

**CENTRE OF STUDIES FOR BUILDING SURVEYING  
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING  
UNIVERSITI TEKNOLOGI MARA**

**DEFECTS IN FLAT AND PITCHED ROOFS FOR HOUSES  
BELOW THREE STOREY**

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**“I hereby declare that this academic project is the result of my own research  
except for the quotation and summary which have been acknowledged”**

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## ABSTRACT

This study is focus on defects in flat and pitched roof for houses below 3-storey. There are many type of roof the typical that been used in housing area in Malaysia is Flat roof and pitched roof. All type of roofs cannot run from a problem which is defect. The defects can be categorized as minor defect or major defect. Minor defect only affect the aesthetic value of the roof area and major defect can causes accident happens to the occupant or the property. Defects can be occur whether on design or construction stage, or after a few years time. In order to minimize defects in roof, the design stage for the roof must be studied well. The construction stage of the roof is also important to minimize the defects on roof after a few years time. In other hand, the occupant itself must concerned about the defects that can be seen on their roof. Defects come from many causes such as aging, weather, poor workmanship and other. By knowing the causes, we can avoid the defects become worst.

This dissertation have included five chapters where discuss the type of defects, causes of the defects and how to overcome the defects. The research data are collected from three case study which is Bandar Baru Bangi, Shah Alam and Seri Kembangan. The data will be analyzed by doing questionnaires and condition survey on the roof elements. On the whole, the conclusion and recommendations will be provided in order to support this dissertation.

**Keywords:** defects, causes, flat roof, pitched roof, house

## **1.1 INTRODUCTION**

Roof is a structure that covers the top part of the house. A roof protects the house and its contents from the effects of weather and animal. Most of the house needs a roof as a cover on the top. Roofs are often the least altered part of building. (David Yeomans, 2003) In most countries, a roof is to protect from rain and heat. Sometime, the roof is to make an extra space. Depending on the nature of the house in some countries, roof may also protect against snow and wind. Other types of structure, for example, a garden that use roofing, it may protect the plant against heat, cold, wind and rain. The characteristics of a roof are depending on the purpose of the house that it covers. The availability of roofing materials is also a main factor. Local traditions of construction in some countries can make a different type of roof from the others.

All roofs cannot run from a problem which is defect. A defect can be occurs in a few years' time after the houses completely done. There are many type of defect in roof and it can be categorized by a minor defect or major defect. A minor defect usually will reduce the aesthetic value of the houses. This can be seen by a cracking roof covering, faded paint, shrinkage of fascia board and other. A major defect can cause serious problem to the occupied in the house and also to the property itself such as the roof ceiling collapse, roof support collapse or the occupied had sickness because of this defect. A defect can reduce the value of the house and also can be dangerous to the occupied itself (Dr. Jaspal Singh & Kamaldeep Kaur, 2012). This defect must be observed time to time and be treated to avoid serious problem afterward to the houses and the occupied itself.