

627 RIVERBANK DRIVE
GENEVA, IL 60134

Test Report

www.riverbankacoustics.com

630-232-0104

FOUNDED 1918 BY

WALLACE CLEMENT SABINE

Sound Transmission Loss

RAL™-TL24-316

SPONSOR: **ClarkDietrich**
West Chester, OH

CONDUCTED: 2024-07-17

Page 1 of 17

ON: ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side

TEST METHODOLOGY

Riverbank Acoustical Laboratories™ is accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) as an ISO 17025:2017 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM E90-09 (2016): "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements." The single number rating of the specimen was calculated according to ASTM E413-22: "Classification for Rating Sound Insulation." A description of the measurement procedure and room specifications is available upon request. The transmission loss values are for a single direction of measurement. The results presented in this report apply to the sample as received from the test sponsor.

INFORMATION PROVIDED BY SPONSOR

The test specimen was designated by the sponsor as ProStud Motion Frame Connector, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side.

SPECIMEN MEASUREMENTS & TEST CONDITIONS

Through a full external visual inspection performed on the test specimen, Riverbank personnel verified the following specimen properties:

Tracks (Top & Bottom)

Top Track Materials:	ProSTUD 25 / 15mil (25ga EQ)
Bottom Track Materials:	ProTRAK 25 / 15mil (25ga EQ)
Manufacturer:	ClarkDietrich
Dimensions:	2 plates @ 2438 mm (96 in.) wide by 32 mm (1.25 in.) high
Depth:	64 mm (2.5 in.)
Steel Thickness:	Bottom track @ 0.44 mm (0.0175 in.) Top track @ 0.44 mm (0.0175 in.)
Installation:	Friction fit over foam sill sealer
Overall Weight:	1.81 kg (4 lbs)
Mass per Unit Length:	0.37 kg/m (0.25 lbs/ft)

627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 2 of 17

ClarkDietrich
2024-07-17

SPECIMEN MEASUREMENTS & TEST CONDITIONS (continued)

Studs

Material: ProStud 25 / 15mil (25ga EQ)
Manufacturer: ClarkDietrich
Dimensions: 5 studs @ 32 mm (1.25 in.) wide by 2680 mm (105.5 in.) high
Depth: 64 mm (2.5 in.)
Steel Thickness: 0.44 mm (0.01715 in.)
Stud Spacing: Studs spaced 610 mm (24 in.) on center
Installation: Side studs each fastened to test frame at midpoint with 1 screw each
Studs at bottom friction fit on to Protrak 25, spaced 3/8" from track.
Studs at top engaged with ProStud Motion Frame connector to connect with Protrak atop.
Fasteners: Type W bugle head drywall screws, length @ 32 mm (1.25 in.)
Overall Weight: 5.67 kg (12.5 lbs)
Mass per Unit Length: 0.42 kg/m (0.28 lbs/ft)

Note: A bead of acoustical sealant was used to seal the source side of the specimen where framing members met the test frame (0.79 kg (1.75 lbs) total).

ProStud Motion Frame Connectors

Material: ProStud Motion Frame Connectors
Manufacturer: ClarkDietrich
Dimensions: 5 pieces @ 32 mm (1.25 in.) wide by 121 mm (4.75 in.) high
Depth: 64 mm (2.5 in.)
Installation: One motion frame connector fit into each stud top, ProStud Motion Frame Connectors then twist locked into top track
Overall Weight: 0.45 kg (1 lbs)

Insulation

Material: R-13 unfaced fiberglass
Dimensions: 4 pieces @ 610 mm (24 in.) wide by 2438 mm (96 in.) high
4 pieces @ 610 mm (24 in.) wide by 305 mm (12 in.) high
Depth: 89 mm (3.5 in.)
Installation: Friction fit between studs
Overall Weight: 7.37 kg (16.25 lbs)
Mass per Unit Volume: 12.4 kg/m³ (0.77 lbs/ft³)



NVLAP LAB CODE 100227-0

RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT.

THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY

WALLACE CLEMENT SABINE

RAL™-TL24-316

Page 3 of 17

ClarkDietrich

2024-07-17

SPECIMEN MEASUREMENTS & TEST CONDITIONS (continued)

Source Room Side

Base Layer

Material: Type X gypsum board
Dimensions: 2 panels @ 1219 mm (48 in.) wide by 2743 mm (108 in.) high
Thickness: 16 mm (0.625 in.)
Installation: Panels installed vertically and fastened to studs with screws
Fasteners: Type S bugle head drywall screws, length @ 32 mm (1.25 in.)
Fastener Spacing: 406 mm (16 in.) on center
If a screw fell on a “stud to track” condition, that screw was offset L or R by 1” to avoid the track to stud connection
No screws in top track
Overall Weight: 72.8 kg (160.5 lbs)
Mass Per Unit Area: 10.88 kg/m² (2.23 lbs/ft²)

Face Layer

Material: Type X gypsum board
Dimensions: 1 panel @ 1219 mm (48 in.) wide by 2743 mm (108 in.) high
2 panels @ 610 mm (24 in.) wide by 2743 mm (108 in.) high
Thickness: 16 mm (0.625 in.)
Installation: Panels installed vertically, fastened to studs through base layer with screws
Panel joints staggered from source side base layer panel joints
Fasteners: Type S bugle head drywall screws, length @ 41 mm (1.625 in.)
Fastener Spacing: 406 mm (16 in.) on center, offset 203 mm (8 in.) from base layer
If a screw fell on a “stud to track” condition, that screw was offset L or R by 1” to avoid the track to stud connection
No screws in top track
Overall Weight: 73.14 kg (161.25 lbs)
Mass Per Unit Area: 10.93 kg/m² (2.24 lbs/ft²)



NVLAP LAB CODE 100227-0

RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT.

THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.

627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 4 of 17

ClarkDietrich
2024-07-17

SPECIMEN MEASUREMENTS & TEST CONDITIONS (continued)

Receive Room Side

Base Layer

Material: Type X gypsum board
Dimensions: 1 panel @ 1219 mm (48 in.) wide by 2743 mm (108 in.) high
2 panels @ 610 mm (24 in.) wide by 2743 mm (108 in.) high
Thickness: 16 mm (0.625 in.)
Installation: Panels installed vertically, fastened to studs with screws
Panel joints staggered from source side base layer panel joints
Fasteners: Type S bugle head drywall screws, length @ 32 mm (1.25 in.)
Fastener Spacing: 406 mm (16 in.) on center
If a screw fell on a “stud to track” condition, that screw was offset L or R by 1” to avoid the track to stud connection
No screws in top track
Overall Weight: 72.91 kg (160.75 lbs)
Mass Per Unit Area: 10.90 kg/m² (2.23 lbs/ft²)

Face Layer

Material: Type X gypsum board
Dimensions: 2 panels @ 1219 mm (48 in.) wide by 2743 mm (108 in.) high
Thickness: 16 mm (0.625 in.)
Installation: Panels installed vertically, fastened to studs through base layer with screws
Panel joints staggered from receive side base layer panel joints
Fasteners: Type S bugle head drywall screws, length @ 41 mm (1.625 in.)
Fastener Spacing: 406 mm (16 in.) on center, offset 203 mm (8 in.) from base layer
If a screw fell on a “stud to track” condition, that screw was offset L or R by 1” to avoid the track to stud connection
No screws in top track
Overall Weight: 73.37 kg (161.75 lbs)
Mass Per Unit Area: 10.97 kg/m² (2.25 lbs/ft²)

Note: Joints between gypsum board panels, and screw heads on both sides of the partition were treated with a thin bead of acoustical sealant and metal tape (0.45 kg (1 lbs) total).



NVLAP LAB CODE 100227-0

RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT.

THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 5 of 17

SPECIMEN MEASUREMENTS & TEST CONDITIONS (continued)

Overall Specimen Measurements

Dimensions: 2.44 m (96.0 in) wide by 2.74 m (108.0 in) high
Thickness: 0.13 m (5.0 in)
Weight: 308.78 kg (680.75 lbs)
Overall Area: 6.689 m² (72. ft²)
Mass per Unit Area: 46.16 kg/m² (9.45 lbs/ft²)

Test Aperture

Opening Size: 2.74 m (9.0 ft.) by 4.27 m (14.0 ft.)
Filler Wall: Yes
Aperture Size: 2.44 m (96.0 in) wide by 2.74 m (108.0 in) high
Transmission Area: 6.689 m² (72. ft²)
Sealed: Entire periphery (both sides) with dense mastic

Test Environment

Source Room

Volume: 177.11 m³
Temperature: 22.5 °C ± 0.6 °C
Relative Humidity: 48.5 % ± 1.0 %

Receive Room

Volume: 178.33 m³
Temperature: 21.9 °C ± 0.6 °C
Relative Humidity: 48.0 % ± 0.0 %

Requirements

Temperature: 22° C +/- 2° C, not more than 3° C change over all tests.
Relative Humidity: ≥ 30%, not more than +/- 3% change over all tests.



NVLAP LAB CODE 100227-0

RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT.

THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 6 of 17



Figure 1 – Specimen mounted in test aperture, as viewed from source room



Figure 2 – Specimen mounted in test aperture, as viewed from receive room



NVLAP LAB CODE 100227-0

RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT.

THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 7 of 17



Figure 3 – Stud with ProStud Motion Frame Connector attached, prior to installation in test aperture



Figure 4 – Tracks, studs, ProStud Motion Frame Connectors, and resilient channel installed in test aperture

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 8 of 17



Figure 5 – Stud with ProStud Motion Frame Connector fit into top track, resilient channel installed to source side of studs



Figure 6 – Studs with ProStud Motion Frame Connectors fit into top track, resilient channel installed to source side of studs

