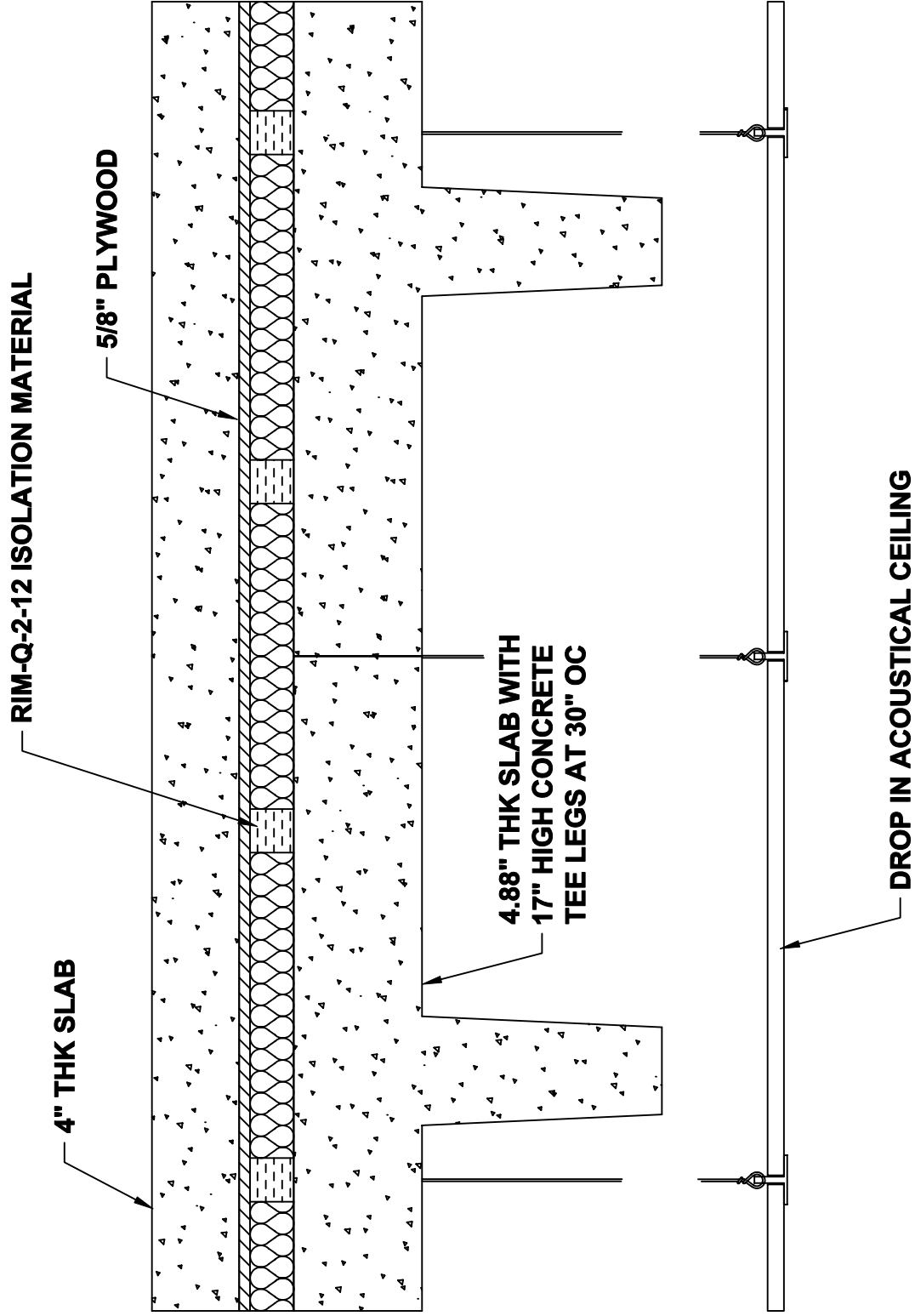


**FSTC 68**  
**FIIC 72**



TITLE

**TEST A11**

LAST DATE  
REVISED  
**11-8-04**

REVISED BY  
**JAE**

DRAWING NO.  
**A11**



JUL 08 1991

July 2, 1991

Mr. Tony Mastriani  
Kinetics Noise Control  
6300 Irelan Place  
Dublin, Ohio 43017-0655

Re: St. Jude Children's Research Hospital, Memphis, Tennessee  
FSTC and FIIC testing

CAPE  
DIXSON  
ASSOCIATES

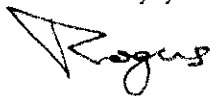
Dear Tony:

Attached are the results of our testing at St. Jude Hospital. The reports are self explanatory for the most part, and have been prepared according to the test standards referenced. In addition to the information in the reports, the following comments apply:

