

This study exhibits the experimental results of axial compression tests on concrete cylinders, circumferentially confined by the set-up of the composite grids arranged inside the cylinder, according to several combinations of circumscribed grids. The main aim is to verify the applicability of this method and then to quantify the contribution to strength improvement due to confinement as well as its influence on the rupture mode under axial compression. The test results of loading carried out on cylindrical concrete specimens, confined by alveolus composite grids arranged inside the section, show that it is possible to substantially increase the ductility of the columns, and in certain cases, their strength. It is also noted that the rupture of confined concrete is highly influenced by the presence of the grids depending on the configuration and the shape of the cells (rhombus or hexagonal) constituting the composite grid. The experimental results are compared with the theoretical model data