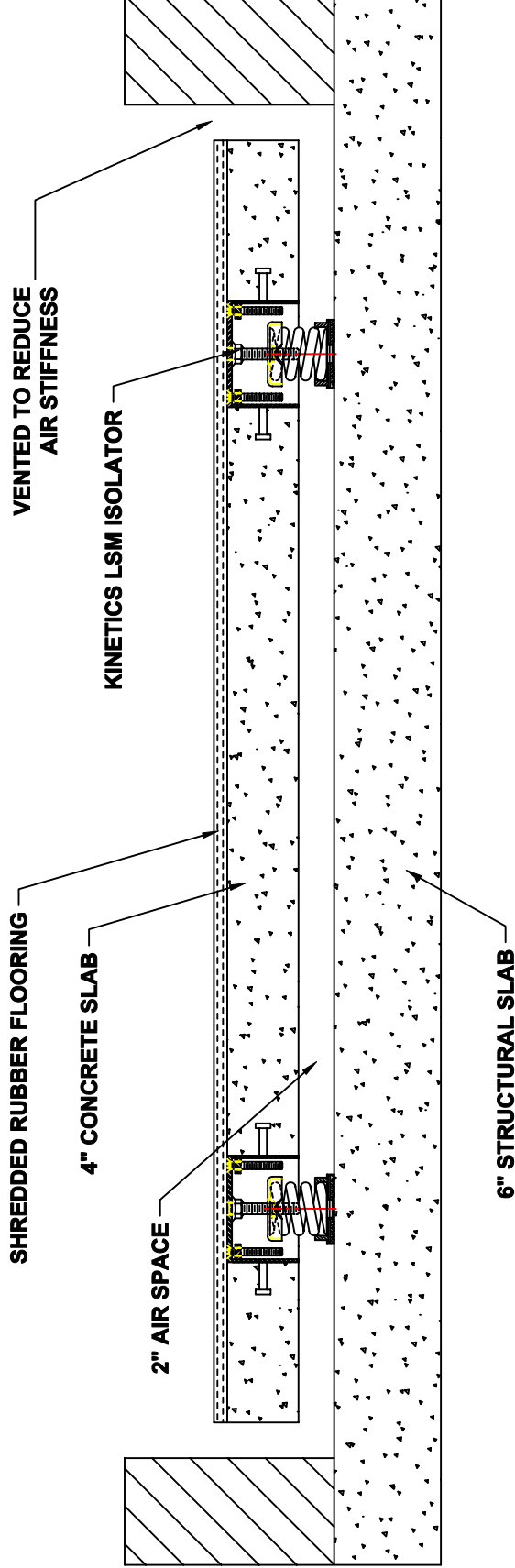


# FIC 73



TITLE



TEST D1-c

LAST DATE REVISED  
11-11-04

REVISED BY  
JAE

DRAWING NO.  
D1-c

3208 15th Avenue W., Seattle Washington 98119 (206) 270-8910 Fax (206) 270-8690

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**IMPACT INSULATION CLASS TEST REPORT**      **BRC 2000-009**

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**Report Date:** March 22, 2000

**Client:**            Westbank Investments (USA) Inc.  
                         177 West Hastings Street  
                         Vancouver, BC V6E 2K3  
                         Canada

                         Kinetics Noise Control  
                         6300 Irelan Place  
                         Dublin, Ohio 43017  
                         USA

**Product:**        Kinetics Spring Jack-up  
                         Floating Floor System  
                         Gym – shredded rubber

**Project:**        NY Sports Club  
                         **Test Date:**    March 10, 2000

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**PROCEDURE**

This report presents the results of testing completed on the sound impact insulation performance of a Kinetics spring jack-up floating floor system. The procedures used to conduct this test were in accordance with the provisions and requirements of the American Society for Testing and Materials (ASTM) E1007-97 Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures and E989 Classification for Determination of Impact Insulation Class (IC). Testing was completed at NY Sports Club and the Banana Republic Store in Rockefeller Center, New York City, NY. The test area within the Sports Club was the open Gym adjacent to the Aerobics Studio 2 and was constructed to achieve sound and impact isolation to the retail spaces below. Testing was completed after hours to eliminate the impact of retail and sports club activity noise levels on the measurement results. Ambient noise levels generated by external sources of traffic and equipment did impact the overall results of these measurements. All testing was completed within established professional standards and practices.

## **DESCRIPTION OF TEST SPECIMEN**

The test specimen consisted of a 6-inch structural concrete floor with a Kinetics spring jack-up floor assembly providing acoustic isolation. The finish floor was shredded rubber. The floating floor included 1-inch deflection springs, type LSM-1, distributed 4 feet on-center in a 4" thick dense concrete slab (150 pcf). The floating slab made no contact with the walls, creating a 2-inch gap around the perimeter. This gap was a flanking path for airborne sound transmission that was identified before testing. No effort was made to block sound from being transmitted through this gap.

