

IMPLICATIONS OF WIND TUNNEL STUDIES ON STRUCTURAL INTEGRITY

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Wind Tunnel Studies of major buildings have been conducted for many decades. The number of buildings utilizing wind tunnel information has increased with the development of wind laboratory techniques enabled by increases in computing capacity and with new uses for wind tunnel studies, such as particle dispersal. The number of buildings in hurricane prone regions using wind tunnel information as the basis of design for their structural integrity will continue to increase. This talk will discuss which Saffir Simpson Scale categories (I, II, III, IV, or V) of hurricanes are used as the code basis of design for the structural integrity of various building types. It will present a basic understanding of how wind tunnel studies are conducted to compile the structural integrity demands for buildings. Case studies of buildings will be presented comparing wind tunnel based structural integrity demands to code prescriptive method demands. The implications of the use of wind tunnel studies in lieu of code prescriptive methods for building structural integrity in hurricane prone regions will be discussed.