



September 2, 2005

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**Re: Skyfold Vertically Folding Electric Partition Testing
United Brotherhood of Carpenters
Las Vegas, NV
SMW Project # 05443**

Dear Mr. Wandel:

This letter summarizes the results of the sound transmission test performed on the 2nd floor Skyfold partition at the United Brotherhood of Carpenters building on August 30, 2005.

Purpose of Test

The purpose of the test was twofold:

1. To determine whether there was an improvement in sound isolation over the previous test conducted June 3 2005, when the partition was tested at NIC 40. We understand that gaps around the penetrations in the bulkhead present during the June 3 tests were subsequently sealed.
2. To evaluate the overall performance of the Skyfold partition.

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".

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Test Environment

A sound transmission test was performed on the Skyfold operable partition separating rooms M207 and M208 on the second floor of the building.

The source room used for the test was room M207. 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 M208. 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.

Test Specimen

The specimen tested was the Skyfold partition separating rooms M207 and M208. 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 is 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.

An Ivie IE-33 Type 2 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 42** for the partition separating rooms M207 and M208.

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

Summary

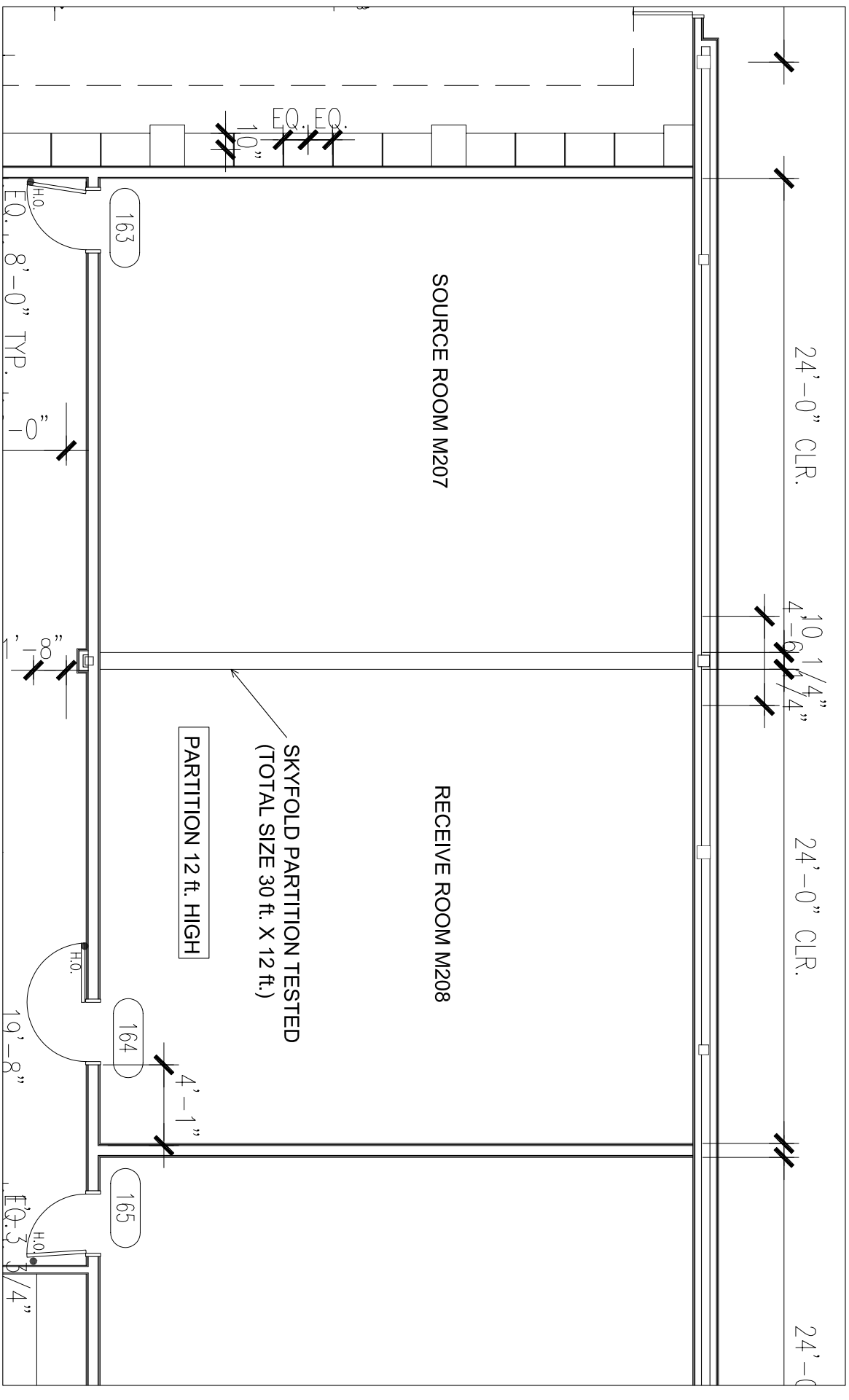
The tests revealed that the Skyfold partition on the first floor separating rooms M207 and M208 achieved a field rating of **NIC 42**. This is a 2-point improvement over the previous test conducted on June 3 2005. A result of NIC 42 is favorable for an electrical operable partition of this size.

