Failure of suspended ceiling systems has been one of the most widely reported types of nonstructural damage in buildings following earthquakes. Ceiling systems are directly associated with life safety risks because ceiling-related components are overhead and when they fall the potential for injury is obvious. A study of the damage conditions in buildings after the Northridge Earthquake, which fortunately occurred at 4:31 AM, estimated that had the earthquake occurred in the middle of the day approximately 25 children located in schools at that time would have been killed because of falling light fixtures and ceiling components alone.

Ceiling Systems – One Manufacturer’s Perspective

Paul Hough, Manager, Product Fire & Seismic Performance, Armstrong World Industries

Abstract

The performance of ceiling systems during seismic events and the interactions of these systems with other nonstructural components has been a topic of increasing interest especially with the advent of performance based building codes. This talk will discuss the need for a common testing/qualification protocol, recent development of such a protocol and issues related to its acceptance. Current code requirements of ceiling systems will be touched on, as well as a number of unanswered questions related to code requirements. The talk will end with a look to the future of additional issues that need to be addressed and a look to where the code requirements for ceiling systems and other nonstructural components may be headed.

Biography

Paul is currently Manager of Product Fire & Seismic Performance for Armstrong World Industries in Lancaster, Pennsylvania. He is responsible for all fire testing, seismic testing and building code related activities. A graduate of Indiana University of Pennsylvania, he is an active participant in a variety of ASTM Committees including E33 (Environmental Acoustics), E06 (Building Performance) and E05 (Fire Standards), as well as a variety of CISCA (Ceiling and Interior Systems Construction Association) committees including the Seismic Committee. He is a regular participant in the code development process at International Code Council, ICC-ES and the National Fire Protection Association. Paul is no stranger to University at Buffalo and has been a Premier Partner at MCEER since 2001.