



اُنِيُوْرَسِيْتِي تِيكْنُوْلُوْجِي مَارَا
UNIVERSITI
TEKNOLOGI
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DEPARTMENT OF BUILDING

FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING

UNIVERSITI TEKNOLOGI MARA

(PERAK)

SEPTEMBER 2014

It is recommended that the report of this practical training provided

BY

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Entitled

FLOOR FINISHES

Accepted in partial fulfillment of requirement has for obtaining Diploma In Building

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(PERAK)

SEPTEMBER 2014

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 NN Azam Resources (M) Sdn Bhd for duration of 5 months starting from 12th May and ended 28th September 2014. It is submitted as one of the prerequisite requirements of DBN 307 and accepted as a partial fulfillment of the requirements for obtaining the Diploma in Building.

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Thank you very much

ABSTRACT

Floor finishes are one of the main components in a building. Floor finishes also provides protection and extend the life of the floor while providing an attractive appearance and long lasting floor. Therefore, this report will discuss about the many types of floor finishes and criteria in selecting the most suitable floor finishes. Apart from that, this report will also elaborate about how the construction of floor finishes at one of the projects. This report also will concentrate about how important it is a floor finishes to a house as it provides comfortable environment for its occupants. Then, based on all the details, this report will conclude about recommendations of what type of floor finishes that is the most suitable and how to increase the quality and appearances of a floor finishes.

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LIST OF ABBREVIATION

UiTM Universiti Teknologi MARA

CHAPTER 1

PREFACE

1.1 Introduction

Tiles have an illustrious history. Samples of early clay and mud tiles are dated at seven thousand years old. Decorative tiles which were found in Egypt were dated back to 4000 BC. The art of manufacturing of tile was demonstrated by the Assyrians and Babylonians in Mesopotamian architecture. Throughout the further years, the Romans, the Greeks, China, Persia, India, Syria, Turkey, Tunisia, among a few others, also became the leading developers of the art. There are many glorious examples of tiles which exist in-situ and in museums today.

In the last few years, many innovations have revolutionized the industry of tiles. Porcelain body floor tiles and white body ceramic wall tiles use digital ink-jet technology to achieve authentic stone appearances or very refined designs. Computers and machines in the factories do most of the work. Besides providing the world with variety of sizes and styles of tiles, there are many countries involved in manufacturing tiles which are proactive in using recycled materials and taking other measures to preserve the environment.

1.2 Objective

This report is prepared to provide general construction of tiles; hence the following objectives are as follow:

- 1.2.1 To identify the various types of tiles.
- 1.2.2 To identify the criteria in selecting of tiles in a building
- 1.2.3 To identify the method of construction tiles.

1.3 Scope Of Study

The study of Type of Floor Finishes take place at houses that my company's project that are at Sungai Keladi, Kampong Pendek, and Kampung Desa Rahmath in Kelantan apart from other types of finishes such as roof finishes, wall finishes.

Floor finishes is a material which is applied to floor and then dried so that it will provide a durable, hard and smooth finishing. This type of finishing is expected give protection and extend the life of floor finishing while at the same time providing an attractive appearance and slip resistant surface.

Lastly, the costs of the construction of floor finishes at each site are not the same because of the usage of different equipment, items and manpower. The finishes at each project also have their pros and cons. Hence, the selection of finishes must be wisely done to prevent and avoid from unwanted wastage of money, time and energy.

1.4 Method of Study

The methods of study are as follows:

1.4.1 Interview

Interview is one of the methods that can be used to study the cases that are involved. Interview is also the most effective way to gain information as we can gain information directly from the party that is involved in the construction work such as the supervisor, the site officer, site engineer, labour worker, and other workers who are directly involved.

1.4.2 Observation

The other method to gain information is by observation of work directly at the site. This method enables a process of gaining information without having to do any action. Among the steps in observation are by studying the work done, any progress happening, inspecting the work that is done and others. In order to gain intellectual information about how to construct the finishing works, a question and answer session must be applied so that the workers can know what we do not understand and explain to us how to finish the job.

