method of tiling and their problem and defect with their solution.

1.4 Methods of Study

1) Observation

The observation method will be conduct on site itself which is Basement 5 OT8 Bomba Lift Lobby DTC Site itself. Observation will be running on site inspection with consultant and site weekly progress report. This method of study will observe the condition and requirement of staircase with the help of site coordinator and consultant.

2) Interview

Interview will be running anytime formal or informal. The people that usually involve is site coordinator, consultant and skilled workers. The interview will carry out at site, office and meeting room if having any issue and problem with staircase construction. With interview, important information such as method construction and defect can be secure.

3) Document review

This method will be conducted in office and document room with help of site coordinator and QAQC Department. Documents such as RFI form, site drawing and company profile will be reviewed to gain some information for essential of the study.

CHAPTER 2.0

COMPANY BACKGROUND

2.1 Introduction of Company

WCT Berhad is the Engineering and Construction Division of WCT Group specialising in earthworks, construction of expressways and highways, buildings, infrastructure related works and provision of management services. To date, WCT Berhad has successfully completed and delivered more than 400 construction projects worth approximately RM40 billion. Our expertise has led to various local and international construction projects such as F1 racing circuits, airports, dam and water supply scheme, expressways and highways, civil works and specialised buildings such as shopping complexes and government administrative centres. In 2016 and 2017, WCT also secured rail-based infrastructure contracts such as the MRT2 and LRT3 projects

2.2 Company Profile

WCT Group established on January 14, 1981, when WCT Earthworks & Building Contractors Sdn Bhd, a small one-machine firm specializing in earthworks, was incorporated. The firm has effectively developed a larger presence and a solid reputation after many years in the market. The firm was thereafter listed on the Kuala Lumpur Stock Exchange in 1995. WCT successfully reorganized its corporate structure on July 8, 2013, under WCT Holdings Berhad, a listed investment holding

company, as the firm continued to expand in popularity (WCT). WCT operates through two subsidiaries, WCT Berhad and WCT Land Sdn Bhd, under the new structure. WCT Berhad specializes in engineering and building where WCT Construction Sdn Bhd is one of its parts. WCT Land Sdn Bhd, on the other hand, specializes in property development, investment, and management. Then, WCT has grown into a global brand recognized for its dependability and skills throughout the years. WCT has become a well-known industry heavyweight due to its capacity to offer first-rate goods and services. WCT now employs over 2000 people and operates a huge fleet of equipment and gear.

2.3 Company Organisation Chart

Management Organization Chart (Headquarter)

