

**STRUCTURAL STEELWORK DESIGN TO
BS 5950: PART 1 AND EC3
(COMPARISON AND PROGRAM DEVELOPMENT)**



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ABSTRACT

The use of steel in building construction industry varies from country across the Asian region. In Malaysia, rapid development in building construction industry has stimulated all professionals and construction developers to recognise its strength and weakness and, even more importantly, its 'customers' needs, and hence to design the buildings in line with this recognition.

This final year project paper was to compare in structural steelwork design by using different code of practice between Eurocode (EC3) and British Standard (BS 5950: Part 1). It was focused on simply-supported steel beam design and steel column design; by using universal beam, UB and universal column, UC. Computer packages on these design were developed.

In Malaysia, BS 5950: Part 1 is very familiar for civil engineers, but Eurocode3 (EC3) is a new code of practice. Beyond 1999, all of the European countries will be using the Eurocode as a code of practice instead British Standard. Consequently, Malaysia also might be using Eurocode as its references for structural steelwork design.

Hence, this project can give guidelines in the changes and differences between BS 5950: Part 1 and EC3.

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION.

Almost all heavy steel sections, which were used in the construction industries in Malaysia, were imported from foreign countries such as Japan, Europe and United States of America. Most of the steel sections follow the standards according to BS 5950: Part 1, which has adopted by our local construction practice.

In Malaysia, most of the high rise buildings using steel were concentrated within Kuala Lumpur area such as Menara PNB, Menara Promet and Dayabumi where steel imported mostly from other countries. The most recent example in the usage of steel structures are the Petronas Twin Tower, which is to date is the tallest building in the world. Eventhough the building make use of massive concrete core, its beams and slab consisted of steel sections. Another high rise buildings that make use of full-framed steel structure are the Weld along Jalan Chulan in Kuala Lumpur.[®]