

HIGHER TECHNICAL INSTITUTE
ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DESIGN OF THE ELECTRICAL
INSTALLATION OF A HOTEL

E.950

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INSTALLATION OF A HOTEL

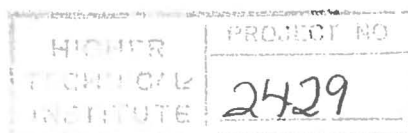
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ABBREVIATIONS

I.E.E	Institute of Electrical Engineers
E.A.C	Electricity Authority of Cyprus
E.F.L.I	Earth Fault Loop Impedance
M.C.B	Miniature Circuit Breaker
R.C.C.B	Residual Current Circuit Breaker
D.B	Distribution Board
V.d	Voltage Drop
c.p.c	Circuit Protective Device
C.I.B.S	Chartered Institute of Building Services

SUMMARY

DESIGN INSTALLATION OF A HOTEL

(BY : MICHAEL CONSTANTINIDES)

Before a building is constructed, the design not only of the building's structure itself, but also of the various services which facilitate its operation, is necessary.

Some of the services concerned are, illumination design, Telephone, TV installation and sound system. Illumination was designed in order to describe the quantities, types and positioning of luminaires in accordance with CIBS code.

The Electrical Installation is composed of the design of the Lighting and Power circuits as well as some other arrangements such as, earthing which provides the normal operation of these circuits.

TV installation is composed of the design, calculations, and selections of the central antenna system for the satisfaction of the requirements of the hotel.

For the sound system only the selection of the csa of the connection cable was made without any further calculations for the installation and selection of the loud speakers and sound panels.

The hotel is served from an EPABX 16 / 80 for the internal and external telecommunication. For the internal and external connection of the offices a key system 2 / 4 is used.

INTRODUCTION

This project deals with the design of the electrical installation of a hotel.

The project is divided into 10 chapters, in which each one deals with a different subject. All chapters are necessary for the completion of the design of electrical installation of a hotel.

Chapter One, is concerned with the illumination design. Illumination is made in order to find the proper lighting in areas such as offices, rooms, corridors e.t.c.

Chapter Two, is concerned with the technical calculations and informations used for the electrical materials (cables, conduits, and selected protective devices).

Chapter Three, is the most important chapter in the project, since calculations of the phase balancing of the distribution boards, and main panels were made. Also in this chapter the appropriate selection of RCCBs was made accordinly to the loads of each distribution board.

Chapter Four, deals with Cyta regulations. An EPABX system is used in order to satisfy the needs of the hotel. Also, a key system is used to serve the offices and reception between them.

Chapter Five, describes the methods of energy transmission and what cables are used for the connections of loud speakers.

Chapter Six, deals with the analytical design of the central antenna system. In the hotel two central systems of antenna were made in order to satisfy the TV needs.

Chapter Seven, states the methods of earthing that must be followed in order to satisfy the IEE regulations.

Chapter Eight, is concerned on the calculations and selection of a stand by supply which is used when electricity failures in the hotel for any reason.

Chapter Nine, is referred to the material and labour cost.

Chapter Ten, deals with the inspection and testing of an electrical installation.