

Electrical Services of A block of flats

Project report by Paris Lambrou

For the fulfilment of the requirements for the diploma of
Technician Engineer in Electrical Engineering

Project Supervisor :Mr.A Georgiou

Type of Project :Individual

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General introduction

This project deals with the design of electrical services of a block of flats.

This block of flats consists of 3 floors ,a parking area on the ground floor and a parking area at the basement.

All the floors consist of 7 studios.

Main objectives of the project

- 1) To study the illumination engineering work involved
- 2) To design the complete electrical services for the building which includes:
 - Power and lighting
 - Telephone Installation

Terms and conditions

- 1) Supply Voltage 415/240v, 50Hz ,T.T Earthing system
- 2) The work must be carried out with reference to the plans provided
- 3) IEE 16th edition and EAC regulations must be complied with
- 4) C.Y.T.A regulations
- 5) The external earth fault loop impedance is assumed to be 1
- 6) Circuits L1,L3,L12(of the parking place ground and basement) are switched with Infra red switches with timer).The circuit L2 on the ground floor is switched on with a timer switch.

Contents

Chapter1: Illumination design

- 1.1 introduction
- 1.2 methods of illumination calculations
- 1.3 example of illumination design

Chapter2: Socket outlets

- 2.1 Typical calculations for a ring circuit
- 2.2 Table of sockets

Chapter3: Lighting circuits

- 3.1 Typical calculations for a lighting circuit
- 3.2 Table of lighting design results

Chapter4: Fixed appliances

- 4.1 Cooker
- 4.2 Water heater
- 4.3 washing machine unit
- 4.4 table for fixed appliances

Chapter5: Common Use Area installation

5.1 Introduction

5.2 Supply for the lift motor

5.3 Supply to water pump

5.4 Lighting circuit of the parking place

.Eac room, the stairs, corridors, stores

5.5 table for common use area

Chapter6: Supply cables to the distribution boards

6.1 Results for the supply cables

Chapter7: Balancing

7.1 Table for balancing

Chapter8: Telephone Installation

8.1 introduction

8.2 definitions and terms

8.3 telephone installation design

8.4 conduit schematic

8.5 wiring schematic

8.6 Table of the telephone points