

HIGHER TECHNICAL INSTITUTE
NICOSIA-CYPRUS

CIVIL ENGINEERING COURSE

DIPLOMA PROJECT

DESIGN OF A WORKSHOP IN STEEL

C/761

by
CHARALAMBOS KAIS

June 1996



Design of a workshop in steel C/761

Summary:

The object of this project is:

1. To make a research on the steel sections available in Cyprus market.
2. To fully design and detail a workshop (ware house) in steel.
3. To estimate the cost of the workshop according to current prices.

Workshop dimensions are 15m x 42m .

Light steel frames at 6m centres and UC columns were used for the construction of this workshop.

For the Truss members SHS were used.

Finally design is according to BS 5950 and CP3 : chapter V : Part for the wind loads.

Charalambos Kais.

CONTENTS:

	page:
Acknowledgments	1
Summary	2
Introduction	3
PART A	
Specification	4
Loads(dead,imposed,wind)	5
Truss loads	6
Joint resolution method wind load	8
Joint resolution method imposed load	10
Joint resolution method dead load	12
Forces in members	14
Design of truss members	15
Bracing design	21
Column design	26
Base plate under column	29
Holding down bolts	31
Concrete design	
Design of groundslabs	32
Design of groundbeams	36
Foundations	42
PART B	
Approximate cost estimation	46
PART C	
Research. Steel sections available in Cyprus	57
Conclusions	93
References	94
Appendices	(incl. in research)
PART D	
Drawings	95