

**HIGHER TECHNICAL INSTITUTE  
MECHANICAL ENGINEERING DEPARTMENT**

**DIPLOMA PROJECT**

**DESIGN AND CONSTRUCTION OF A THERMAL  
CONDUCTIVITY APPARATUS FOR BUILDING MATERIALS  
(M/759)**

by  
**STAVROS CHRISTODOULIDES**

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CONDUCTIVITY APPARATUS FOR BUILDING MATERIALS**

by

**STAVRO CHRISTODOULIDE**

**Project Report**

**Submitted to**

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

**Nicosia - Cyprus**

**in partial fulfilment of the requirements  
for the Diploma of**

**TECHNICIAN ENGINEER  
in  
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*I feel the necessity to dedicate this trial  
to my parents who help me  
to complete this project.*

## SUMMARY

This diploma project has the following objectives:

1. To study various methods for measuring the thermal conductivity of building materials.
2. To design a Thermal Conductivity Apparatus.
3. To prepare detailed drawings of the Apparatus.
4. To construct the Thermal Conductivity Apparatus selected.
5. To present suitable «Instructions to the user».
6. To carry out measurements of Thermal Conductivity of various common building materials.
7. To evaluate the accuracy and reliability of the Apparatus.
8. To present a detailed cost estimate.

The Terms and Conditions of the project are:

1. The apparatus to be selected should be at low cost.
2. Materials, components and equipment must be available locally.
3. Construction of the Apparatus and measurements to be carried out at the HTI premises.