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 9 of 17



Figure 7 – Insulation installed in stud cavities, viewed from receive room



Figure 8 – Receive side base layer gypsum board partially installed

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 10 of 17

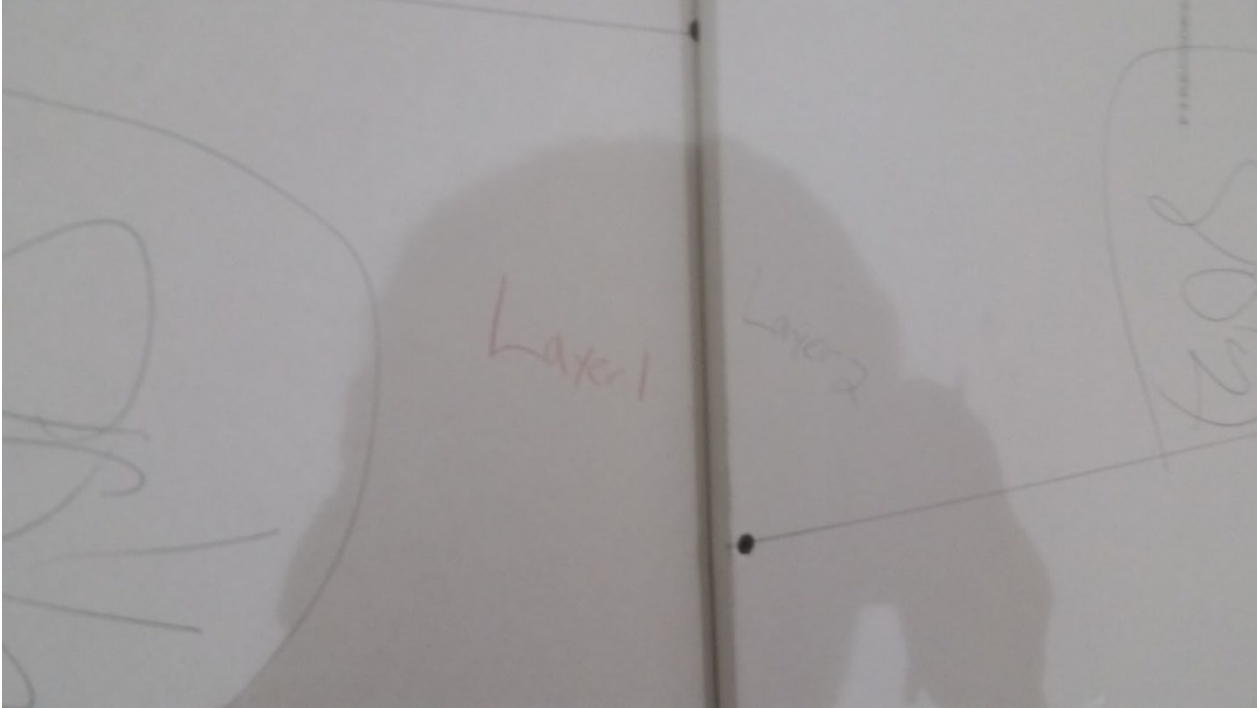


Figure 9 – Receive side face layer gypsum board partially installed



Figure 10 – Source side base layer gypsum board partially installed

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316

Page 11 of 17



Figure 11 – Source side base layer gypsum board installed



Figure 12 – Source side face layer gypsum board partially installed

627 RIVERBANK DRIVE
GENEVA, IL 60134

630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY

WALLACE CLEMENT SABINE

RAL™-TL24-316

Page 12 of 17

ClarkDietrich

2024-07-17

TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequency bands. A graphic presentation of the data and additional information appear on the following pages. The precision of the transmission loss test data is within the limits set by the ASTM Standard E90-09 (2016). See Appendix A for identification of corrections applied to the reported data.

<u>FREQ.</u>	<u>TL</u>	<u>ΔTL</u>	<u>DEF.</u>	<u>FREQ.</u>	<u>TL</u>	<u>ΔTL</u>	<u>DEF.</u>
100	21	0.82	0	800	59	0.19	0
125	35	0.79	4	1000	61	0.08	0
160	41	0.69	1	1250	62	0.07	0
200	43	0.26	2	1600	62	0.07	0
250	45	0.28	3	2000	53	0.10	6
315	53	0.31	0	2500	52	0.10	7
400	54	0.21	0	3150	56	0.07	3
500	54	0.27	1	4000	60	0.09	0
630	56	0.30	0	5000	63	0.07	0

STC=55

ABBREVIATION INDEX

FREQ. = 1/3 OCTAVE BAND CENTER FREQUENCY, Hz

TL = TRANSMISSION LOSS, dB

ΔTL = 95% CONFIDENCE INTERVAL FOR TL MEASUREMENTS, dB

DEF. = DEFICIENCIES, dB BELOW SHIFTED STC CONTOUR (SUM OF DEF = 27)

STC = SOUND TRANSMISSION CLASS

Tested by Marc Sciaky
Marc Sciaky
Senior Experimentalist

Report by Keith Kimberling
Keith Kimberling
Test Engineer

Approved by Eric P. Wolfram
Eric P. Wolfram
Laboratory Manager



NVLAP LAB CODE 100227-0

RIVERBANK ACOUSTICAL LABORATORIES IS ACCREDITED BY NVLAP (LAB CODE 100227-0) FOR ACOUSTICAL TESTING SERVICES IN ACCORDANCE WITH ISO/IEC 17025:2017 AND FOR THIS PROCEDURE. THIS REPORT MUST NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY RAL, NVLAP, NIST, OR ANY AGENCY OF THE U.S. GOVERNMENT.

THIS REPORT SHALL NOT BE MODIFIED WITHOUT THE WRITTEN APPROVAL OF RAL. THE RESULTS REPORTED APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR TESTING; RAL ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF ANY OTHER SAMPLE.

