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June 15, 2005

Mr. Steve Miller
Skyfold – Autolift Wall System
325 Lee Ave., Baie d'Urfe (Montreal)
Quebec, Canada H9X 3S3

Re: Skyfold Vertically Folding Electric Partition Testing
United Brotherhood of Carpenters
Las Vegas, NV
SMW Project # 09120

Dear Mr. Miller:

This letter summarizes the results of the sound transmission test performed on the 1st floor Skyfold partition at the United Brotherhood of Carpenters building on June 3, 2005.

Conformance to Standard

The test was done in accordance with ASTM E 336-97 "Standard Test Method for Measurement of Airborne Sound Insulation in Buildings".

Test Environment

A sound transmission test was performed on the Skyfold operable partition separating rooms M107 and M108 on the first floor of the building.

The source room used for the test was room M107. See Sheet 1. With the Skyfold partition in place, the source room was approximately 24 ft. long x 30 ft. wide x 12 ft. high. The space was carpeted, with tables and chairs present in the room. The ceiling consisted of a suspended acoustic tile ceiling.

The receive room was room M108. See Sheet 1. This room measured approximately 24 ft. long x 30 ft. wide x 12 ft. high. This space was also carpeted, with tables and chairs present in the room. The ceiling consisted of a suspended acoustic tile ceiling.

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Test Specimen

The specimen tested was the Skyfold partition separating rooms M107 and M108. The partition is electronically operated, and lowered in place before the test by turning a key located in a control panel in the sidewall. The Skyfold partition tested measured 30 ft. wide by 12 ft. high. The partition consists of individual panels on either side of a structural skeleton, which yields an overall depth of 11-3/4" for each partition. The individual panels are 1'-11" high and 9'-10 7/8" in width (total 7 x 3 panels = 21 total panels, on each side of the partition). There is a 3'-11" high gypsum board bulkhead between the underside of the structure and the Skyfold partition, which contains a 1'-11" deep "pocket" that houses the partition once it are raised.

The test specimen was constructed with a galvanized steel face sheet, honeycomb core, galvanized steel backer sheet and 1.5" of semi-rigid acoustical insulation. The specimen weighs approximately 7.1 lbs/sq. ft.. There are acoustic seals at the floor and seals that engage the sidewalls. The test specimen rested on carpet when in place.

Test Procedure

The sound source used was a Peavey Minx amplifier/loudspeaker. Pink noise from a Gold Line Noise Generator Model PN3A was used as the source signal.

During testing, the loudspeaker was located in the center of the room, which allowed a uniform distribution of sound level across the partition.

A Bruel & Kjaer 2260 Type 1 Sound Level Meter was used for the source and receive sound pressure level measurements. The meter was calibrated with a Bruel & Kjaer 4231 Calibrator that emits a 1000 Hz tone at 94 dB. The meter was calibrated at regular intervals during the measurements, and the sensitivity deviated by no more than 0.01 dB throughout the tests.

A manual sweeping method was used to measure the source room sound level (L1), receive room sound level (L2) and background sound pressure levels. In each case, the meter was positioned 1 m (3.3 ft.) from the wall, and swept by walking back and forth forming an S-pattern across the test specimen starting at about an 8 ft. height, and finishing at about a 3.5 ft. height from the floor. The duration of the measurements was 60 seconds for all tests. The source (L1), receive (L2) and background noise levels were measured three times for each test. The average of the three sets of measurements was used in the analyses.

Test Results

The NR (Noise Reduction) values were computed in third-octave bands from 125 Hz to 4000 Hz. These values allowed us to calculate the NIC (Noise Insulation Class) value of **NIC 43** for the partition separating rooms M107 and M108.

The complete NR values, as well as the NIC graph for the test are appended.

Summary

The tests revealed that the Skyfold partition on the first floor separating rooms M107 and M108 achieved a field rating of **NIC 43**. This result is favorable for an electrical operable partition of this size.

Sincerely,
SHEN MILSOM & WILKE, INC.