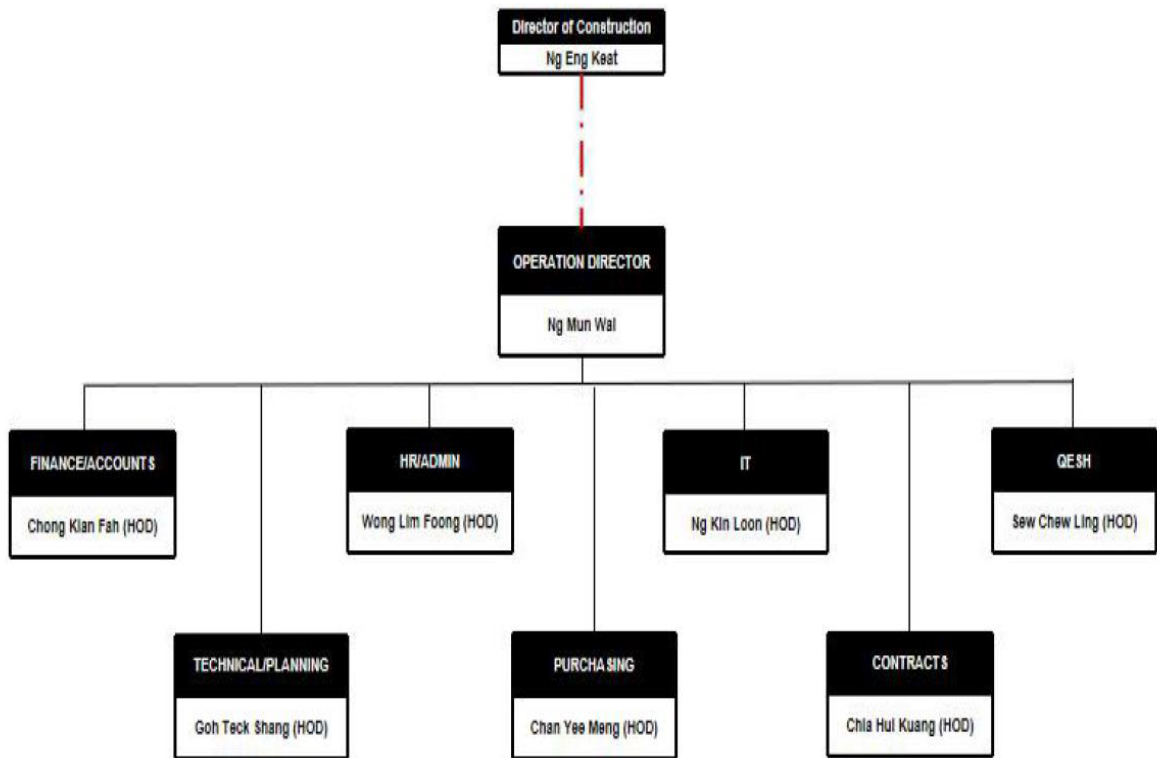


Figure 2.3.1

Management Organization Chart (DTC Site W411)