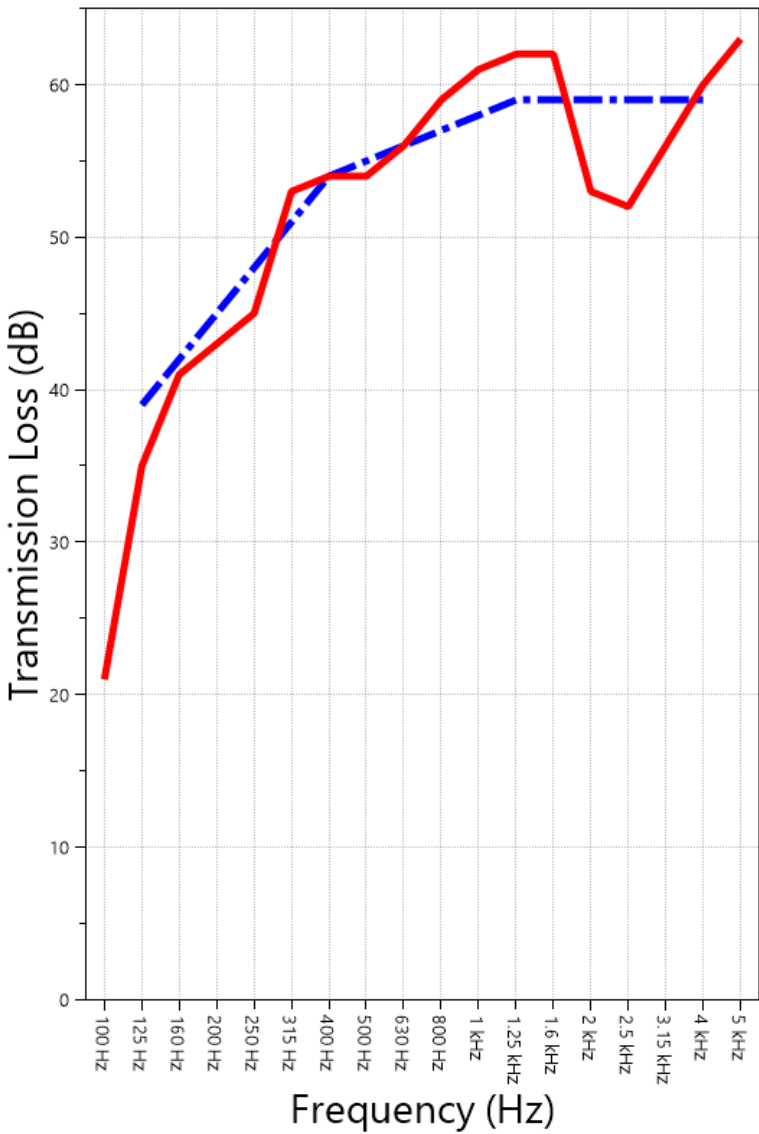
627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104
ClarkDietrich
2024-07-17

Test Report

www.riverbankacoustics.com
FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316
Page 13 of 17

SOUND TRANSMISSION REPORT

ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers
5/8" Gypsum each side



STC=55
OITC=32



TRANSMISSION LOSS
SOUND TRANSMISSION CLASS CONTOUR

627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316
Page 14 of 17

ClarkDietrich
2024-07-17

APPENDIX A: Extended Frequency Range Data

Specimen: ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side (See Full Report)

The following non-accredited data were obtained in accordance with ASTM E90-09 (2016), but extend beyond the defined frequency range of 100Hz to 5,000Hz. These unofficial results are representative of the RAL test environment only and intended for research & comparison purposes. Sampling precision observed during this procedure is reported below. Corrections are detailed in Appendix B.

1/3 Octave Band Center Frequency (Hz)	Sound Transmission Loss (dB)	Applicable Corrections	ΔTL (Eq. A2.5) (dB)	Repeatability (dB)
31.5	22	ZZ F	1.67	1.01
40	24	Z F	0.89	2.26
50	20		1.24	1.52
63	16		1.36	1.47
80	14		0.67	0.60
100	21		0.82	0.67
125	35		0.79	0.71
160	41	Z F	0.69	0.35
200	43	Z F	0.26	0.33
250	45	Z F	0.28	0.42
315	53	Z F	0.31	0.41
400	54		0.21	0.46
500	54		0.27	0.18
630	56		0.30	0.26
800	59		0.19	0.24
1000	61		0.08	0.27
1250	62		0.07	0.15
1600	62		0.07	0.12
2000	53		0.10	0.13
2500	52		0.10	0.19
3150	56		0.07	0.14
4000	60		0.09	0.17
5000	63		0.07	0.17
6300	66	Z	0.08	0.21
8000	67	Z F	0.09	0.50
10000	61	Z F	0.08	1.21
12500	55	Z	0.09	1.74

