

H.T.I.

CIVIL ENGINEERING COURSE

DIPLOMA PROJECT

DESIGN OF A SHOWROOM IN STEEL

C/840

PANTELIS PAPACOSTAS

JUNE 1998

HIGHER TECHNICAL INSTITUTE
NICOSIA-CYPRUS

CIVIL ENGINEERING COURSE

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HIGHER TECHNICAL INSTITUTE	PROJECT NO. 2822
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Project Report

Submitted to

The Department of Civil Engineer

Of the Higher Technical Institute

Nicosia Cyprus

In partial fulfillment of the requirements for the diploma of

in

CIVIL ENGINEERING

JUNE 98

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Pantelis Papacostas

Design of a showroom in steel C/840

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 showroom of furniture in steel
3. To estimate the cost of the showroom according to current prices

Showroom dimensions are 20 m X 40 m.

Light steel frames at 4 m centers and UC columns were used for the construction of this showroom.

For the Truss members SHS were used.

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

Pantelis Papacostas.

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TECHNICAL	
INSTITUTE	

Introduction:

Frame design is probably the most ancient method of constructing which is still used nowadays.

This is observed on many ancient buildings. For example, Parthenon at Acropolis as so many other temples of the same time, was constructed with pitched roof supported on trusses made of wood.

During time, wood trusses were improved until the appearance of cast iron in about the early of 19th century. This is related with the industrial revolution in England.

Therefore, we end up to nowadays which steel with the great variety of steel sections in the market (UB, UC, SHS, RHS, Angles, Rods, etc.) is used very widely for industrial buildings and so on.

The main factors of this wide use of such buildings are the following:

- A. Long spans can be easily succeeded
- B. The construction takes very little time comparing with the other construction materials
- C. Cost of the building minimized
- D. Finally steel properties like tension, compression, shear capacity and so on, can easily determined with accuracy like no other material, providing in this way a trustful material for construction, especially for the industrial buildings.