

INVESTIGATION AND COMPARATIVE STUDY OF PRESTRESS CONCRETE DESIGN USING BS8110, AS3600 AND EUROCODE 2

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ABSTRACT

Prestress calculations are part of the important elements in prestress concrete design. In this study, different types of prestress calculated from international codes were determined such as BS 8110: 1997, AS 3600: 2001 and Eurocode 2: Part 1.1: 1995 based on the same section properties.

A step by step calculation of prestress concrete as given in the above-mentioned international codes were carried out using a same section properties of a specified prestress I-beam girder. The results of the calculation were analyzed and presented in various perspectives.

Discussion on the differences caused the effects of prestress on Moment diagram are investigated in this study. It is found that higher prestress will result in larger amount of prestressing tendons to be provided in a pre-tensioned I-beam girder as shown by calculations in accordance to provisions given in these three international codes. And examine the degree of conservative measures brought by these 3 different codes of practice and hence identify the most conservative and economical code.