

Damage Assessment of Current Facades in Turkey throughout the Seismic Actions

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Abstract : The continuity of the structural and non-structural elements within the envelope of the buildings is one of the fundamental factors in buildings during seismic actions. This investigation aims to make a comparison between Van and İzmir earthquakes in terms of damage assessment of the various facades. A strong earthquake (magnitude 7.2) struck the city of Van in the east of Turkey on 23 October 2011, and similarly, another strong earthquake struck the city of İzmir (magnitude 6.9) in Turkey on 30 October 2020. This paper presents the damage assessment of the current facade systems from multi-story buildings in Van and İzmir, Turkey. This investigation covers the buildings greater than three stories in height, excluding most unreinforced masonry facades. Regarding a building that can have more than one facade system, any of the facade systems are considered individually. Observation of different kinds of damages in the facade is discussed and represented in terms of its performance level throughout the seismic actions. Furthermore, presenting the standard design guidelines (i.e., Turkish seismic design code) is required not only for designers but also for installers of facade systems.

Keywords : damage, earthquake, facade, structural element, seismic action

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