Pierre Germain, M.A.Sc.
Associate

cc Harry Berberian, Skyfold
Dennis Paoletti, SMW

Job Name: Skyfold Partition Testing
Job Number: 9120
Measurement Date: June 3 2005
Source Room: M107
Receive Room: M108

NIC Test 1
Skyfold Partition
First Floor

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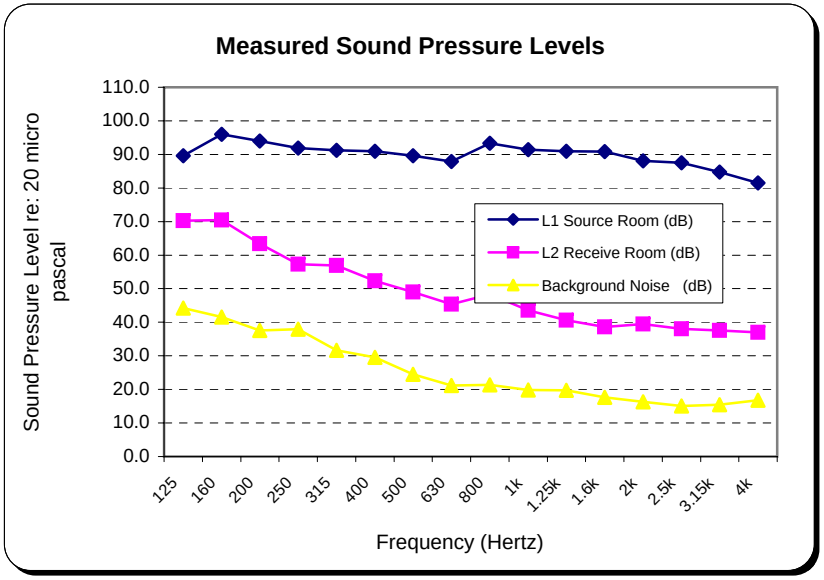
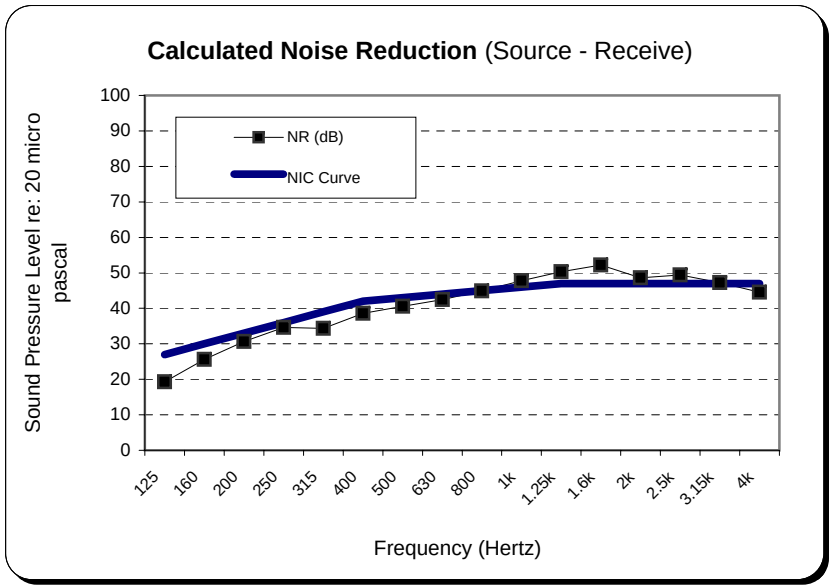
Octave Band (Hz)	L1 Source Room (dB)	L2 Receive Room (dB)	Background Noise (dB)	Corrected L2 (dB)	NR (dB)
125	89.6	70.2	44.2	70.2	19
160	96.0	70.4	41.6	70.4	26
200	94.0	63.4	37.6	63.4	31
250	91.9	57.3	37.9	57.3	35
315	91.3	57.0	31.7	57.0	34
400	90.9	52.3	29.5	52.3	39
500	89.6	49.0	24.5	49.0	41
630	87.9	45.4	21.2	45.4	42
800	93.3	48.4	21.3	48.4	45
1k	91.4	43.6	19.8	43.6	48
1.25k	90.9	40.6	19.7	40.6	50
1.6k	90.8	38.6	17.7	38.6	52
2k	88.0	39.4	16.3	39.4	49
2.5k	87.5	38.1	15.0	38.1	49
3.15k	84.8	37.5	15.4	37.5	47
4k	81.5	37.0	16.8	37.0	45

