



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

HOT WATER SUPPLY

Prepared by:

ANISYA SABILLA BINTI MOHD TAUFIQ EDWARD

2019446184

Date : 8TH January 2022

ACKNOWLEDGEMENT

Alhamdulillah, praise to Allah, the Most Merciful, the Most Graceful.

I'd want to express my heartfelt gratitude to the following group of incredible people for their guidance, counsel, and assistance throughout the training period. First and foremost, I'd want to express my gratitude to Mr. Azlan Ahmad for providing me with the opportunity to undertake my training in his prestigious firm. Mr. Emran Yusop and his team of specialists have helped me to study and enhance my understanding, knowledge, and feel for real-world projects, as well as the theory involved in structural analysis, building maintenance, and civil works. They are also in charge of simplifying and evaluating my training. Also, thanks to the Hotel Le Meridien for their continued support and assistance in furthering my grasp of construction and site management procedures, testing protocols, site safety, and industry best practices. It is a privilege for me to be able to 'work' with everyone.

I'd also want to express my gratitude to all of the UiTM instructors who have helped me grow as a student and person. I'd want to express my gratitude to the professors who were personally involved during my training period. I appreciate the time, effort, encouragement, and ideas that Cik Nor Azizah Binti Talkis, Supervising Lecturer, Puan Nurhasyimah Binti Ahmad Zamri, Evaluation Lecturer, Dr. Nor Asma Hafizah Bt. Hadzaman, Practical Training Coordinator, and Dr. Dzulkarnaean Bin Ismail, Programme Coordinator have contributed to the successful completion of my training, this report, and the valuable knowledge that they have shared over the last few semesters.

Last but not least, I want to express my gratitude to my loving parents for all of their efforts throughout the years.

Thank you a lot.

ABSTRACT

Water that is free of contaminants is essential to our survival. We use water to bathe, drink, wash, and do a variety of other things. As a result, having a full and complete water system in a structure is critical. Cold water and hot water systems are the most typical systems that humans require. Hot water is a necessity in our daily lives. It is significant not only in household settings, but also in business structures. Offices, hotels, and even hospitals are examples. Electrical heating systems and solar energy heating systems are the two most frequent forms of hot water systems in Malaysia. This report was conducted for the building envelope for hot water supply that are used at Hotel Le Meridien Putrajaya. The objective of this report is to know the process of the hot water supply and how the hot water supplied to the consumer that operated in Hotel Le Meridien. It will focus on the distribution of hot water supply that provides a comfortable environment for its occupants to bath and drink. To illustrate the process of hot water as an important aspect to focus on consumer satisfaction achievement in rooms and then to evaluate how far the potential of the building envelope that could fulfill the building criteria that is prescribed by the requirements in the guideline based on measurement of the average thermal energy of a substance. The report will also look at hot water efficiency management based on guidelines by producing effective and sustainable energy use as well as assess the quality of hot water use by creating an energy efficient environment that saves energy and provides better impact for users staying in hotels.

| CONTENTS | PAGE NO |
|--|----------------|
| Acknowledgements | 5 |
| Abstract | 6 |
| Contents | 7 |
| List of Tables | 8 |
| List of Figures | 9 |
| | |
| CHAPTER 1.0 INTRODUCTION | |
| 1.1 Background of Study | 10 |
| 1.2 Objectives | 12 |
| 1.3 Scope of Study | 12 |
| 1.4 Methods of Study | 13 |
| CHAPTER 2.0 COMPANY BACKGROUND | |
| 2.1 Introduction of Company | 15 |
| 2.2 Company Profile | 18 |
| 2.3 Organization Chart | 20 |
| 2.4 List of Project | 21 |
| 2.4.1 Completed Projects | 21 |
| 2.4.2 Project in Progress | |
| CHAPTER 3.0 CASE STUDY (BASED ON TOPIC OF THE REPORT) | |
| 3.1 Introduction to Case Study | |
| 3.2 Subtopic (Based on objective 1) | |
| 3.3 Subtopic (Based on objective 2) | |
| 3.4 Subtopic (Based on objective 3) | |
| CHAPTER 4.0 CONCLUSION | |
| 4.1 Conclusion | |
| | |
| REFERENCES | |

CHAPTER 1.0

INTRODUCTION

1.1 Background of Study

Hot-water systems typically contain a central boiler that heats water to a temperature of 140 to 180 °F (60–83 °C) and then circulates it through pipes to coil units, such as radiators, positioned throughout the house. Pressure and gravity may both circulate hot water, but forced circulation using a pump is more effective since it gives you more flexibility and control. Radiation and convection are used in the rooms to distribute heat from the emitters' surfaces. After cooling, the water is reintroduced to the boiler. Combination systems use ducts to deliver air from the central AHU and water to heat the air before transferring it into the conditioned space. In central-heating systems, combination boiler heating systems are the most frequent. Running on mains pressure water eliminates the requirement for both storage tanks in the loft and a hot-water cylinder because the water is heated instantaneously when needed. Hot-water circulation systems are generally convenient and conserve water, although they have shown to be inefficient and energy-intensive.

In general, hot-water systems circulate heated water through either a one-pipe or two-pipe system. Because the one-pipe system requires less pipe than the two-pipe system, it is less expensive to install. However, it is less efficient because the end of the loop requires larger radiators or longer baseboards because it receives less heat. A one-pipe system is quite straightforward to operate: water enters each radiator from the supply side of the main pipe, circulates through the radiator, and returns to the same pipe. There are several ways to arrange the piping in boiler hydronic systems, depending on the money available at the time of installation and the level of efficiency necessary.