Sincerely,
SHEN MILSOM & WILKE, INC.



Pierre Germain, M.A.Sc.
Associate

cc Brandon Smith, Modernfold
Dennis Paoletti, SMW



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

TITLE:
TEST ROOM CONFIGURATION

DRAWN BY:	PG
SCALE:	NTS
DATE:	08/31/05
JOB NO.:	05443
SHEET NO.:	1

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Job Name: Skyfold Partition Testing

Job Number: 5443

Measurement Date: August 30 2005

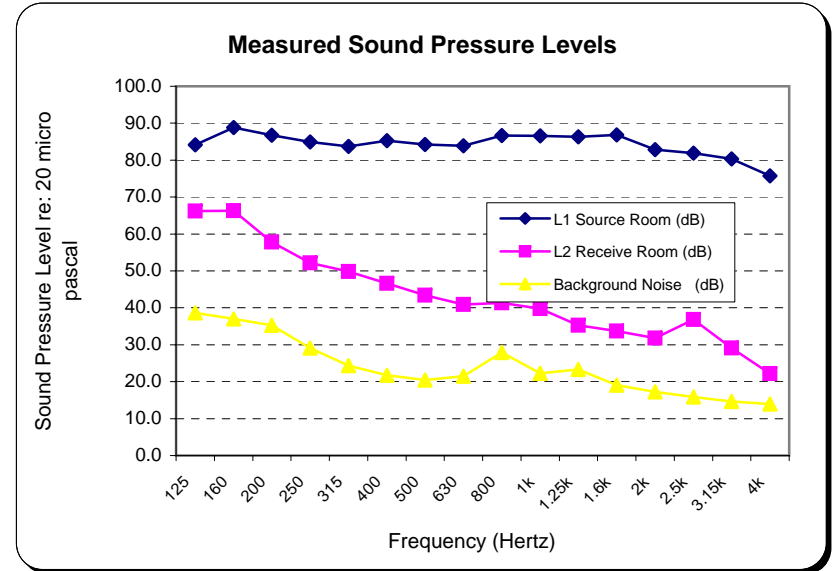
Source Room: M207

Receive Room: M208

NIC Test Skyfold Partition Second Floor



Octave Band (Hz)	L1 Source Room (dB)	L2 Receive Room (dB)	Background Noise (dB)	Corrected L2 (dB)	NR (dB)
125	84.1	66.2	38.7	66.2	18
160	88.8	66.3	37.0	66.3	22
200	86.7	57.8	35.2	57.8	29
250	84.9	52.2	29.1	52.2	33
315	83.7	49.9	24.3	49.9	34
400	85.3	46.6	21.8	46.6	39
500	84.3	43.5	20.5	43.5	41
630	83.9	40.9	21.5	40.9	43
800	86.7	41.3	27.9	41.3	45
1k	86.6	39.8	22.2	39.8	47
1.25k	86.3	35.2	23.3	35.2	51
1.6k	86.9	33.7	19.0	33.7	53
2k	82.8	31.8	17.2	31.8	51
2.5k	81.9	36.8	15.9	36.8	45
3.15k	80.3	29.1	14.6	29.1	51
4k	75.8	22.2	13.9	20.2	56



Total Deviation 29 Must be < 32

Deviation Per Octave 0 1 = non compliance
0 = compliance

NIC Rating 42

