

CIVIL ENGINEERING DEPARTMENT

**THERMAL PERFORMANCE OF
CYPRIOT HOUSES**

by

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Project Report

Submitted to

**the Department of Civil Engineering
of the Higher Technical Institute**

Nicosia Cyprus.

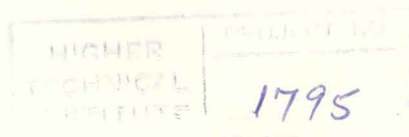
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Title Thermal Performance of Cypriot Houses

Objectives:-

1. Investigate basic principles for cooling and heating in Cypriot houses thus establishing "ideal" thermal performance of Cypriot houses for indoor comfort conditions.
2. Study the thermal performance of the existing and new built Cypriot houses deriving deficiencies in their thermal performance.
3. Suggest measures to achieve ideal thermal performance in Cypriot houses.

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Introduction

Cyprus is a fast expanding and developing country where the building industry had and still has an important role. Nevertheless Cypriot houses suffer from deficiencies due to the lack of proper design. This was the result of the sudden demand of designers and the non offer of them as not many were available those days .

Another factor was that the conventional fuel such as gas and oil were quite cheap and the average people could afford to pay for heating or cooling his house. Nowadays conventional fuel is rather costly and therefore other energy sources are required which are less costly. Solar energy was the first source people turn to. The problem is that in order to use solar energy effectively there must be undisturbed solar radiation when heating is required and most important to have a house properly designed so as to make efficient use of this kind of energy. This project deals mostly with the deficiencies the houses have and suggests measures to overcome them and make a house with thermal performance as good as possible. 26

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many factors are involved in the design of a building to achieve an "ideal" thermal performance. These factors include the orientation of the building, the layout of the building, the shape of the building, and the choice of building elements. The choice of building elements is particularly important, as it can have a significant impact on the thermal performance of the building. The choice of building elements should be based on a number of factors, including the climate, the use of the building, and the available resources.

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