THE EFFECTIVENESS OF SUN SHADING DEVICE FOR OFFICE TOWER IN MALAYSIA

This dissertation submitted in partial fulfillment of the requirements for the Bachelor of Building Surveying (Hons)

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Shading devices may come in various forms, but the purpose of this application, whether on the internal or external side, are definitely to control direct sun lighting from penetrating inside the building. In a way, the application of shading devices is to control the thermal heat of the building. Therefore, shading device design must be able to utilise the free energy available form the environment; giving shades to the building as well as controlling the thermal heating.

The dissertation shall focus on the nature, function and effectiveness of sun shading device for high-rise building of three case study buildings. The case study buildings:

a) KLCC Twin Tower
b) Menara Mesiniaga
c) Wisma MBSA

Based on the visual analysis, it can be said that new development in local economy has contributed to the massive transition development of the shading devices. Besides, the changes in architectural styles in Malaysia, in search of its local or national identity, has long foreseen that shading devices become such a very important building accessories for high-rise building.
Chapter 1: Introduction

1.1 Introduction
1.2 Issue
1.3 Objective
1.4 Scope
1.5 Hypothesis
1.6 Methodology

Chapter 2: Background Studies

2.1 Definition
2.2 The Development of Shading Device
   2.2.1 Traditional Malay House
   2.2.2 Adaptation on High-Rise Commercial Building
2.3 Solar Intensity and Climatic Characteristics in Malaysia
2.4 Environmental Aspect Impact On High-Rise Building
   2.4.1 Solar Radiation
   2.4.2 Cross Ventilation
   2.4.3 Rain
2.5 Evaluation on High-Rise Commercial Building Design in Malaysia
Chapter 3: Technical Aspects

3.1 Categorisation of Shading Devices 33
   3.1.1 External 34-35
      3.1.1.1 Vertical 36-41
      3.1.1.2 Horizontal 42-47
      3.1.1.3 Eggcrate 48-49
   3.1.2 Internal 50-53
   3.1.3 Glass 54-62

3.2 Types of Shading Devices 63
   3.2.1 Adjustable 63-65
   3.2.2 Fixed Louvres 66-67

3.3 Design Factors 68
   3.3.1 Projection Depth 69-82
   3.3.2 Orientation 83
   3.3.3 Degree of Shading Fin 84-86
   3.3.4 Materials 87-90
   3.3.5 Fixing and Installation Methods 91-94

3.4 Internal Quality of Light 95-98

Chapter 4: Case Study

4.1 Case Study 1 - KLCC 99-104
4.2 Case Study 2 - Menara Mesiniaga 105-117
4.3 Case Study 3 - MBSA Building 118-124

Chapter 5: Analysis and Comparison 125-138

Chapter 6: Conclusion 139-143

Bibliography
Picture 1: Example of the roof overhang concept, which has been based on the similar concept of the Malay traditional house, has been adopted for the headquarters of Bank Bumiputra Malaysia.

Picture 2: Angkasapuri building, which was built during the 1960's, shows outstanding results of individual plane of shading devices adopted externally.

Picture 3: EPF building, which was built during the 1960's to 1970, is another good example on the early building using eggcrate shading device type.

Picture 4: Menara Mesiniaga, built in early 1990's shows how the external shading devices are adopted in relation to the environmental aspects and its bioclimatic concept.

Picture 5: Petronas Twin Tower, the most highest building in the world, adopted typical shading devices design for its external wall to create dominant look.

Picture 6: ESSO building, another office tower, built in late 1990's, mainly depends on its heat reflective glass surface which functions to control the natural lighting that penetrates into the internal sides of the building.

Picture 7: Fixed vertical projections and screen shading devices adopted in Tabung Haji building.

Picture 8: Fixed vertical projections shading system on MBSA building in Shah Alam. The vertical projections, rise from 3rd level to the top floor level.

Picture 9: Aluminium web-pattern screen fixed to the vertical panels, which are bolted to the concrete walling.