

noiseletter

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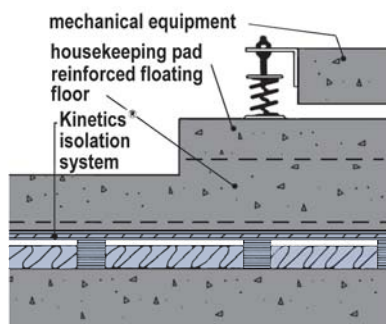
Floating Floor Assures Quiet Zone for Georgia Military Hospital

Few of the more than 50,000 soldiers, dependents and retirees who are served by the \$43 million Ft. Stewart, Georgia, Composite Health Facility, ever know that the quiet hospital environment is due in part to a unique acoustical composite floor system manufactured and installed by Kinetics Noise Control.

As the architects and mechanical engineers evaluated potential vibration and noise problems caused by the large heating, ventilating and air conditioning equipment, it became apparent that some form of acoustical treatment was necessary to control the transmission of noise into patient rooms above and below the hospital's mechanical equipment rooms.

Kinetics' field representative Phil Briggs of Thermal Recovery Systems, Atlanta, Georgia, was called in to review the problem. His preliminary conclusions were forwarded by the project's mechanical engineer to Richard Boner, an acoustical consultant from Austin, Texas. Boner reviewed the accumulated acoustical data and confirmed Kinetics' conclusions.

Of the options available, Briggs recommended Kinetics Model RIM "floating floor" system, a unique application of Kinetics problem-solving expertise.



Mechanical equipment support
off the floating floor

Ideally suited to reduce the transmission of airborne noise, Kinetics' floating floor system consists of a secondary concrete slab supported off the structure by permanently resilient, pre-compressed, molded fiberglass pads.

Six individual floating floor installations were required at Ft. Stewart. The first two systems were constructed above and below the hospital's second floor mechanical equipment room, an area encompassing nearly 22,000 sq. ft. (2044 sq. m). The next two systems were installed above and below a smaller equipment room, and two smaller systems were installed below two penthouse structures. Under Briggs' supervision, the installation was completed in stages. Standard practice is to pour a 4" (102 mm) thick reinforced concrete floating floor on isolation panels consisting of 1/2" (13 mm) thick waterproofed plywood pouring forms supported by 2" (51 mm) high-density fiberglass isolation pads and low-density absorption material. Perimeter isolation, special floor drains, temporary waterproofing, factory engineering and installation are part of Kinetics' floating floor systems.

Because of structural limitations in the floor above the mechanical equipment rooms, Kinetics engineers designed a special 4" (102 mm) thick floating floor system for this project. It consists of 1" (25 mm) high fiberglass isolation pads, 1/2" (13 mm) thick plywood and a 2-1/2" (64 mm) reinforced concrete slab. The special recessed floating floor system fulfilled the architect's requirement without sacrificing acoustical protection. The hospital, which was constructed under the supervision of the Savannah District, U.S. Army Corps of Engineers, replaced Ft. Stewart's present hospital, consisting of 70 "temporary" wood structures built at the onset of World War II.