

TEST REPORT

FOR: Panelfold, Inc.

Sound Transmission Loss Test
RAL™-TL03-135

ON: Panelfold Steel Operable Wall
With NRC 0.80 Construction
As Per RAL™-A03-068

Page 1 of 4

CONDUCTED: 3 April 2003

RESULT: STC 51

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-02 and E413-87, as well as other pertinent standards. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure. A description of the measuring technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as a Panelfold steel operable wall with a perforated steel face that was subsequently tested for sound absorption on April 10, 2003 by Riverbank Acoustical Laboratories (NRC 0.80 per RAL™-A03-068). The specimen was fully operable and was comprised of interlocking panels arranged in a flat configuration and supported by an overhead track. The nominally 102 mm (4 in.) thick panels were constructed with a sound absorbing perforated steel face on one side and a non-perforated 0.91 mm (0.0359 in) thick (20 gauge) steel face on the other side with steel frames and interior sound retarding material. The abutting edges between panels consisted of interlocking vertical stiles incorporating vertical sound seals. A continuous vinyl seal installed on each side of each panel closed the clearance between the top of the panels and the soffit. A mechanical seal in each panel closed the clearance between the bottom of the panels and the floor. An expanding panel provided final closure. The manufacturer installed the specimen directly into the laboratory's 4.27 m (14 ft) wide by 2.74 m (9 ft) high wood-lined frame. Each panel was 102 mm (4 in.) thick by 1.29 m (50.875 in.) wide by 2.59 m (102 in.) high including seals. Each panel weighed an average of 175 kg (386 lbs), or 52.3 kg/m² (10.7 lbs/ft²), including trolley. The expanding panel was nominally 330 mm (13 in.) wide by 2.59 m (102 in.) high and weighed 96.6 kg (213 lbs). The overall dimensions of the test specimen installed and tested as measured were 4.27 m (168 in.) wide by 2.57 m (101 in.) high and nominally 102 mm (4 in.) thick. The weight of the entire specimen as measured was 675 kg (1,487 lbs), an average of 61.5 kg/m² (12.6 lbs/ft²). The transmission area used in the calculations was 11 m² (118 ft²). The source and receiving room temperatures at the time of the test were 24±1°C (75±2°F) and 60±2% relative humidity. The source and receive reverberation room volumes were 179 m³ (6,298 ft³) and 177 m³ (6,255 ft³), respectively. Laboratory personnel

This report shall not be reproduced except in full, without the written approval of RAL.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY
ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS.
THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES
OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST.

TEST REPORT

Panelfold, Inc.

RAL™-TL03-135

3 April 2003

Page 2 of 4

performed a full inspection on the test specimen. A detailed description is on file and has been intentionally withheld from this report in order that the manufacturer may control full proprietary rights regarding its product. The operable wall was opened and closed at least five times, and the test was conducted with no further adjustments.

This report shall not be reproduced except in full, without the written approval of RAL.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY
ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS.
THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES
OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST.

TEST REPORT

Panelfold, Inc.

RAL™-TL03-135

3 April 2003

Page 3 of 4

TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages. The precision of the TL test data is within the limits set by the ASTM Standard E90-02.

<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>	<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>
100	21	0.73		800	57	0.18	
125	27	0.62	8	1000	58	0.09	
160	30	0.53	8	1250	59	0.15	
200	35	0.63	6	1600	61	0.12	
250	40	0.35	4	2000	63	0.08	
315	48	0.28		2500	64	0.12	
400	51	0.24		3150	66	0.10	
500	54	0.23		4000	68	0.07	
630	55	0.13		5000	71	0.06	

STC=51

ABBREVIATION INDEX

FREQ. = FREQUENCY, HERTZ, (cps)

T.L. = TRANSMISSION LOSS, dB

C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT

DEF. = DEFICIENCIES, dB<STC CONTOUR

STC = SOUND TRANSMISSION CLASS

THIS ELECTRONIC COPY OF THIS REPORT IS PROVIDED AS A COURTESY BY THE ISSUING LABORATORY FOR REFERENCE AND INFORMATIONAL PURPOSES ONLY

Tested by _____ Approved by _____

Dean Victor
Senior Experimentalist

David L. Moyer
Laboratory Manager

TO BE OFFICIALLY VALID, THIS DOCUMENT MUST CONTAIN ALL SIGNATURES INDICATED

This report shall not be reproduced except in full, without the written approval of RAL.

