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УЧЕТ ГИБКОСТИ ПРИ РАСЧЕТЕ ПРОЧНОСТИ ЦЕНТРАЛЬНО СЖАТЫХ ТРУБОБЕТОННЫХ КОЛОНН КВАДРАТНОГО СЕЧЕНИЯ

Аннотация. *В данной работе рассмотрена методика расчета несущей способности центрально сжатых трубобетонных колонн квадратного сечения. Методика основана на использовании нелинейной деформационной модели железобетона. Принятые диаграммы деформирования бетонного ядра и стальной трубы учитывают их сложное напряженное состояние. Предложенная методика учитывает переменную жесткость разных сечений по высоте сжатого стержня при оценке влияния его гибкости. Предельная нагрузка, соответствующая потери прочности или устойчивости элемента, определяется по одной методике с использованием одних и тех же формул. В результате чего отпадает необходимость в отдельной формуле для расчета критической силы. Дальнейшее сопоставление теоретических и опытных данных свидетельствует о приемлемости предложенной методики расчета для проектной практики.*

Ключевые слова: *трубобетонная колонна квадратного сечения, сжатие, гибкость, деформационная модель, несущая способность.*

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TAKING INTO ACCOUNT FLEXIBILITY WHEN CALCULATING THE STRENGTH OF CENTRALLY COMPRESSED SQUARE-SECTION TUBULAR CONCRETE COLUMNS

Abstract. *The method of calculating the load-bearing capacity of centrally compressed tubular concrete columns of square section is considered. The technique is based on the use of a nonlinear deformation model of reinforced concrete. Accepted deformation diagrams of concrete core and steel pipe take into account their complex stress state. The proposed method takes into account the variable stiffness of different sections in height of the compressed rod when assessing the effect of its flexibility. The maximum load corresponding to the loss of strength or stability of the element is determined by the same method using the same formulas. As a result, there is no need for a separate formula for calculating the critical force. A comparison of theoretical and experimental data indicates the acceptability of the proposed calculation methodology for project practice.*

Keywords*: tubular concrete column of square section, compression, flexibility, deformation model, bearing capacity.*

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