

# DEPARTMENT OF BUILDING SURVEYING FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING UNIVERSITI TEKNOLOGI MARA

# WATERPROOFING MATERIALS FOR FLAT ROOF

# AHMAD SYUKRI BIN ABDUL RAHMAN (2006136289)

**BACHELOR OF BUILDING SURVEYING (HONS)** 

OCTOBER 2008

## DEPARTMENT OF BUILDING SURVEYING FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING UNIVERSITI TEKNOLOGI MARA

#### WATERPROOFING MATERIALS FOR FLAT ROOF

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

STUDENT'S NAME

: AHMAD SYUKRI BIN ABDUL RAHMAN

SIGNATURE

•

UITM NO

: 2006136289

DATE

: 28 NOV 2008

### DEPARTMENT OF BUILDING SURVEYING FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING UNIVERSITI TEKNOLOGI MARA

#### ACADEMIC PROJECT BSB 608 & BSB 658

#### COMFIRMATION OF ACADEMIC PROJECT AMENDMENTS

This is to confirm that the student has amended his academic project as directed and therefore allowed to compile

STUDENT'S NAME : AHMAD SYUKRI BIN ABDUL RAHMAN

UiTM NO : 2006136289

TOPIC: WATERPROOFING MATERIALS FOR FLAT ROOF

SUPERVISOR'S NAME : SR. MAHAYUDIN BIN MAHMOOD

SIGNATURE

DATE : 28 NOV 2008

#### **ACKNOWLEDGEMENT**

I would like to take this opportunity to extend my deepest gratitude to my supervisor, En Mahayudin Mahmood, lecturer of Building Surveying Department, Faculty of Architecture, Planning and Surveying, who spends time to guide and help me patiently to complete this study. I would never able to get through this if with out your invaluable advice.

Special acknowledgment is also given for all maintenance departments involved in my case study, Kompleks PKNS Shah Alam, Hospital Tengku Ampuan Rahimah Klang, Institute Medical Research, Medan Mara, Pusat Perubatan Pakar Pantai Klang and Menara DBKL Bandar Wawasan for their concern of my progress and my well being.

Special thanks to all my friends and former classmates, who have been very supportive of my decision to return to the academics. Last but not least, I am greatly indebted to my family for their understanding, patience and support during the entire period of my study.

#### **ABSTRACT**

Waterproofing is a building structure which is a critical element of its design and construction. Because of the damaging effect of water, particular attention should be given in selecting quality waterproofing material to provide the proper in place performance. Waterproofing material's life is shorter than building's life. This study is to identify the source of the problem of waterproofing failure, the type of waterproofing material that frequently used and the most suitable material use for the flat roof. All the information is given by the maintenance department of every case study. The data collected the information about the type of material in use, and the history maintenance, basically to find out the method construction design and effective of material. Rubberized Asphalt sheet membrane is frequently used for the flat roof area followed by PVC/HDPE sheet membrane and lastly bitumen and the cost of PVC material is highest than the Rubberized and bitumen material. The conclusion of the findings; the rubberized asphalt sheet membrane is the best material to use for the flat roof. It can bee seen from the bar chart, that the rubberized asphalt has more good characteristic and the cost is also reasonably compared to other materials.