

EVALUATION OF A “FLOATING” AEROBICS FLOOR

by

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(ABSTRACT)

Aerobics dance floors often produce annoying floor vibrations in adjacent parts of a building due to the rhythmic impact of the aerobicists. Various types of shock absorbing aerobics and dance floors are widely used to prevent injuries to the participants, but the floors may not prevent vibrations in adjacent areas of the building. The purpose of this investigation is to evaluate a temporary "floating" concrete aerobics floor designed to prevent the force and vibrations induced by rhythmic exercises from being transmitted to the existing building floor system.

The test floor is a concrete slab mounted on pressurized air springs. A series of tests was conducted to determine the vibration characteristics of the floor and the forces transferred to the supporting floor system. Experienced aerobicists compared the response of the "floating" floor to existing aerobics floors.

Based on the experimental results, vibration characteristics and a prediction of the force transmitted to the supporting floor by the "floating" floor system were determined. Recommendations are made in terms of the feasibility of the "floating" floor concept, additional testing to be performed, and possible applications.

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