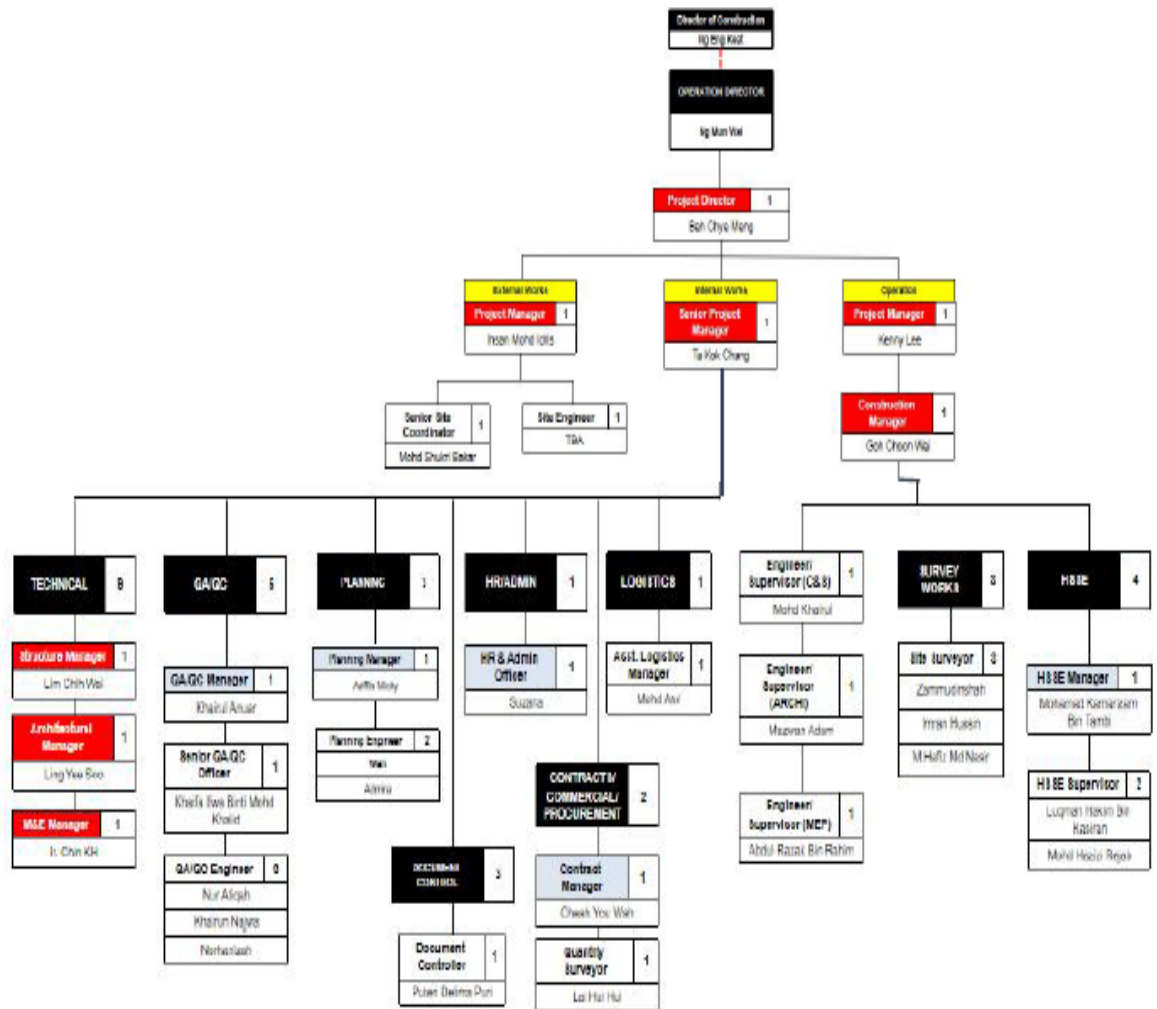


Figure 2.3.2

2.4 List of Projects

2.4.1 Completed Projects

No.	Project Title	Project Value	Start Date	Completion Date	Project Duration	Client
1	Mytown Shopping Centre, Jalan Cochrane, Kuala Lumpur	RM700 million	2014	16 February 2017	3 Years	Boustead SDN BHD
2	Selangor International Circuit, Selangor, Malaysia	RM308 million	1 November 1997	7 March 1999	3 Years	Selangor international Circuit SDN BHD
3	Kota Kinabalu International Airport Sabah, Malaysia	RM704 million	Mid 2008	4 March 2010	2 Years	Malaysia Government

2.4.1- Project in Progress

No.	Project Title	Project Value	Start Date	Client
1	Pavillion Damansara Trade Center site- DTC W407, Damansara, Selangor	RM2 Billion	2018	Pavillion
2	LRT3 (TD1, GS02 & GS03) Bandar Utama to Johan Setia, Malaysia	RM1.7 Billion	2017	Prasarana Malaysia Berhad
3	MRT2 (V204 & S204) Bandar Malaysia South Portal to Kampung Muhibbah, Malaysia	RM972 million	November 2016 and September 2017,	Mass Rapid Transit Corporation Sdn Bhd

CHAPTER 3.0

CASE STUDY

3.1 Introduction to Case Study

This project is known as Pavilion Damansara Height (PDH). Pavilion Damansara Height is located within the luxury enclave of Damansara Height with specific location of Pavilion, Lot 480023, Jalan Beringin, Bukit Damansara, 50490 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur. Previously this project was given to China Construction Yangtze River (CS3) however when our country are fighting against Covid-19 Pandemic all the Chinese worker were send back to China and affected the project progress because of lack of worker has result to changes of contractor. Hence, PDH project has been given to WCT and directed by Mr. Beh Chye Meng for Architectural, super structure and sub structure whereas Mr. Ihlsan for Infrastructure. This projected costed about 2 billion and expected to be completed in 2022.

Pavilion Damansara Height (PDH) are also known as DTC Project currently are divide into 2 phases with a specific code which is W407 for Phase 1 and W411 for Phase 2. This project implies execution and completion of sub-structure and super-structure which consist this item for phase 1:

- i. 8 levels of basement parking lot.
- ii. 7 levels of podium retail form level Lower Ground to Level 3A.
- iii. 9 Blocks of Office Tower.
- iv. 3 Blocks of Residential Tower
- v. External Infrastructural works such as drainage and road.
- vi. Facade Construction.
- vii. Landscape work
- viii. Architectural work
- ix. Mechanical, Electrical and Plumbing (MEP) Work.

For Phase 2 the different only can be seen at the number of office tower and residential block:

- x. 2 blocks of residential tower
- xi. 1 block of office tower
- xii. 9 level of podium from Ground level to Level 6

As assigned in office tower, staircase is commonly seen in there which is U-shaped type staircase. In architectural department, there are many works that involve staircase such as formwork, concrete casting, brickwork, plastering, railing, screeding, skimming and especially inspection. While being tasked in architect team, many knowledge about staircase was gained about staircase was gained. Focusing on method on constructing staircase, the case study will take investigate on how staircase is built, inspect and finishing. This case study also will investigate the problem of staircase such as defect, obstacle and outstanding work with their solution to solve the problem.

3.2 Tiling Finishing Work Method

First of all, choose the area to be tiled and setting out the area. Then, the areas of the RC concrete to be tiled are need to be brushed clean, dampened and the finished floor level is to be established. After that the mortar for bedding the tiles shall be as shown in the drawing and/or project specifications. This is a picture of brushed clean at the area that need to be tiles.



Figure 3.2.1

When the area is done brushed clean until its surface is smooth, Setting out shall be done by the surveyor and approved by the consultant. And after that, the work of tiling must be done by professional and experience tiles installer to assure the best outcome.

