



MIAMI-DADE COUNTY, FLORIDA
HERBERT S. SAFFIR PERMITTING AND INSPECTION CENTER


Department of Regulatory and Economic Resources
Board and Code Administration Division

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ADVISORY MEMO

TO: ALL BUILDING OFFICIALS IN MIAMI-DADE COUNTY

FROM: Jaime D. Gascon, P.E. 
Board and Code Administration Division

DATE: December 18, 2023

SUBJECT: Parking Garage Live Loads and Electric Vehicles

There is an ongoing concern about the design live loads for elevated parking garages with respect to the increased loads due to the prevalence of electric vehicles.

Electric vehicles are about 30% heavier than cars powered by internal combustion engines, and charging stations can weigh several thousand pounds.

Current design requirements for elevated slabs in parking garages use 40 pounds-per-square-foot per recommendation of ASCE 7-22. Before ASCE 7-02, the design loading was 50 pounds-per-square-foot.

European and Canadian Building Codes use about 53 psf for the design of these structures with Great Britain increasing the loads to 60 psf for 'car parks'.

We are recommending that any construction involving the addition of EV charging stations to existing elevated garages or modification of the layout such that EVs are concentrated in a specific elevated area be sent to the Structural section for review due to the increase in and distribution of loads, and that they be checked against the requirements of the FBC Existing Building Code.

If you have any questions on this matter, please contact Lundy Clarke, Senior Code Officer, at (786) 315-2057 (Office), or (305) 299-6775 (Mobile), or via email at Jeanne.Clarke@miamidade.gov.