FIIC TESTS CONDUCTED AT THE CARBONELL

Miami, Florida

by

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June 24, 2005

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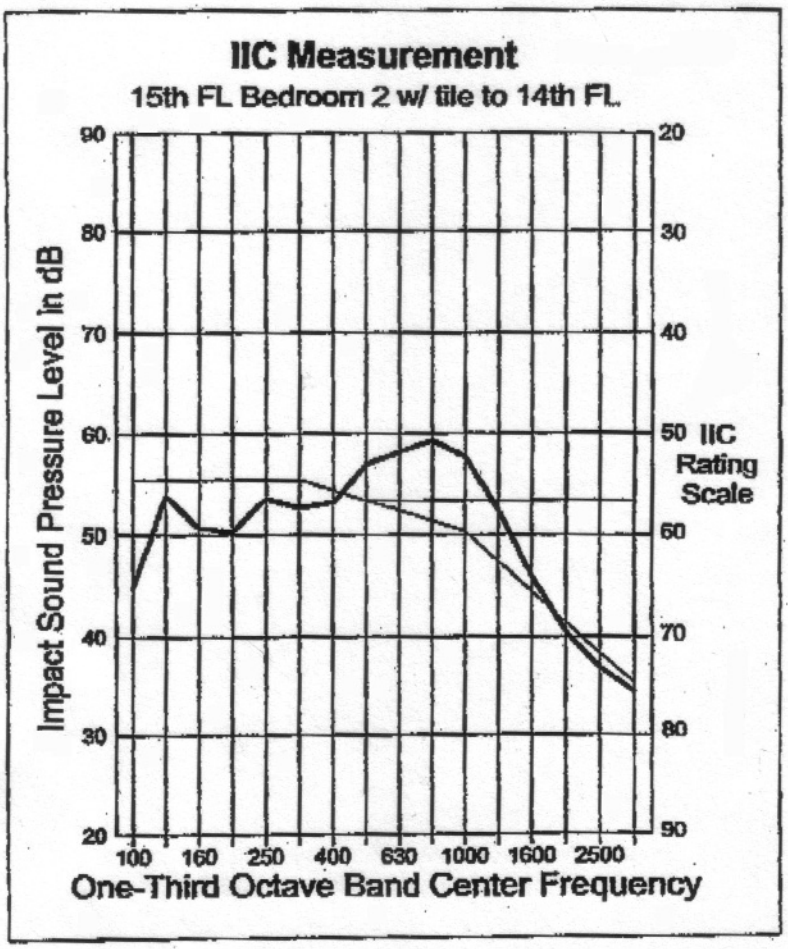
Acoustic Field Testing
The Carbonell - Residence 3, 14th & 15th Floor

June 24, 2005
Field Impact Insulation Class (FIIC) Tests
Miami, Florida



Tile Mart FIIC Tests - The Carbonell
24-Jun-05
Source Rm: Residence 3 floor 15 bed 2
Receiver Rm: Residence 3 floor 14 Bed 2

Standardized FIIC: 57

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FIELD IMPACT INSULATION CLASS (FIIC) TESTS

METHOD

A Norwegian Electronics tapping machine model 211 was used on each source floor assembly. The tapping machine was located at a minimum of four locations in each room: one parallel to the main axis in the center of the room; one perpendicular to this axis in the center of the room; one 0.2 meters from the center point and parallel to the initial position and one 0.6 m. from the center point of the initial position on a 45 degree angle. The height of hammer fall was checked and calibrated at each location and position to ensure that the hammers fell the specified distance to the floor.

An Ivie PC-40 real time analyzer was used as the receiver. This is a computer-based analyzer that can record both overall, octave band and one third octave band sound pressure levels over user-programmed time periods. It meets ANSI standards for Type 1 sound level meters. A Norsonic type 1251 pistonphone was used to calibrate the system prior to and after the measurement session. The PC-40 was within ±0.1 dB of the calibration level from the beginning of the measurement session to the end. The microphone was mounted on a stand at the approximate ear height of a standing person (5 ft. 6 in. above the finish floor). Six receiving locations were used in each receiver room to obtain the spatial average called for in the standard. A minimum of 50 samples were taken at each receiver location for each source position to obtain the time average sound pressure level (approximately 1200 samples per material). The measurement data were downloaded from the PC40 to desk top computers in our laboratory for analysis.