A toolbox talk will be initiated by the safety team to the personnel who will perform this to make sure all rules and safety regulation are mean to be follow. This step are for safety reason. After that, the relevant documents must be review and check to verify whether the preceded activity was completed and approved by the consultant.

Then, contractor will locate all the construction joints in the shop drawing and shall be approved by the Engineer before the work commences.

QA/QC Representative will verify that all the apparatus and instruments used to check the quality of material and conditions were all calibrated with supporting documents. Allocate a dedicated Site Engineer to supervise this activity that will ensure that this Method Statement, ITP, and other specific documents related to this activity.



Figure 3.2.2

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Figure 3.2.3



Figure 3.2.4

After the type of tiles approved by what its sizes shall be used for laying,
The supervisor must ensure the MEP clearance obtained. This step is done to avoid
any obstacle and to ensure its still follow the work sequences. When the time to do
the work come, the working area must be restricted for unauthorized entry to make
sure the work done smoothly and avoid more work.



Figure 3.2.5

The surface to which tiles are to be fixed shall be thoroughly dry before fixing commences and free from all defects. The areas to be tiled shall be brushed clean and all traces of grease, oil, loose particles, etc. must be removed.

In wet areas, check that approved water proofing is completed as per manufacture's instruction, recommendation, and tested for leakage and cleared from all disciplines with approved clearance.

Ensure that the laying of tiles shall be as per the direction and pattern agreed with the consultant.

Before laying of tiles, ensure setting out shall be done by the surveyor.

Tile layout and start point on floors and walls shall be follow the layout on floors/walls as per approved shop drawings.

Before start any installation work, first , must mix bedding or adhesive materials thoroughly as approved to a uniform consistency in a suitable forced action as per manufactures recommendations.

For installation of Homogeneous tiles as required by approved shop drawing finishing schedule. Only the approved tile adhesive/ mortar will be applied to substrate and backside of the tiles.

The laying and fixing of tiles will be start from the location marked on the approved shop drawing and mentioned as “Setting out Point”. Tiles will be laid in prepared area to give true and regular appearance to tiles and joints maintaining the desired level by using Laser Marking Machine. Tiles will be fixed in accordance with approved setting out drawings.

Next, level marks will be provided and set up to finish level as per surveyor’s marking based on the approved drawings. Then, the tiles will be fixed in place and pressed firmly with twisting and sliding action to give finished bed thickness within the tolerance limits as defined in specifications and drawings.

Installation will be in manner to ensure that no voids under the tiles occur. it will be ensured that joints are true to line, continuous and without steps. The joint width will be 2mm or shall be determined according to manufacturer’s recommendations and

the material used for grouting.