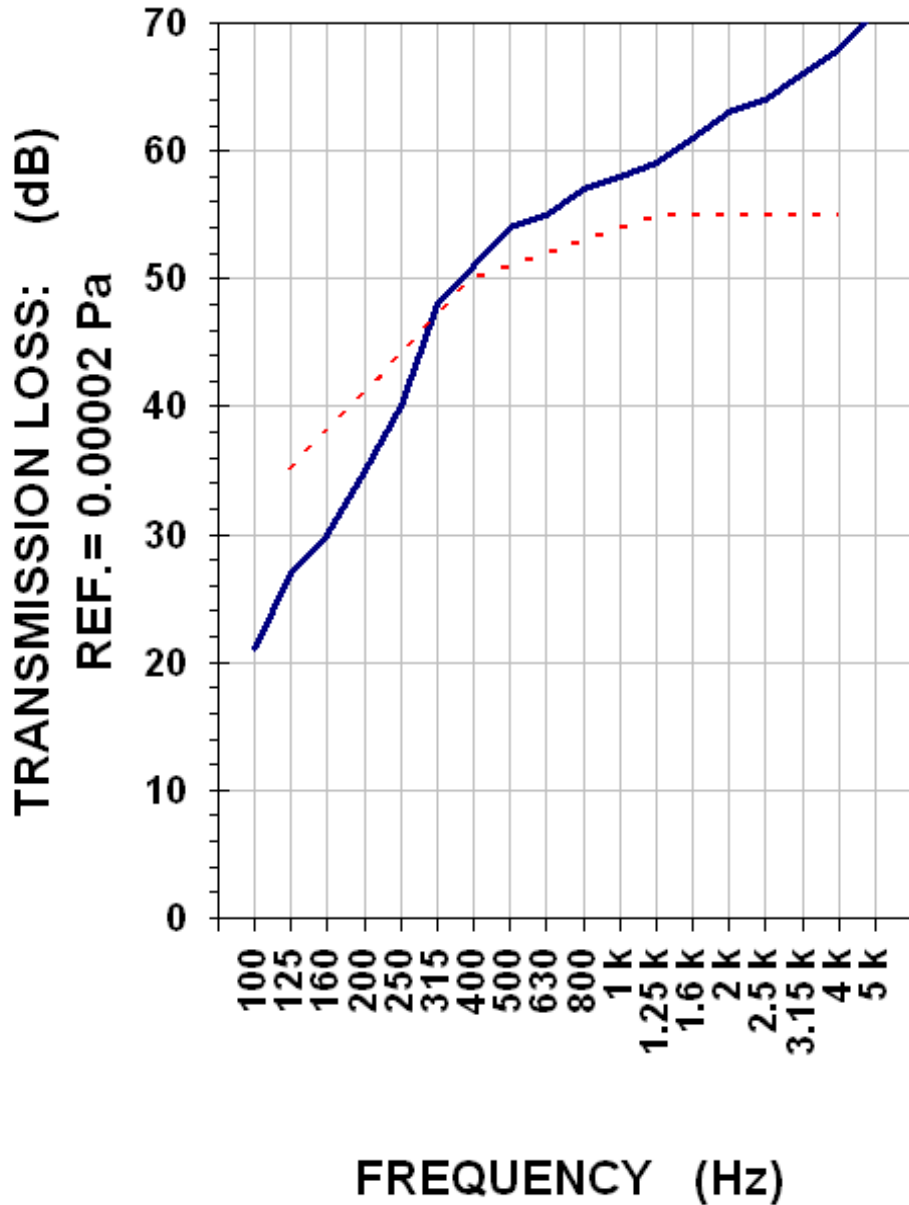
THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS. THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST.

TEST REPORT

**TRANSMISSION LOSS REPORT
TL03-135**



— TRANSMISSION LOSS
- - - SOUND TRANSMISSION CLASS CONTOUR

This report shall not be reproduced except in full, without the written approval of RAL.

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



ACCREDITED BY DEPARTMENT OF COMMERCE, NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS. THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES OR IMPLIES PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NIST.