Background noise levels were measured in each receiving room as well.

At least 10 reverberation time measurements were conducted and averaged in each of the receiving rooms. These values were used with estimates of the receiving room volume (in cubic feet) derived from field measurements and drawings of the rooms to obtain values for normalizing the FIIC values by the decay rate method. Measured sound level data are plotted against a standard IIC contour to obtain the overall IIC rating.

RESULTS

The results of the FIIC tests are summarized in Table 1 below. The highest values of FIIC provide the greatest impact sound insulation. Measured sound level data are plotted against a standard IIC contour to obtain the overall IIC rating. One third octave-band sound level data for each floor condition are plotted against the IIC contour in Appendix A at the end of this report.

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Table 1. Floor surface and FIIC ratings.

Field Measurement Test Specimen			FIIC Rating		
Source Room	Floor Surface	Receiving Room	Normalized[1]	Field measured[2]	Standardized[3]
Residence 3, Bedroom 2, 15th Floor	Tile	Residence 3, Bedroom 2, 14th Floor	55	49	57
Residence 3, Master Bedroom, 15th Floor	Concrete	Residence 3, Master Bedroom, 14th Floor	34	31	36

[1]**Normalized FIIC** values are adjusted to correct the sound absorption in the receiving room to that of a standard laboratory test chamber with 108 sabins of absorption. These values are typically lower in the field tests in furnished rooms due to the fact that most living rooms have more sound absorption than the 108 sabins present in the laboratory test chamber.

[2]**Field Measured FIIC** values are those that were measured in the receiving rooms with no adjustment for room absorption.

[3]**Standardized FIIC** values are adjusted to correspond with a room having a reverberation time of 0.5 seconds. This would represent the conditions found in a typically furnished residential living room.

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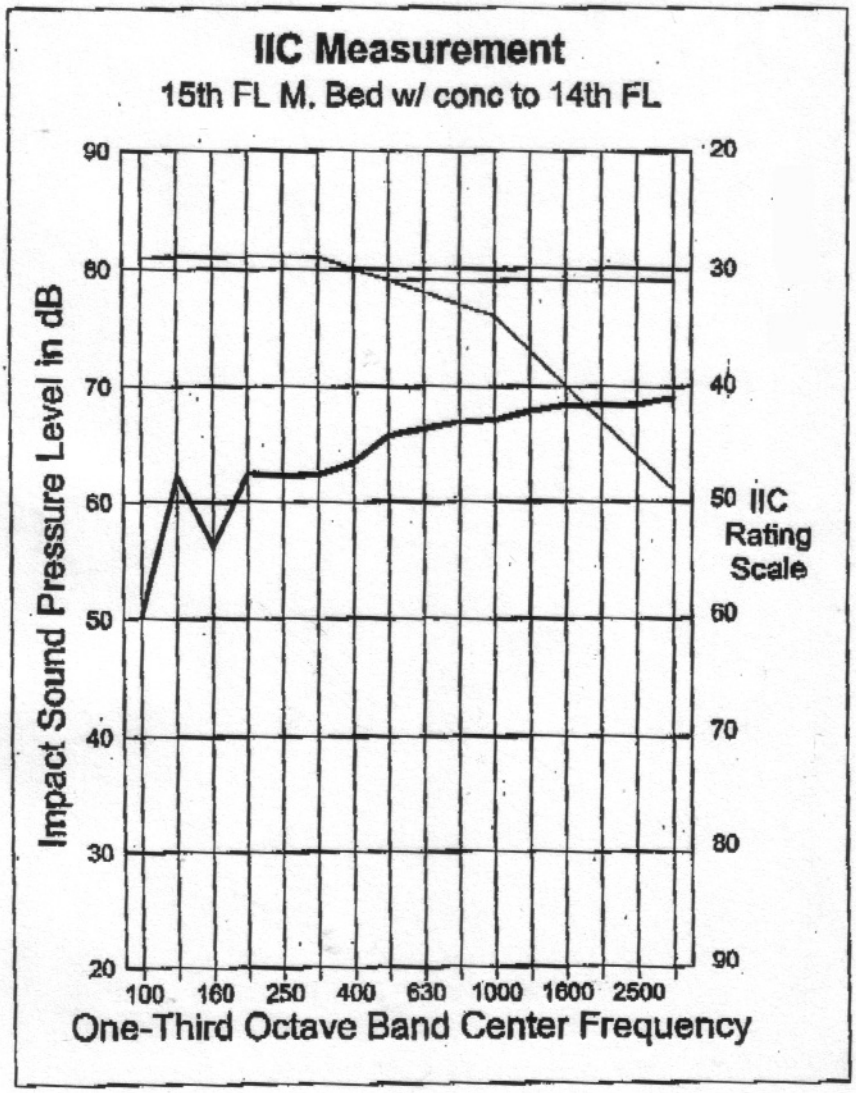