1. An audible sound flanking path was found over Room 5E022. The flanking path appeared to be at the intersection of the penthouse floor slab and the adjacent stairwell wall. Flanking did not present a problem for the FIIC test since both airborne and structureborne flanking noise components were at or below ambient levels. However, because of the higher sound levels generated by the sound system, the flanking noise level in the FSTC test would have been above the ambient level in the receiving room used in the FIIC test. To eliminate this problem, the FSTC test was conducted in a location where noise flanking paths did not affect the results.
2. In both areas there were housekeeping pads poured directly onto the floating slabs. The effective floor slab thickness was greater at these housekeeping pads. However, the additional slab thickness did not affect the tests results in either case. The slab under the impact test machine location was of normal thickness and the percentage of the area of thicker slab in the sound isolation test was too low to affect the results.
3. The ambient noise level in the receiver room used for the FIIC test was within the range to induce uncertainty about the measurements. Therefore, the calculated FIIC level is a minimum. The actual performance of the tested floor system could be higher.

Thank you for having our firm provide the testing services on this project. We look forward to serving you again.

Sincerely yours,



F. Rogers Dixon, Jr. P.E.  
Principal

/mac

enclosure

# FIELD SOUND TRANSMISSION CLASS TEST

Conducted According to ASTM Designation: E 336-84

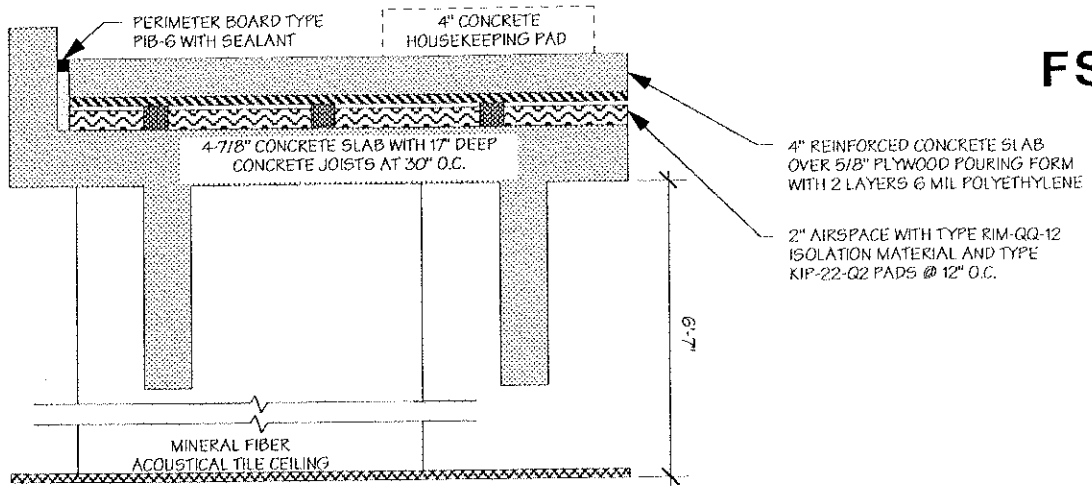
St. Jude Children's Research Hospital, Memphis, Tennessee

Test performed June 18, 1991

## Description of the Test Specimen

Report Number 91104.02

The Test Specimen was a floor system consisting of a 4-3/4" concrete structural slab covered with a 6-5/8" Kinetics RIM Floating Floor System as shown in the figure below. An acoustical tile ceiling was suspended 6'-7" below the slab. The test area included a 5'-0" x 12'-0", 4" thick concrete housekeeping pad poured directly onto the floating slab. The test site was the floor area over Room 5E024A. The source room was the mechanical penthouse (with all nearby systems shut down) and the receiving room was a small lab with predominately hard finishes (except for acoustical ceiling tile) and few furnishings.



**FSTC  
68**

CAPL  
DIXSON  
ASSOCIATES

One Third Octave Band Center Frequency, Hz

	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000
Noise Reduction	52	54	60	57	56	64	66	65	69	69	69	68	69	70	72	71
Measured RT60	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Normalization	2	2	2	2	2	2	2	2	1	1	1	0	0	1	1	1
Field TL	54	56	62	59	58	66	68	67	70	70	70	68	69	71	73	72
STC 68 Contour	52	55	58	61	64	67	68	69	70	71	72	72	72	72	72	72
Deficiencies	0	0	0	2	6	1	0	2	0	1	2	4	3	1	0	0