1.4.3 Internet

The other method to gain information is by using the internet as resources. This method makes the process of gaining information easier as all the information are already at the internet. The steps in obtaining information from the internet are researching the title of information and then making comparison between the information that are collected from various websites to determine which information to be taken.

CHAPTER 2

COMPANY BACKGROUND

2.1 Introduction

The company namely **NN AZAM RESOURCES (M) SDN BHD** was formed in 1996 (Registration no. 307409 – M) with authorized capital of RM 1,000,000.00 and unlimited paid up.

NN AZAM RESOURCES (M) SDN BHD is wholly owned by the Bumiputera Corporation. Starting as an Importer and Supplier of raw material for Batik Product Industry in Malaysia and Brunei, our founder, Dato' Nik Noor Azam Bin Haji Noor Basir and Puan Nik Kamariah Binti Abdullah are the shareholders both are active in the company management and projects.

The company is principally engage in the arena of medical supplies as well as supplying medical and dental equipments such as disposable items, reagents, detergents, laboratory equipments & chemicals. The company is also engage in the arena of constructions, renovations contracting projects as well as supplying office furniture, work stations, business equipments and science laboratory furniture systems.

Having successfully completed various local projects established itself in the market with satisfied and returning clients among the government and corporate roots, good track records and healthy working relationships with the financial institutions.

NN AZAM RESOURCES (M) SDN BHD is registered and certified with as a Bumiputera Contractor. We are proudly moves in a dynamic, experienced and qualified team of employees to ensure the smooth persuasion in order to achieve the targets and objective of the company endeavor.

2.2 Company Profile

2.2.1 Company Logo

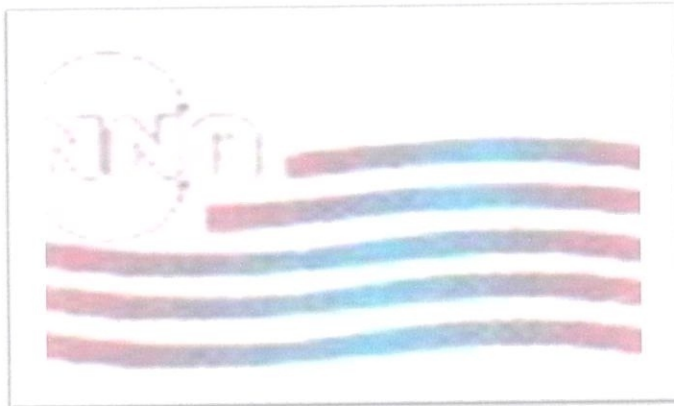


Figure 2.1 NN AZAM logo

2.2.2 Company Motto

“We share our passion with other corporation and individuals because we all have to work together to success in all arenas we engage...”