Tile Mart FIIC Tests - The Carbonell

24-Jun-05

Source Rm: Residence 3 floor 15 Maserbed

Receiver Rm: Residence 3 floor 14 Masterbed

Field Measured FIIC: 31

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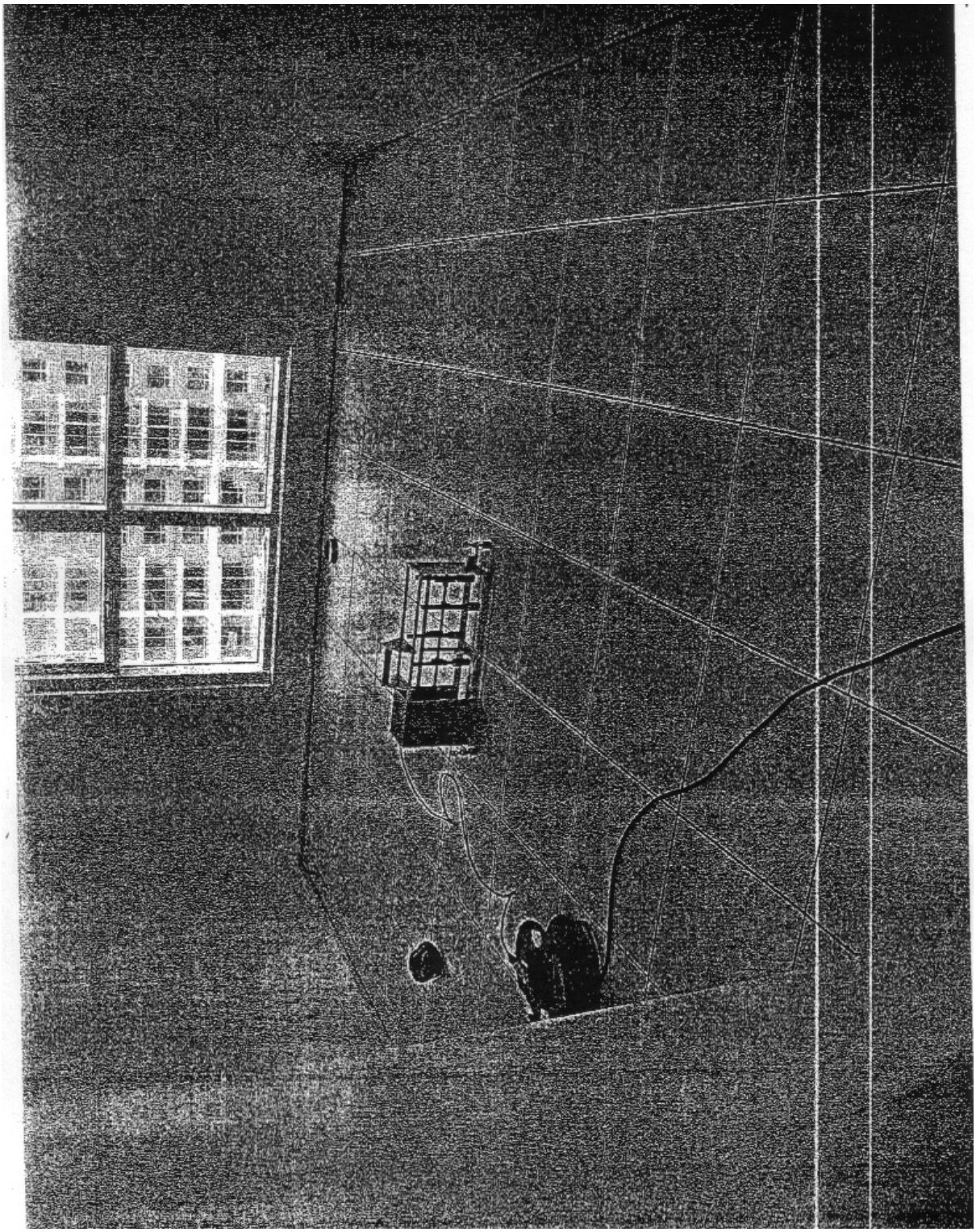