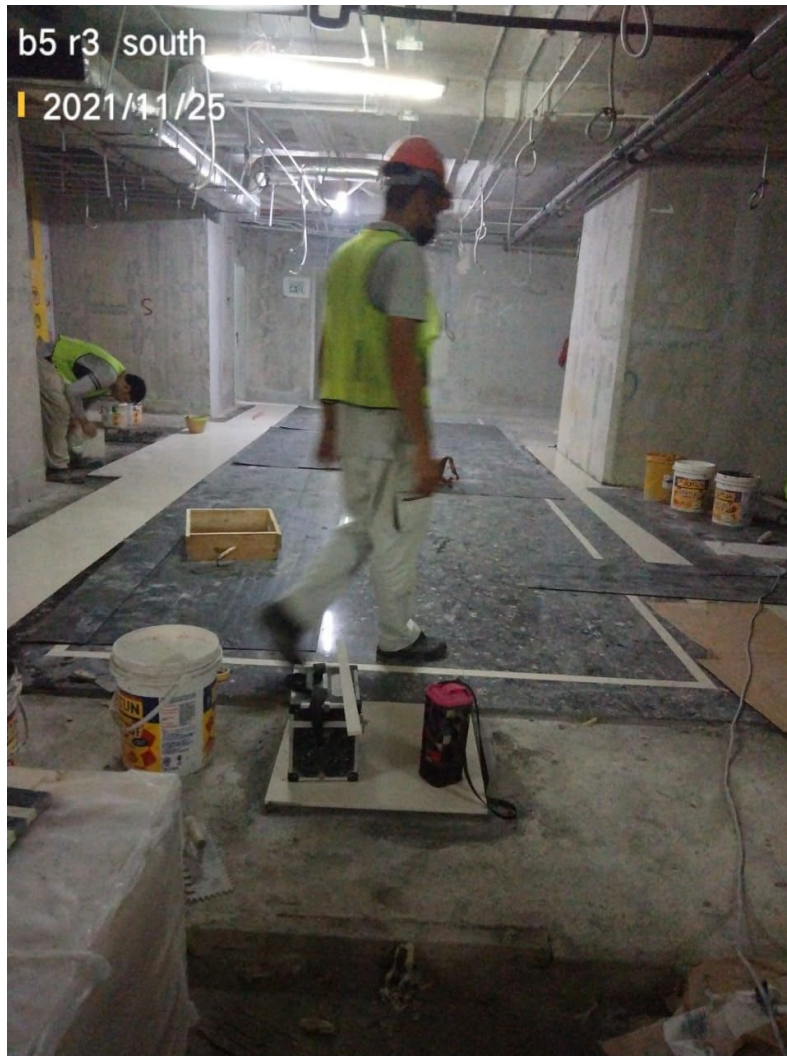


Figure 3.2.6



Figure 3.2.7

The materials used for each type of floor and skirting finishes shall be approved by the consultant Control joints will be provided in large areas in each direction and at perimeter walls or where required as per details shown in relevant approved shop drawings.

The tiles will be fixed closely to electrical outlets, piping, fixtures and other penetrations so plates, collars or covers overlap tile the tile work will be extended into recesses and under or behind equipment and fixtures to form a complete covering without interruptions, unless otherwise indicated and will be terminated neatly at obstruction, edges and corners without disrupting pattern or joint alignment

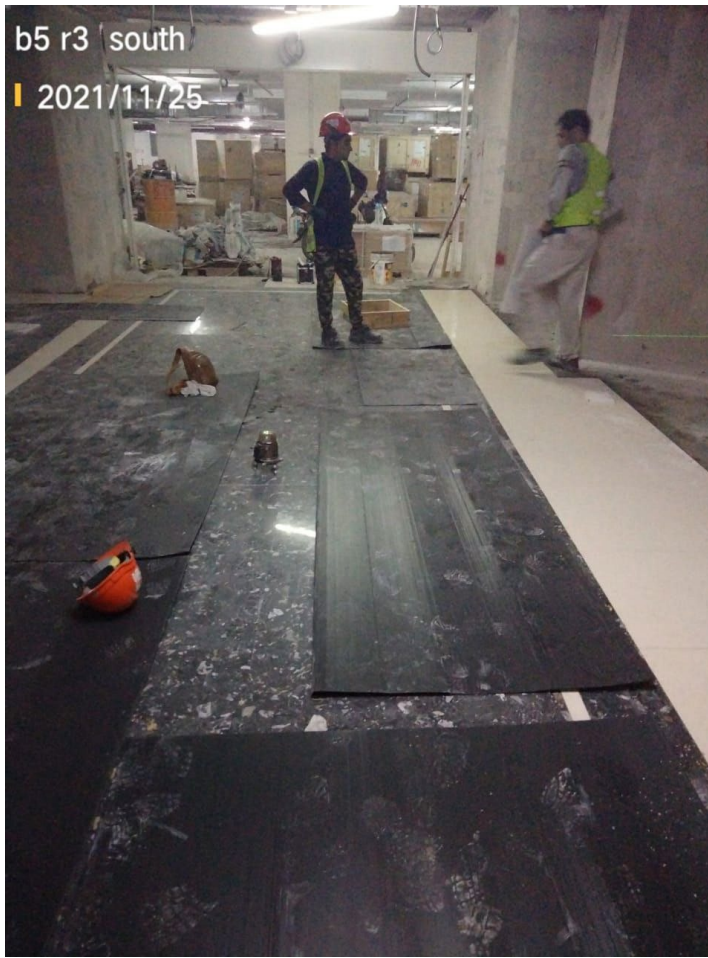


Figure 3.2.8

GROUTING

Application of the tile adhesives and grouts as approved, will be carried out in accordance with manufacturer's recommendations. Application of approved tiles grout to infill the joints and clean off the surface using sponges. Bedding/adhesive Allow materials to harden sufficiently before grouting. Ensure that the joint width and depth is maintained and free from dust and debris. Grouting and filling of joints will be done in accordance with grout manufacturer's recommendations. Grout will be forced to fill joints completely to entire depth, tooled, clean off by leaving surfaces free from blemishes. Floor will be closed for all kind of traffic including foot traffic for 24 hours after installation for sufficient hardening

CLEANING/FINISHING AND PROTECTION

Installed works will be kept cleaned as work progresses. After grouting and pointing, tiles will be cleaned with stiff fiber brushes and water. The use of wire brushes or acids shall not be permitted. Mortars/excessive grouts and alkali washed-offs, if any will be removed from surfaces. At completion, flush down with water to make surface good and cleaned. All debris, equipment and excess material resulting from the work will be removed from the site upon completion of tiling works in the area. The tiles shall be protected and maintained after completion to ensure tiles are without damage.