2.3 Organisation Chart

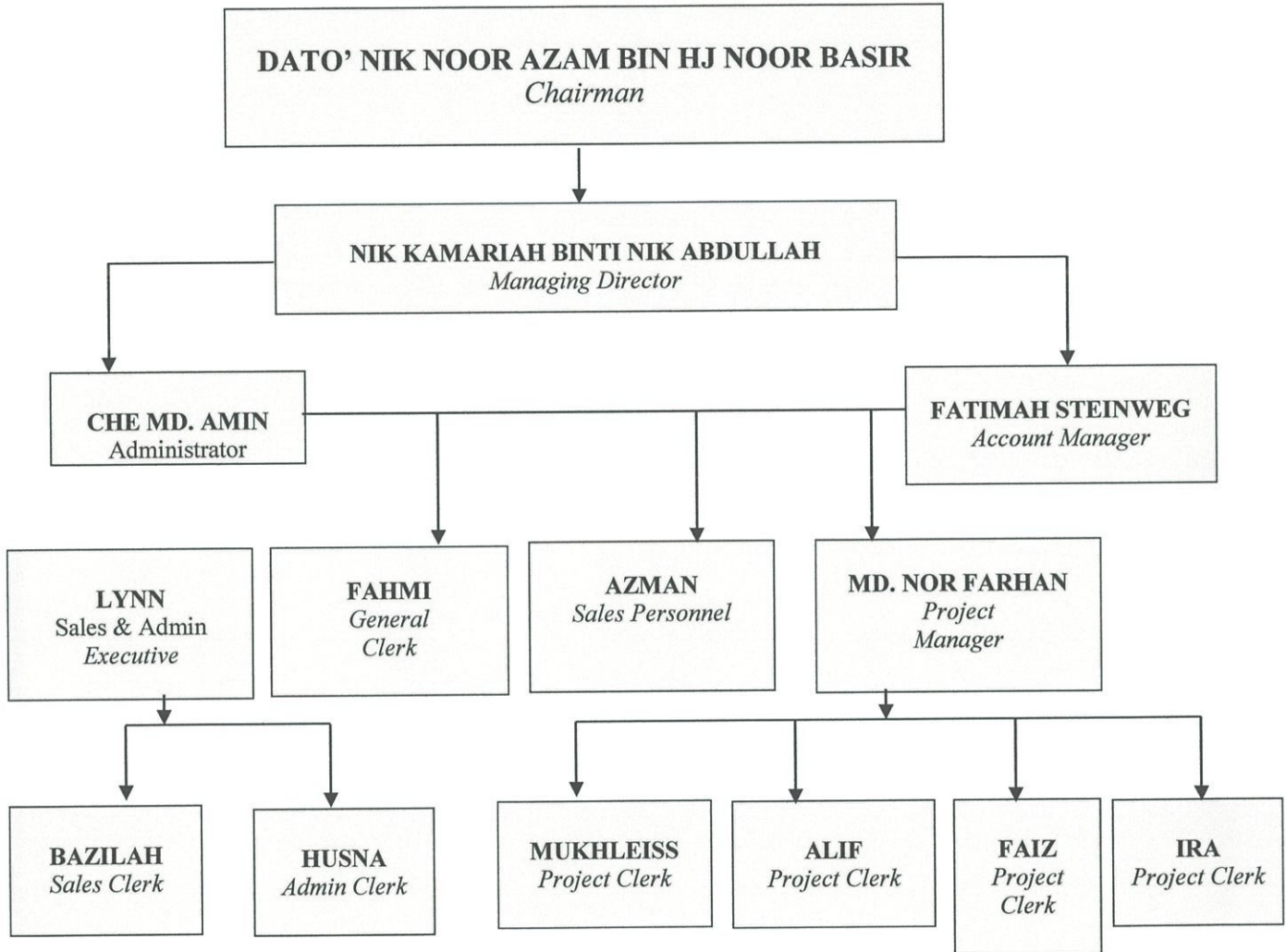


Figure 2.2 Organization chart

2.4 List of Projects

2.4.1 Completed Projects

NO	PROJECT	CONTRACT SUM (RM)	START DATE	COMPLETE DATE
1.	To Propose Design & Build A Fully Furnished Corporate Office of Duli Teramat Mulia Tengku Abdullah Ibni Sultan Ahmad Shah at K.L Pavillion, Kuala Lumpur	3.6 Million	21.2.2011	24.5.2013
2.	Housing Project of 10 unit Bungalow Single Storey at Taman Nik Kamariah, Limbat,Kota Bharu,Kelantan.	3.25 Million	12.3.2010	10.5.2012
3.	To Propose & Build 4 units of 3 Stories Semi D at Mukim Batu Wilayah Persekutuan Kuala Lumpur.	2.28 Million	22.5.2009	18.2.2011
4.	To Propose Concept & Design of Internal Design of 51 units Apartment at Perdana Resort, Kelantan for Perbadanan Kemajuan Iktisad Negeri Kelantan (SEDC)	1.25 Million	24.2.2012	21.6.2014
5.	To Purpose Design of Renovation Works for Kelantan Trade Centre (KTC), Kota Bharu, Kelantan.	1 Million	20.1.2012	14.2.2013