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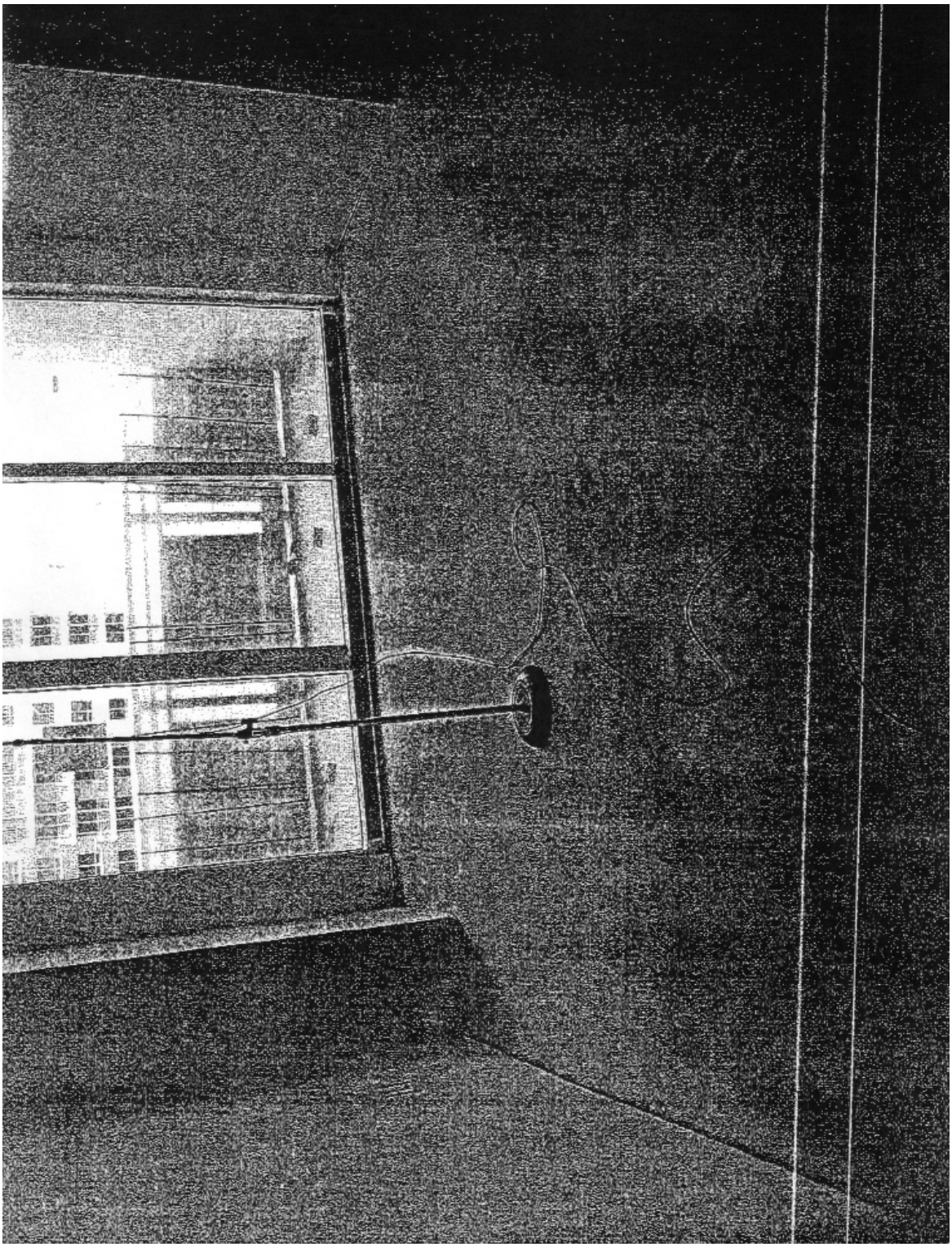

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