

Wind Fragility of Window Glass in 10-Story Apartment with Two Different Window Models

Authors : Viriyavudh Sim, WooYoung Jung

Abstract : Damage due to high wind is not limited to load resistance components such as beam and column. The majority of damage is due to breach in the building envelope such as broken roof, window, and door. In this paper, wind fragility of window glass in residential apartment was determined to compare the difference between two window configuration models. Monte Carlo Simulation method had been used to derive damage data and analytical fragilities were constructed. Fragility of window system showed that window located in leeward wall had higher probability of failure, especially those close to the edge of structure. Between the two window models, Model 2 had higher probability of failure, this was due to the number of panel in this configuration.

Keywords : wind fragility, glass window, high rise building, wind disaster

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