3.3 Tiling Problem And Their Solution

First, the most common problem in tiling is the loose tiles. Sometimes the existing tiling material is coming loose from the substrate and you will not notice it without further investigation. To determine whether the existing tile is in good condition to accept another tile on top of it, use a tool to gently hit the tile. A hollow sound indicates that the tile does not adhere properly or, in some instances, it might be because of the type of substrate used. If this is the case, then the whole floor should sound hollow because of the uniformity of the substrate. Before starting the installation, check the floor and if needed remove the loose tiles. The solution for this problem is first you must drill into the grout beside your loose tile. You need it to be deep enough to allow for the adhesive to get under the loose tile. Then, place the spout of the adhesive, or epoxy, into the hole you drilled and slowly squeeze some into the hole. After that, let the material settle under the tile and continue to squeeze some into the hole until it stops settling under the tile. Place something heavy on the tile to help remove air bubbles and set the tile into the adhesive. Now, using a damp cloth or sponge, wipe away any extra residue. After 24 hours remove the heavy object. Put new grout into and over the holes, you drilled.

Another common problem for tiling is cracked tiles. It is because sometimes tile will crack without you noticing. Professionals tend to think that the tile cracked because something fell on top of the tile, but it is not always the case. Cracked tiles may occur because the joists tend to move and probably the tiles are located mid-span between joists. Before starting to perform the work, make sure that the floor is leveled and the subfloor is properly reinforced. The maximum deflection allowed needs to be in the range of 1/360th of the span length. The solution for this problem is First ,clean the cracked tile with a material and lathery water to eliminate surface soil and grime. Then, at that point, flush the tile with clean water and dry with a spotless towel. The unglazed tile exposed by the break ingests water that isn't effectively cleaned dry, so run a hair dryer over it for around 15 minutes to totally dry the tile. Presently , apply oil-based primer to the break with a little paintbrush. Apply the primer in a flimsy layer and just to the break. Try not to get paint on the tile's coated surface nearby the crack.After that, permit the primer to dry for no less than two hours,and then apply a layer of serious shine oil-based paint that matches the tile color to the break. Cover the cracked tile if important to shield it from pedestrian activity and pass on the paint to dry for the time being. Some hairline breaks are practically unnoticeable. If so, you shouldn't have to apply the primer and paint.After that, press equivalent measures of each office of a two-section, get marine epoxy out onto a piece of cardboard. Blend the parts of the epoxy completely with a wooden stick.Then, plunge a limited paintbrush or a toothpick into the epoxy and spot the epoxy straightforwardly into the break. Apply in limited quantities and utilize barely sufficient epoxy to carry the epoxy level with the highest point of the tile along the length of the break. Ultimately ,pass on the epoxy to set. This normally takes about 60 minutes. Secure the tile from people strolling through for something like 24 hours

CHAPTER 4.0

CONCLUSION

For conclusion , we can assume that tiles is a significant part in inside plan, setting the look and feel of the area. Tiles are utilized to make the ideal climate. For sure tiles are something that can make one are look classy, and stylish. The important part of our investigation area at DTC Bomba Lift Lobby . Bomba Lift Lobby is a very important part of building because it is use for evacuation system and for safety reason. So it must look nice and easy to reach and escape from.

The method of tiling construction is typically used in the site which is started with setting out work and finishing work. The tiles installation works also similar in every site that construct here as per client wish. The structure, finishing and safety must be ensure and considerate to avoid any bad situation in future. Therefore, all works of tiling need to be monitored and inspected before approved and hand over the works.

Moreover, construction is not perfect therefore there is always problem and issue that faced and witnessed. Tiling works also have their own problem such as defect, wrong sequence installation and outstanding work. Therefore, as a site coordinator, they are assigned to solve the problem immediately to ensure that any work after can be done smoothly and not delayed. Problem in construction can be solved with many methods in any circumstance as long as its not disturb or prevent another construction

