

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

**A STUDY ON THE DAMAGE OF FIRE RESISTANCE MATERIAL  
OF STEEL STRUCTURE**

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**Academic Project submitted in partial fulfillment of the requirements  
for the degree of  
Bachelor Of Building Surveying (Hons)  
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Faculty of Architecture, Planning & Surveying**

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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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**Date : July 15<sup>th</sup> 2013**

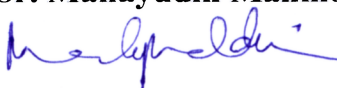
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## ABSTRACT

This dissertation is conducted in order to study on the damage of fire resistance material of steel structure. It includes the investigation on the types of fire resistance that are commonly applied on steel structure, identify the main causes of fire resistance damage on steel structure and also to recommend the best practice to ensure that the fire resistance can function properly as insulation of fire for steel structure. The data that have been collected in this dissertation is obtained through the observation on selected case studies which is selected based on the type of structure used, maintenance approach, types of fire resistance system used and the types of fire resistance damage in the steel structure building. Thus, all the information was collected through an interview and questionnaire that carried out with the relevant parties and persons who implement the fire resistance in the construction industry.

Based on the analysis, it can be concluded that there are many types of fire resistance material used in the construction industry such as boarding and casing, intumescent and cementitious. Each type of fire resistance material offers a different combination of physical and chemical properties, and each has its own application requirements. Unfortunately, by poorly designed, installed, and/or maintained fire resistance will not likely provide the expected level of protection during a fire.

In order to achieve the expected level or standard of fire resistance, all parties in the construction team especially the main contractors should play their roles to responsible for ensuring the material is properly procured and installed, and is inspected and recorded by all interested parties in order to make the fire resistance can be function properly as material that insulate steel structures from the effects of the high temperatures that may be generated in fire.

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**“The Damage of Fire Resistance Material of Steel Structure”**

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Finally, I hope and wish that this dissertation will helps me to improve my knowledge as a future Building Surveyor. Thanks a lot to all of you and May God bless all our days. The best is from God, the weakness is from me myself. Thank you.

**FARAH NADIAH BINTI MOHAMAD FAUZI**