Source Room: 60'-9" L x 40'-9" W x 15'-0" Ceiling  
Volume: 37,133 cubic feet

Receiving Room: 30'-9" L x 10'-9" W x 9'-0" Ceiling  
Volume: 2,975 cubic feet

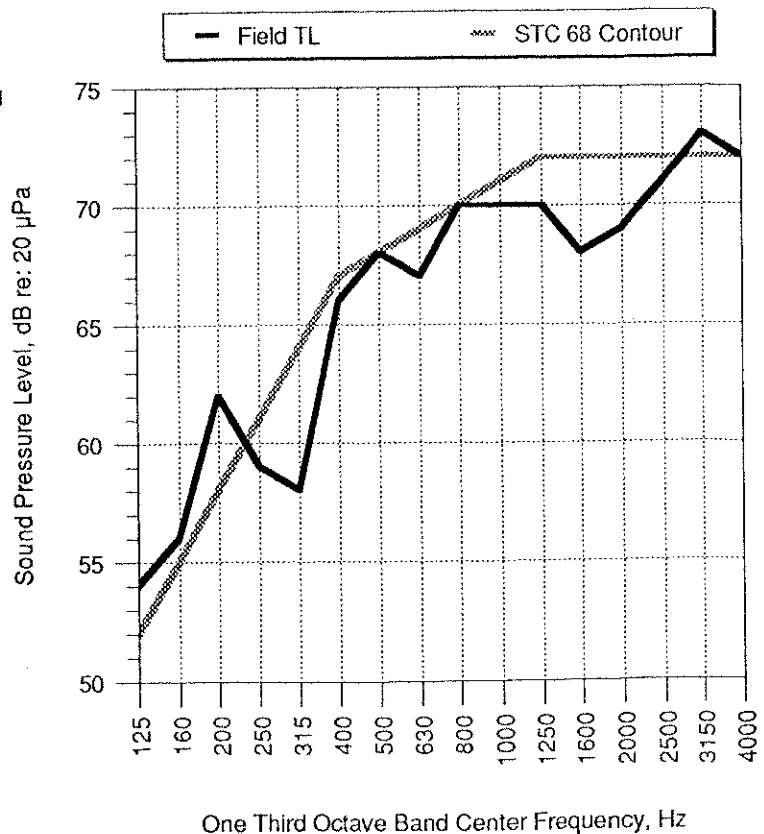
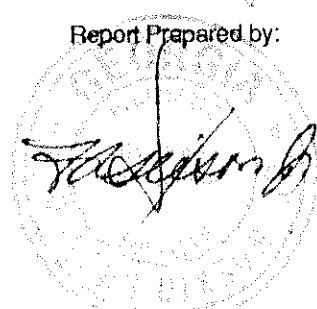
Test Panel Area: 331 sf  
Test Panel Estimated Weight: 110 psf

All measurements continuously space and time averaged to maintain 95% confidence limits of less than 0.5 dB. FSTC calculated in accordance with ASTM Designation: E 413-84.

The source room dimensions are estimated effective dimensions based on length and width of common area plus two times the source room ceiling height in both directions.

Test Performed by:

Report Prepared by:



One Third Octave Band Center Frequency, Hz

# FIELD IMPACT INSULATION CLASS TEST

Conducted According to ASTM Designation: E 1007-84

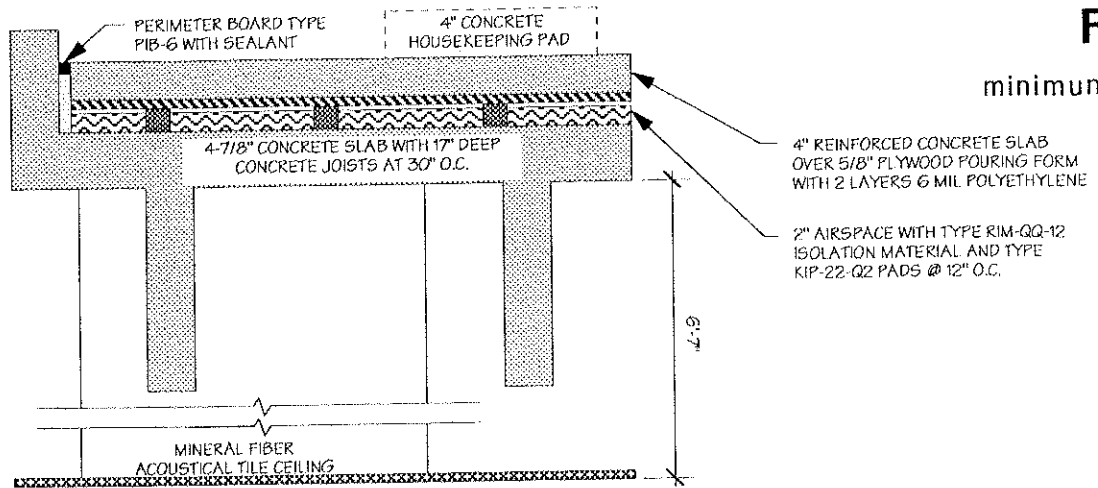
St. Jude Children's Research Hospital, Memphis, Tennessee