Table 2.1 List of completed projects

2.4.2 List of Ongoing Projects

NO	PROJECT	CONTRACT SUM(RM)	START DATE	COMPLETE DATE
1.	To Purpose Concept & Design of Furniture for Bungalow at Taman Harian,Kota Bharu,Kelantan	6,566,124.69	2.2.2014	-
2.	Housing Project of 2 unit Bungalow Double Storey at Taman Harian	248,136.55	21.1.2014	-
3.	Housing Project of Semi D 4 Unit at Taman Harian,Kota Bharu,Kelantan.	635,432.66	13.10.2013	-

Table 2.2 List of ongoing projects

CHAPTER 3

CASE STUDY

3.1 Introduction

A floor is a flat surface to bear the weight of the occupants, furniture, tools and sometimes the interior wall. According to wall-laws of the building, the floor is any floor surface buildings including beams, boards, stone, concrete, metal or any other material that are associated with or a part of the surface.

Installing floor finishing also adds strength to the floor, simplifying maintenance and cleanliness of the floor, as well as decorating the room. In addition to these functions, the effect of the installation of floor finishes also presents certain atmosphere in the room, depending on the type and pattern that is selected. Several types of floor finishes are tile mosaic of stone tiles, ceramic tiles and mosaics; wood floor finishes that are strip board, parquet and timber board, which is a synthetic floor finish vinyl tile and linoleum, and carpet floor finishes which are carpet tiles and carpet rolls. For the calculation of the cost of materials and the cost of tile installation is a final work for construction purposes anxious to get a flat surface, neat and beautiful. Besides it is also used as a garnish in accordance with the proceedings of the construction done.

3.1.1 Types of Floor Finishes

I. Cement Plaster

Portland cement plaster finishes or coloured cement in concrete is common floor finishes used in the construction of industrial buildings and residential houses with low cost. This type of finishing can be made in a "monolithic" way which can be made at the same time concrete layer is placed or as a separate layer of finishes. The surface is smoothed by using trowel before the cement hardens.



Photo 3.1 Example of cement plaster

II. Parquet

Parquet is made with wooden pieces arranged as shown in Photo 3.1.2. This timber is attached to the paper width 300 mm x 300 mm for easy attached to the concrete base using glue. Parquet surface must be sharpened with a grinding machine to be smooth and slippery. The smooth and clean parquet surface can be trimmed by wax. The type of wood used to make the parquet floor is Teak (Kayu Jati) and Kempas.

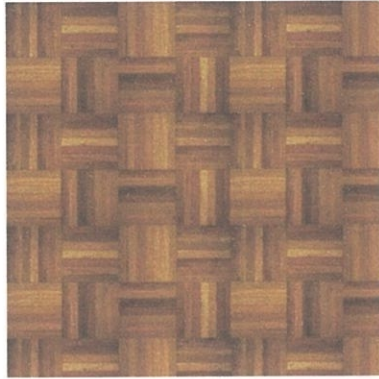


Photo 3.2 Example of parquet

Source: Pereka (2012)

III. Tiles

Many types of tile are available for variety of uses. These tiles are either made from clay, sand and other additional materials by combustion process. Tiles are hard and waterproof and have certain attributes which are for special purposes, such as slip resistance, durable tile and so on. These tiles were produced in various sizes and colours and are homogenous or glossy on surface.



Photo 3.3 Example of tiles finishing

IV. Marble

Marble stone slabs which are uneven or irregular slabs are mounted on a concrete base using cement mixture. The floor surface should be sharpened with a stone grinding machine until they are flat and smooth, and then finished with wax.



Photo 3.4 Example of marble finishing

V. Mosaic

Mosaic is made of clay and other additional materials by a combustion process. It is a small tile pieces which are arranged in various designs. Mosaic is usually attached to the paper with the size of 300mm x 300mm. The construction is done by using a mixture of cement to glue the mosaic on a concrete base. In the midst of this are filled with cement and sand.



