



**UNIVERSITI TEKNOLOGI MARA**

**COMPARISON OF FIRE FIGHTING  
SYSTEM'S IMPROVEMENTS FOR  
OFFICE AND FACTORY BUILDINGS**

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## **ABSTRACT**

Every countries, including Malaysia, has a building that is a source of national pride. Many buildings in Malaysia, such as KLCC, have distinctive architectural elements and a story behind their development. People may use this building for a variety of purposes, including offices and factories. These buildings, on the other hand, should be well maintained to prevent hazards from a variety of sources, such as fire. Identifying the types of fire protection commonly used in selected buildings is one of the objectives of this research. There are two types of fire protection systems, which are active and passive. This research contained details about this two fire protection systems. The next objective is related with maintenance services of fire protection systems in the buildings. When applying a system in the buildings, it need a proper services in order to maintain it functionality. This is applied to fire protection systems too, as it should be maintained and serviced well. This research involved two types of building, which are office and factory. The finding of this research is to compare the fire protection systems used in both office and factory building. The researcher collected the data through online survey that distributed to building manager of office and factory buildings. The data collected described and analyzed in order to achieve research aims and objectives. Besides, from this research, new technology of fire protection systems used in the buildings may discovered.

**Keywords:** Fire protection systems, Active, Passive, Office, Factory, Maintenance services

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# TABLE OF CONTENTS

	<b>Page</b>
<b>CONFIRMATION BY PANEL OF EXAMINERS</b>	<b>ii</b>
<b>AUTHOR'S DECLARATION</b>	<b>iii</b>
<b>ABSTRACT</b>	<b>iv</b>
<b>ACKNOWLEDGEMENT</b>	<b>vi</b>
<b>TABLE OF CONTENTS</b>	<b>vii</b>
<b>LIST OF TABLES</b>	<b>xi</b>
<b>LIST OF FIGURES</b>	<b>xiv</b>
<b>LIST OF ABBREVIATION/NOMENCLATURE</b>	<b>xvi</b>
<b>CHAPTER ONE: INTRODUCTION</b>	<b>1</b>
1.1 Research Background	1
1.2 Problem Statement	2
1.3 Research Question	5
1.4 Aims and Objectives	5
1.5 Scope and Limitation	6
1.6 Research Methodology	7
1.7 Research Strategy	8
1.8 Significance of Study	9

# CHAPTER ONE

## INTRODUCTION

### 1.1 RESEARCH BACKGROUND

In this globalization era, the exchange of the technologies and world systems are speed up. It is include the building architecture and design that able beyond human imagination sometimes. However, parallel with the improvement of the building design, the fire fighting systems in the building should be in the same pages too. Fire fighting system is a system of equipment used to prevent, extinguish, localize, or block fires in enclosed spaces (The Great Soviet Encyclopedia, 1979). In deciding the type of fire protection system to be used in the building, there are several factors to be considerate. The factors included are occupancy and use conditions; the materials, products, and finishes involved in the building construction; the quantity, arrangement, and type of items within the building; and the method of handling or storing the present items (A. Maurice Jones Jr., 2019)

Buildings are protected against the fire with fire protection system. The system divided into two classes, which are “active” and “passive” (Stamatis Zografos, 2019). Active fire protection system defined as the either systems that require to be switched on manually or automatically (D.Panias, E.Balomenos and K.Sakkas, 2015). The used of active fire protection system is to prevent the ignition, and possibly to extinguishing the fire in its early stage (Ernesto Iadanza, Alessio Luschi, 2020). A common system that used in building is fire sprinkler systems that placed on the ceilings and activated automatically in the increase of temperatures situation (Stamatis Zografos, 2019).