

This study introduces the results of an experimental investigation on the behavior of the circular columns of concrete under a load of axial compression, confined by an envelope of composite materials (carbon fiber and glass fiber). The composite used is a FRP glued in surface with epoxy resin. The specific objectives of this study are: verifying the applicability of this method of reinforcement of the columns to improve the behavior of concrete from the point of view strength and ductility, seeing the influence of composite materials type used, and confronting the experimental results acquired with different models developed on one hand and on the other hand with empirical formulas developed by other researches. Two models were developed to represent the structural behavior of the tested samples based on the calibration of the experimental results and criterion of Mohr—Coulomb failure. The validity of the results acquired numerically is based on a comparison with experimental results as well as with empirical formulas developed