Photo 3.5 Example of Mosaic Finishing

Source: Pereka (2012)

3.1.2 Criterias in selecting Floor Finishes

- 1) It should be durable
 - So that it will be long lasting and less maintenance is required.
- 2) It should be easy to clean
 - Easy to clean and reduce time for cleaning.
- 3) Noiseless
 - Does not produce noises when walking on the surface which can be annoyance to the environment.
- 4) Have Good Appearance
 - Gives a great and beautiful look to the floor and the room.
- 5) Fire Resistant
 - Must be fire resistant and not easily spread fire when fire occurs.
- 6) Low Maintenance Cost
 - Less maintenance required hence finishes must be durable and easy to maintain.

3.2 Project Background



Photo 3.6: Project House

Project Title	: Proposed Of Adding and Renovating To 2 Unit of 1 Storey Residential House to 1 ½
Client's Name	: Shueb Bin Abdul Kadir
Contract Price	: RM 3,621,554.90
Contract Period	: 90 Weeks
Liquidate & Ascertained Damage	: 5% of the contract Price
Defect Liability Period	: 4 Weeks

Consultants :

Architect	AHA ARCHITECTS, 28-2, Jalan 4A/27A, Alpha Mewah, Section 2 Bandar Baru Wangsa Maju, 53300 Kuala Lumpur
Civil and Structure Engineering	NN Azam Resources (M) Sdn Bhd, Lot 717, Jalan Sri Cemerlang 14/27 off Jalan Pengkalan Chepa 15400 Kota Bharu, Kelantan
Electrical and Mechanical Engineering	Rusdi Shamsudin Lot 400, Jalan Long Yunus, 15200 Kota Bharu, Kelantan
Quantity Surveyor	Labend Deco Enterprise Lot 1870 B&C, Batu 2, Jalan Pengkalan Chepa 15400 Kota Bharu, Kelantan
Main Contractor	NN Azam Resources (M) Sdn Bhd, Lot 717, Jalan Sri Cemerlang 14/27 off Jalan Pengkalan Chepa 15400 Kota Bharu, Kelantan

Table 3.1: List Of Consultant involved

3.3 The Method Of Construction

In the case study, we are going to look into the details of the construction work of floor finishes at one of the construction site which is in Taman Harian, Desa Rahmath. The type of floor finishes that is used for this case study is Tile finishing. The number of worker involved is one and the construction of floor tiling works is at the ground floor of the house. The period of the tiling works takes approximately two days.

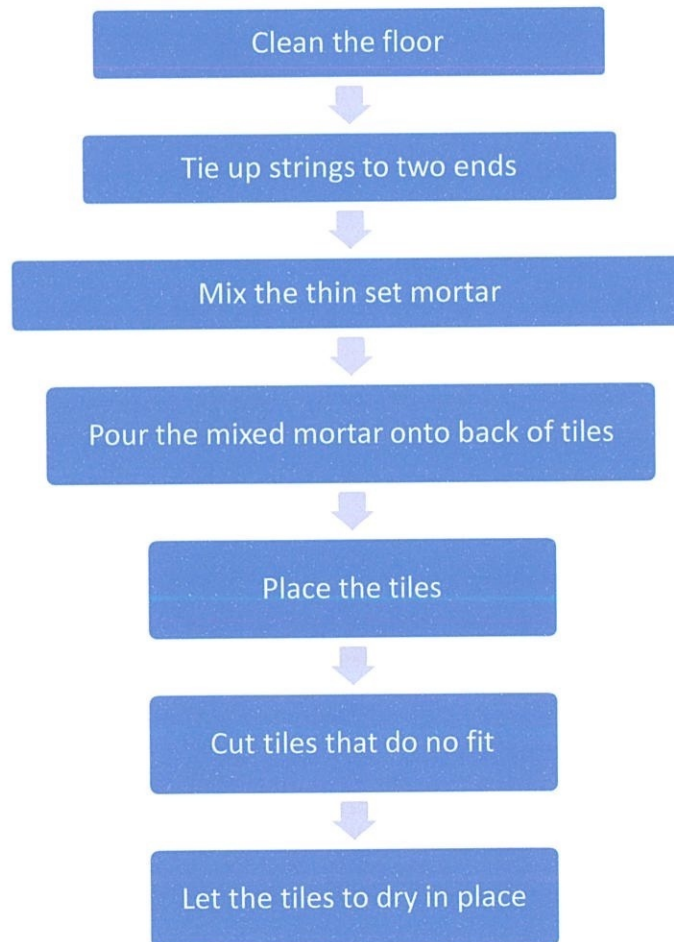
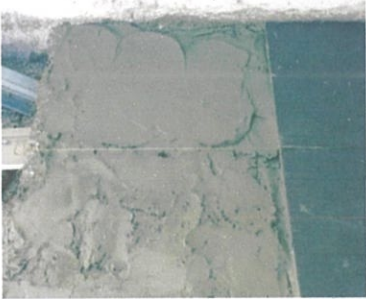