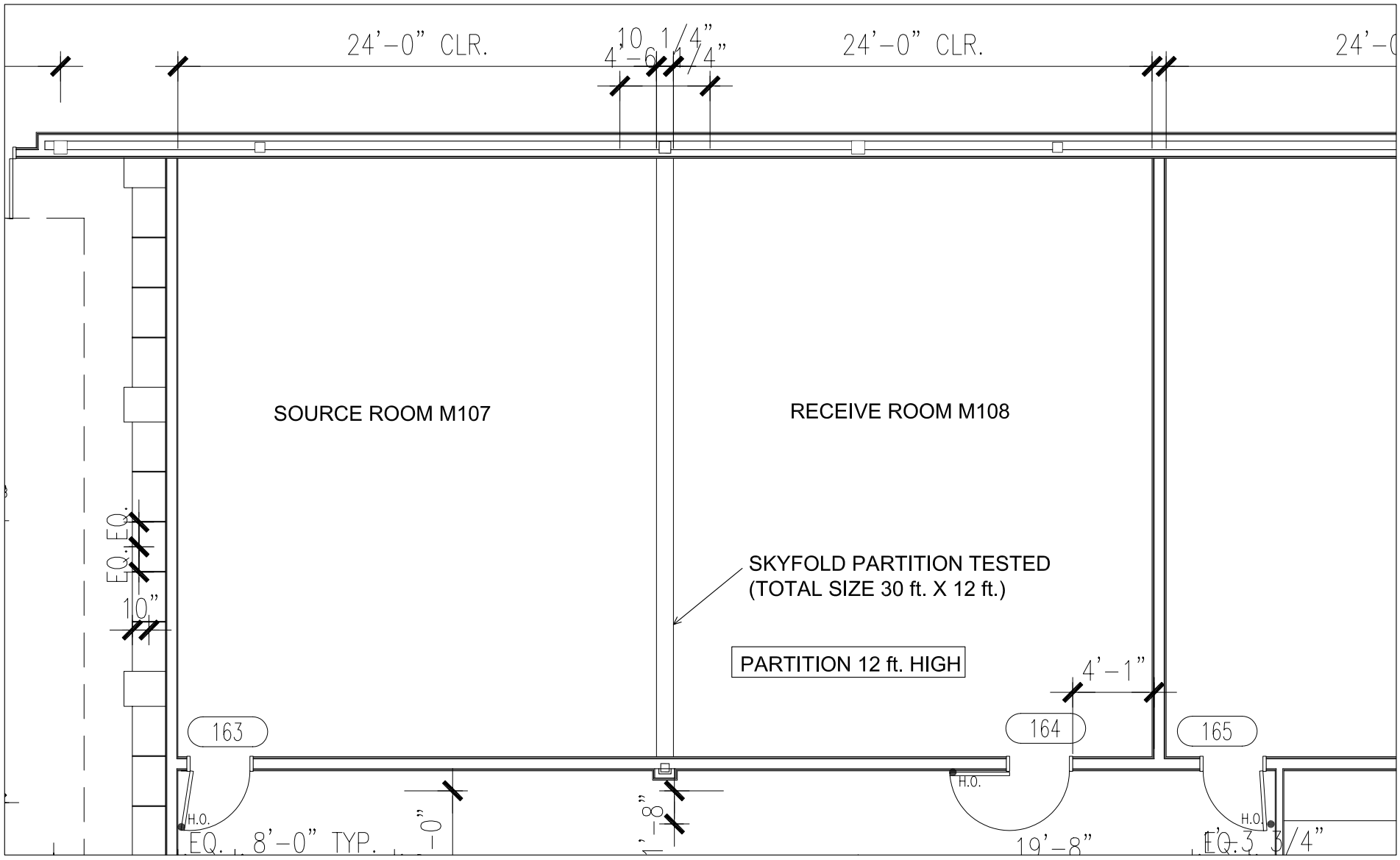


Total Deviation: 30 Must be < 32

Deviation Per Octave: 0 1 = non compliance
0 = compliance

NIC Rating 43





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PROJECT:
SKYFOLD PARTITION TESTING
United Brotherhood of Carpenters
Las Vegas, Nevada

TITLE:
TEST ROOM CONFIGURATION

DRAWN BY:	PG
SCALE:	NTS
DATE:	06/13/05
JOB NO.	09120
SHEET NO.	1

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