Test performed June 18, 1991

Report Number 91104.01

## Description of the Test Specimen

The Test Specimen was a floor system consisting of a 4-3/4" concrete structural slab covered with a 6-5/8" Kinetics RIM Floating Floor System as shown in the figure below. An acoustical tile ceiling was suspended 6'-7" below the slab. The test area included a 5'-0" x 10'-0", 4" thick concrete housekeeping pad poured directly onto the floating slab. The tapping machine was placed on the floating floor at least 6' from any discontinuity. The test site was the floor area over Room 5E022. The source room was the mechanical penthouse (with all nearby systems shut down) and the receiving room was a small lab with predominately hard finishes (except for acoustical ceiling tile) and few furnishings. Note that due to the small difference between the ambient level and the measured Impact Sound Pressure Level in most frequency bands, the derived FIIC is a minimum value and the actual value may be higher.



**FIIC**  
minimum **72**

CAMP  
LINSON  
ASSOCIATES

One Third Octave Band Center Frequency, Hz

	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150
Impact SPL	38~	44~	35~	33~	36~	34	31~	30~	30	27~	29	29	25~	23~	22~	20~
Absorption(sabins)	421 <sup>^</sup>	408 <sup>^</sup>	516 <sup>^</sup>	389 <sup>^</sup>	428 <sup>^</sup>	423 <sup>^</sup>	338 <sup>^</sup>	401 <sup>^</sup>	460 <sup>^</sup>	454 <sup>^</sup>	482 <sup>^</sup>	501 <sup>^</sup>	567 <sup>^</sup>	573 <sup>^</sup>	552 <sup>^</sup>	554 <sup>^</sup>
Normalization	4	4	5	3	4	4	3	3	5	4	4	5	5	5	5	6
Normalized ISPL	42	48	40	36	40	38	34	33	35	31	33	34	30	28	27	26
IIC 72 Contour	40	40	40	40	40	40	39	38	37	36	35	32	29	26	23	20
Deficiencies	2	8	0	0	0	0	0	0	0	0	0	2	1	2	4	6

<sup>^</sup> Absorption > Volume to the 2/3 power

~ ISPL within 5 dB of ambient noise

Receiving Room Volume: 5,273 cubic feet

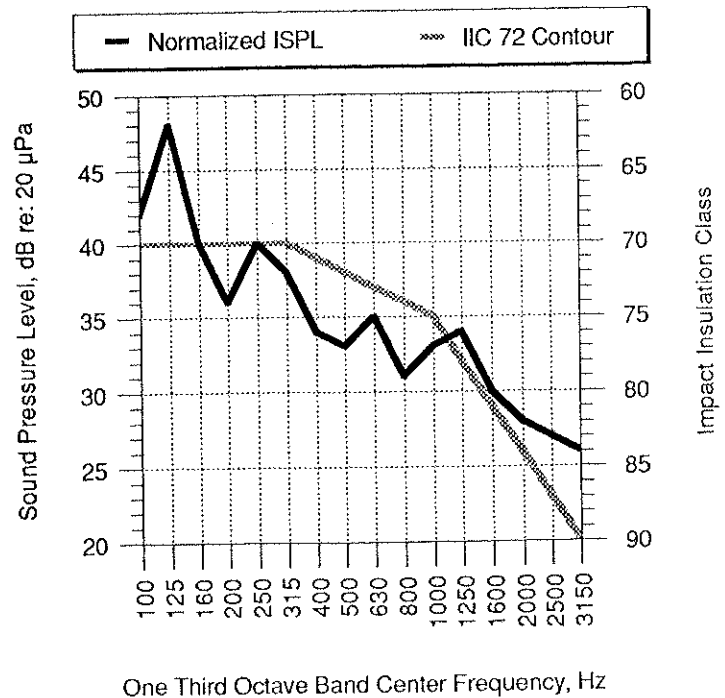
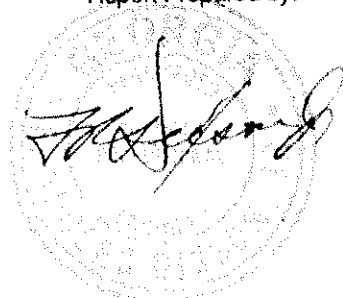
Test Floor: 19'-0" L x 18'-6" W = 456 sf

Estimated Weight: 110 psf

All measurements continuously space and time averaged to maintain 95% confidence limits of less than 0.5 dB. FIIC calculated in accordance with ASTM Designation: E 989-84.

Test Performed by:

Report Prepared by:



One Third Octave Band Center Frequency, Hz