

Progressive Collapse Analysis of Vertical Irregular Steel Structure

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Abstract: The structural engineer's role becomes challenging when such buildings which are irregular in plan as well as in elevation. All these structures are analysed and designed as per Indian standard (IS800:2007, IS1893:2016) with all combination of loading. After that these structures are again analysed for progressive collapse. These types of analysis are considered i.e. linear static and non-linear static with load six case and critical location suggested by GSA guidelines. From this study following observations are made, as height of structure affects the collapse behaviour, as height increases progressive collapse decreases which is seen from D.C.R. values, joint displacement, and bending moment. Linear static analysis results are more conservative than nonlinear static analysis.

Keywords: Progressive collapse

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