Computer Design of Steel Columns

using Visual Basic

by

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Summary

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The purpose of this project is to develop a computer program for the design of steel columns, using the Visual Basic computer language.

The use of the computer in structural design greatly increases speed of calculation and numerical accuracy. It also makes possible the selection of a number of alternative sections, all of which have been subjected to comprehensive checks to ensure that they meet the relevant requirements. The final choice of section is made on the basis of economic or functional criteria.

Design theory with some of the background to the code procedures is given. The code used is the BS 5950: Structural use of Steelwork in Building, Part 1: Code of practice for design in simple and continuous construction: hot rolled sections, 1990.

For the development of this computer program, short and slender, sway and nonsway columns are considered. Taking advantage of the latest computing technology, the computer program produced is user-friendly for data-input, redesign and presentation of results.

It is true that not many Civil Engineers know how a program is constructed and for this reason most of the times are not able to use one correctly. Hopefully this program is provided with enough additional information, to fulfill its purpose, the design of steel columns, that can be used even by a professional engineer who is not proficient in the use of computers.

V.V.

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