INFLUENCE OF DYNAMIC EXCITATION ON THE BEARING CAPACITY OF REINFORCED CONCRETE COLUMNS EXPOSED TO FIRE EFFECTS

This article provides an example of the calculation of eccentrically compressed reinforced concrete elements exposed to dynamic loads and fire effects. The dynamic factor for the concrete under regular conditions is available, and it exceeds one in any case. However, in case of a fire exposure, the value of this factor varies from 0.4 to 0.8, depending on the loading rate and temperature. Therefore, the analysis of the bearing capacity of structures in terms of their fire resistance should take account of the possibility of progressive collapse of buildings.

Key words: reinforced concrete column, pylon, dynamic strength, load bearing capacity, fire resistance, standard fire.

References


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