

**ELECTRICAL INSTALLATION DESIGN FOR TWO STOREYS
WITH AMENITIES HYPERMARKET**

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In the name of Allah, The Most Gracious and Merciful and with the Selawat and Salam to Prophet Muhammad SAW

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May Allah SWT bless us all. Wassalam.

ABSTRACT

This project is about electrical installation design for hypermarket. The scope includes the basement, parking lot and the inner of hypermarket. The design involved equipments design, size and type of cable design and lastly safety and protection design. The design of electrical equipment design such as lighting, socket outlet, low voltage power supply and telecommunication must design according to the rules and regulation. The primary concern when designing electrical installation in the hypermarket is the safety of the equipments and the safety of the people who use the equipments.

Before designing, a survey to the hypermarkets around Shah Alam had been done to observe the requirement and electrical equipments need to be installed in the hypermarket. Then, all the equipments and the requirements had been studied to get further information. The second phase is designing the equipments such as lighting, socket outlet and cable. For example, lighting must be design according to the standard JKR luminance and the cable size must follow the IEEE Regulations. Finally, the MSB was designed by using the data or demand from the load. After all the designing process was completed, the cost of installation was calculated and the payback period was determined.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

The overall area covers by this double storey hypermarket is 18200 m² and it consists of several layouts. The layouts are retail outlet, parking area, shopping area, office complex, surau, store and toilet. Each retail outlet covers 85.8 m² of area and there are 16 retail outlets in this hypermarket. The electrical design involve in retail outlet is lighting and socket outlet.

The hypermarket also has a large parking area which covers 7280 m². The design needs at parking area are flood lighting and street lighting. The largest area in this hypermarket is the shopping area and it covers 8250 m². The design involve in that area are display lighting, normal lighting and socket outlet design. Office, surau, store and toilet cover area of 48.4 m², 26.5 m², 36 m² and 7.6 m² respectively. The main electrical designs in this area are lighting and socket outlet design.

In conclusion, the design involves lighting designs which cover several types of lighting, socket outlet design and of cause the protection design to protect the equipment and the people who used the equipment.