
Earthquake-resistant Construction Process

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Abstract:

This article aims to demonstrate that the construction process can be decisive in the seismic strength of a reinforced concrete frame. Planning the stages that characterize the construction of a building, it's possible that an increasing in the strength can be generated. Considering the deformations of the structural and masonry elements, if the frame-infill assembly works as a single structural element, the masonry provides additional rigidity. If the frame-infill assembly works separately, this additional rigidity will not exist, and the frame will work as a bare frame with an important load on its beams.

So, in this article, a brief exposition of typical situations will be made; next, a model of calculation will be assimilated to every case. Four examples of bare frames and infill frames will be exposed, and situations will be classified according its behaviour. And finally, their safety factors will be shown, and the conclusion will be extrated comparing all these factors.

Keywords:

Bare frame, construction process, infill frame, safety factor, seismic strength.