



UNIVERSITI TEKNOLOGI MARA

**FLAT ROOF WATERPROOFING: COMPARISON
BETWEEN POLYMER ACRYLIC AND MODIFIED
BITUMEN IN MALAYSIAN CLIMATE**

MUHAMMAD ZULHUSNI BIN DAHLAN

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ABSTRACT

The research is mainly focusing on the difference between two types of waterproofing materials namely modified bitumen and polymer acrylic. The study is conducted based on the previous work done on two Universiti Kebangsaan Malaysia (UKM) buildings, located in Bangi, Selangor, which use different materials on waterproofing maintenance works. The research also will be reviewing five different brands on its price tag and the curing time between two types of waterproofing materials. The main problem on this topic is regarding the awareness of the maintenance workers on which materials are best and suitable to use in a Malaysian climate. Since the outbreak of Covid-19, the observation towards the building itself has halted due to the Movement Control Order (MCO) and will proceed to the interview sessions and set of questionnaires given to the maintenance workers. Regardless, data collection from aforementioned methods are sufficient in achieving the research aims and objectives.

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TABLE OF CONTENTS

AUTHOR’S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF CHARTS	xii
CHAPTER ONE: INTRODUCTION	
1.1 Research Background	1
1.2 Problem Statement	4
1.3 Aims & Objective	5
1.4 Scope & Limitation	6
1.5 Research Methodology	7
1.6 Significant of Study	8
1.7 Chapter Outline	9
CHAPTER TWO: LITERATURE REVIEW	
2.1 Introduction	11
2.2 Malaysian Climate	11
2.3 Introduction to Flat Roof	13

CHAPTER ONE

INTRODUCTION

1.1 RESEARCH BACKGROUND

Malaysia, as a tropical climate country with a monthly average temperature of 26.7°C and 177.3mm rainfall, is a very exceptional and unique country. It is a humid country which is located in the Southeast Asia. Malaysia has two distinctive seasons which are raining and hot season, (Zakaria et al., 2019). Both of these seasons are giving benefits to Malaysian citizen such as plantation of paddy that rely heavily on the changes of raining and hot season. However, in some cases, the changing of these seasons might be causing some problems particularly in buildings.

Building constructions in Malaysia are expanding as the time goes by. Many different types of architectural designs are implemented during those constructions. Some are more unique and sophisticated than others. With many buildings erected in Malaysia, factors such as its sustainability of the building have been taken into account. There are quite a lot of building failure due to its low suitability to the environmental climate. One of the factors is using an unsuitable material during construction works. Choosing the right material often disregarded by developers including architects, (JBA, 2016).

There are plenty types of element in a building and one of which is waterproofing. Waterproofing is the method of making a building structure water-free, so that the building remains largely unaffected by water or under specified circumstances, prevents the entry of water into the building, (Sahani, 2017). In construction, to preserve building's contents and structural integrity, the use of membranes and coating will help the building to become waterproofed. It is a fundamental aspect of creating a building envelope, which is a controlled environment, (Kubal, 2008).