

Stability of telescopic props for temporary structures

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ABSTRACT

Telescopic props represent one of the most common temporary structural elements used in the construction of buildings, to support the formwork. The design of these props is often associated to high safety factors, due to insufficient information about their real behaviour at the construction site, under the influence of load eccentricities and geometric imperfections.

A research project is now being developed at the Portuguese National Laboratory of Civil Engineering (LNEC), involving experimental and numerical studies of the props behaviour and, in particular, of the effects of the geometric imperfections and corresponding tolerances on their stability.

The numerical studies will take in account the geometric and material nonlinearities affecting the props resistance. The influence of the base plates stiffness will be analysed.

This paper describes the results obtained in numerical studies carried out during an initial stage of this project, as well as their interpretation and subsequent conclusions.