

Effect of Adding Horizontal Steel Bracing System to Ordinary Moment Steel Frames Subjected to Wind Load

Authors : Yousef Al-Qaryouti, Besan Alagawani

Abstract : The main concern of this study is to evaluate the effect of adding horizontal steel bracing system to ordinary moment resisting steel frames subjected to wind load. Similar frames without bracing systems are also to be compared. A general analytical study was carried out to obtain the influence of such system in resisting wind load. Linear static analysis has been carried out using ETABS software by applying fixed wind load defined according to ASCE7-10 for three-, six-, nine-, and twelve-story ordinary moment steel frame buildings including and not including horizontal steel bracing system. The results showed that the lateral drift due to wind load decreased by adding horizontal bracing system. Also, the results show that effect of such system is more efficient to low-rise buildings.

Keywords : horizontal bracing system, steel moment frames, wind load resisting system, linear static analysis

Conference Title : ICCCE 2017 : International Conference on Civil and Construction Engineering

Conference Location : Melbourne, Australia

Conference Dates : February 02-03, 2017