Figure 3.1 Sequences of operation

3.3.2 Construction of Tiles Work

Operation	Method	Diagram
Clean the floor	Clean the floor of dust and dirt. This ensures the surface that is going to be tiled to be smooth.	
Tie up a string to two ends	Place two points using nails and tie up strings to both points so that will help keep the tile placement perfectly straight.	 <p data-bbox="863 1061 1299 1144">Photo 3.7 Strings to two end of nail</p>
Mix the Thin-Set Mortar	Pour about a quarter bag of the cement into two small buckets. Add some water water to get the dry cement wet, and begin mixing. Proceed to mixing until the mixture is creamy.	 <p data-bbox="863 1621 1299 1659">Photo 3.8 Mixing a set of mortar</p>

<p>Pour the mixed mortar onto back of tiles</p>	<p>The mixed mortar are poured onto back of tile and is applied evenly onto the back of tiles</p>	 <p>Photo 3.9 Applying mortar on back of tile</p>
<p>Place the Tiles</p>	<p>Put the tiles in place.</p>	 <p>Photo 3.10 Placing the tiles</p>



<p>Cut tiles that do not fit</p>	<p>When there's a space where a standard tile does not fit, mark and cut the tile with a standard tile cutter.</p>	 <p>Photo 3.11 Cutting tiles</p>
<p>Let the tiles to dry in place</p>	<p>Repeat the process, by using the string line to ensure tile placement perfectly straight. When all the tile work is complete, allow the tiles to dry in place</p>	 <p>Photo 3.12 Leave tile to dry</p>

Table 3.2 Process of tiling a floor

CHAPTER 4

CONCLUSIONS AND RECOMMENDATION

In conclusion, the objective of tiles is to give aesthetic factor and durable surface to floor to make the building more attractive and also can give protection to floor finishes. Tiles may come in various types and colours and made of different materials but still serve as one purpose.

Next, tiles look like it can be easily to construct but the process of tiling works consists of several stages before it is finished. The process begins with tying strings to two ends of nail, then mixing the thin set mortar, the pouring of mixed mortar onto back of tiles, the placing of tiles, the cutting of the tiles that do not fit, and lastly let the tiles to dry in place. This tiling works must only be done by an experienced worker or else there will be defects to the tiles afterwards.

There will be problems in construction of tiles. Often the problems are the tiles that are required are not enough due to some mistakes by tiler during tiling works. This is caused by tilers who do not measure tiles according to tiles required for the floor surface. Then the tiles which are ordered become insufficient and this will cause the cost of tiling works to increase.

My recommendation is, in order to avoid the problem is by hiring an experienced tiler. Other than able to avoid wasting usage of tiles, an experienced tiler also can reduce the time that is needed to construct tiles for floor and the quality of the tiling works will also increase.

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Appendix A: Typical Floor Plan