## **TEST PROCEDURE**

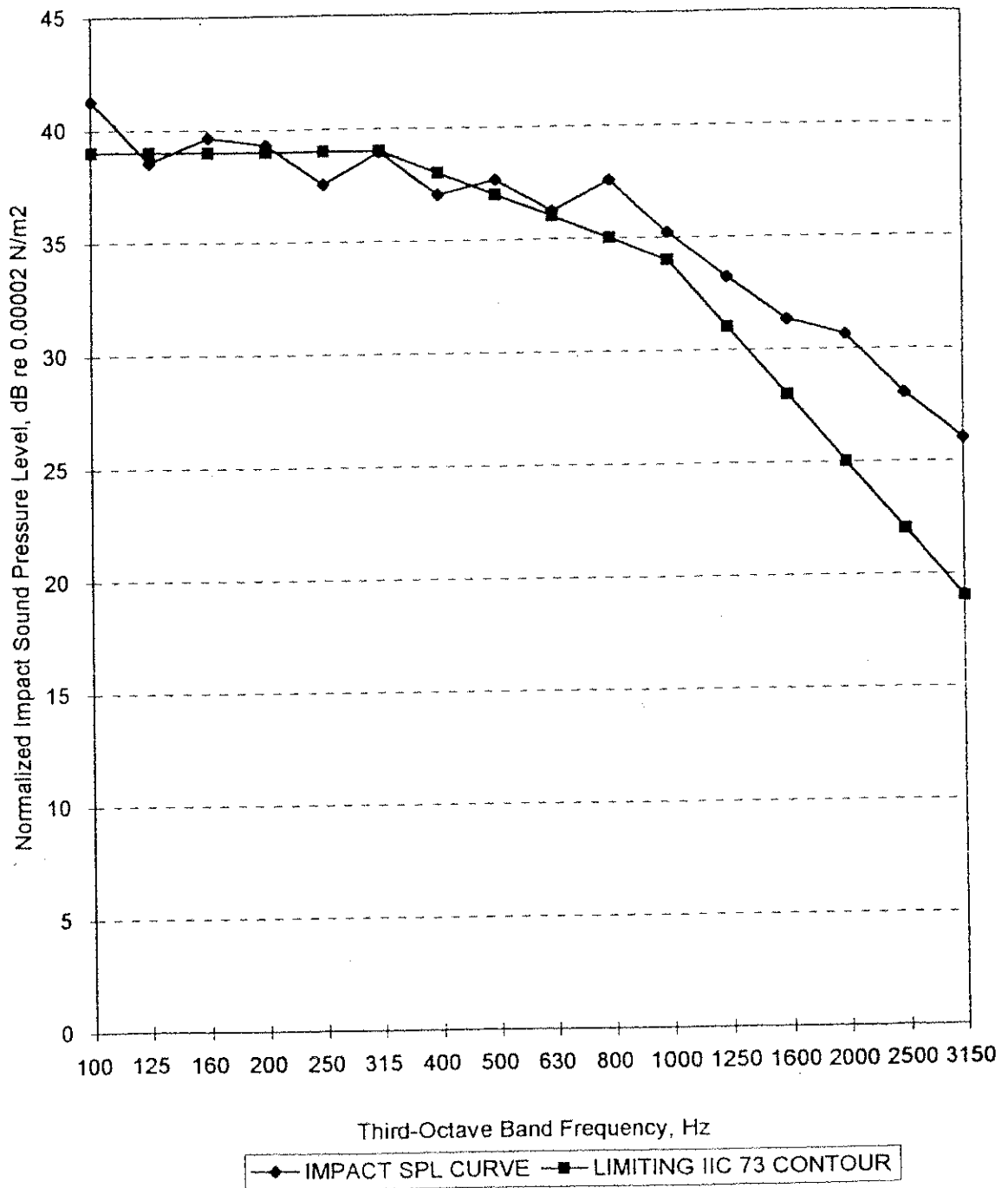
Procedures outlined within ASTM E1007-97 were followed to obtain the transmitted sound pressure level produced by the tapping machine (located in the source room) as measured in the receiver room located beneath the floor being tested. Measurements were normalized to account for sound absorption within the receiver room.

## **MEASUREMENT RESULTS**

To derive a performance rating for Impact Insulation Class, four individual measurements of four different tapping machine positions have been averaged. The averaged values are listed and displayed graphically on the next page. Based on these values the performance of this assembly can be characterized as a Field Impact Insulation Class 73 according to the procedures of ASTM E1007-97.

## **DISCLAIMER**

BRC Acoustics has no financial or managerial interests vested in the clients named in this report nor do the clients have any vested interests in the operation or finances of BRC Acoustics.

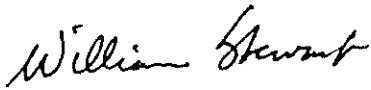


The IIC value was determined by applying the Averaged Sound Pressure Levels (SPL) values to the IIC reference contour of ASTM E1007-97, Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures.

Freq (Hz)	SPL Avg. (dB)	IIC Contour	Def (dB)	Freq (Hz)	SPL Avg. (dB)	IIC Contour	Def (dB)
100	41.7	39	2	630	38.1	36	0
125	40.4	39	0	800	39.1	35	3
160	41.2	39	1	1000	37.1	34	1
200	41.5	39	0	1250	35.1	31	2
250	39.7	39	0	1600	33.5	28	3
315	40.5	39	0	2000	32.8	25	6
400	38.9	38	0	2500	30.2	22	6
500	39.2	37	1	3150	28.2	19	7

NR Averaged Sound Pressure Level (dB)  
 IIC Contour Limiting IIC Contour  
 Def Deficiencies, values below IIC contour (dB)

**BRUCK RICHARDS CHAUDIERE INC.**



**William Stewart  
 Senior Consultant**