627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316
Page 15 of 17

ClarkDietrich
2024-07-17

APPENDIX B: Glossary of Standardized Corrections and Adjustments

Specimen: ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side (See Full Report)

Mark Interpretation

- A** Measured sound pressure levels in the receive room are within 10 dB of the ambient noise level at the marked frequency band. Receive room levels used to calculate Transmission Loss are corrected according to ASTM E90 Section 10.3.
- AA** Measured sound pressure levels in the receive room are within 5 dB of the ambient noise level at the marked frequency band. Receive room levels used to calculate Transmission Loss are corrected according to ASTM E90 Section 10.3.1. Transmission Loss values calculated from levels corrected this way will be less than or equal to Transmission Loss values from a hypothetical test using the same specimen and a receive room with idealized ambient sound levels of $(-\infty)$ dB.
- F** The reported Transmission Loss is within 10 dB of the laboratory flanking limit at the marked frequency band. The measured performance of the specimen may be limited by the performance of the laboratory building structure at this frequency band.
- Z** The reported Transmission Loss at the marked frequency band has been corrected according to ASTM E90 Section A3.2.7 to account for possible sound transmission through the filler assembly.
- ZZ** The reported Transmission Loss at the marked frequency band has been corrected according to ASTM E90 Section A3.2.8 to account for possible sound transmission through the filler assembly. Transmission Loss values corrected this way will be less than or equal to Transmission Loss values from a hypothetical test using the same specimen and an idealized filler assembly with a Sound Transmission Class rating of (∞) .

APPENDIX C: Glossary of Variability Metrics

Specimen: ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side (See Full Report)

ATL, the 95% confidence interval for reported transmission loss values, is calculated from the standard deviation of the sets of measurements for source room sound pressure level, receive room sound pressure level, and receive room sound absorption. This metric is calculated in an effort to quantify the combined influences of room geometry, microphone positioning, and other varying environmental conditions on reported results.

Repeatability, expressed as a 95% confidence interval, is calculated from the standard deviation of transmission loss as obtained from a set of six (6) consecutive tests conducted according to this test method by RAL on 2020-02-13. The tests were performed on a specimen composed of 24 gauge steel paneling, using the same test opening as used in this report. This metric provides an estimate of the variation in results that might be observed if the test were repeated with no change to the installed specimen. Note that repeatability will vary with the construction type.

627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316
Page 16 of 17

ClarkDietrich
2024-07-17

APPENDIX D: Determination of Outdoor Indoor Transmission Class (OITC)

Specimen: ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side (See Full Report)

The determination of the Outdoor Indoor Transmission Class (OITC) as reported below was made with explicit conformity to the procedures described in the ASTM E1332-22 test standard. Test Method ASTM E90-09 (2016) was used to obtain the sound transmission loss data. This rating is based on an average transportation noise source spectrum and an A-weighted sound level reduction, either of which may be inappropriate for some applications.

One-third Octave Band Center Frequency, Hz	Reference Sound Spectrum, dB	Test Specimen Transmission Loss, dB
80	103	14
100	102	21
125	101	35
160	98	41
200	97	43
250	95	45
315	94	53
400	93	54
500	93	54
630	91	56
800	90	59
1000	89	61
1250	89	62
1600	88	62
2000	88	53
2500	87	52
3150	85	56
4000	84	60

OITC = 32

627 RIVERBANK DRIVE
GENEVA, IL 60134
630-232-0104

Test Report

www.riverbankacoustics.com

FOUNDED 1918 BY
WALLACE CLEMENT SABINE
RAL™-TL24-316
Page 17 of 17

ClarkDietrich
2024-07-17

APPENDIX E: Instruments of Traceability

Specimen: ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side (See Full Report)

<u>Description</u>	<u>Model</u>	<u>Serial Number</u>	<u>Date of Certification</u>	<u>Calibration Due</u>
System 2	Type 3160-A-042	3160-106974	2023-08-11	2024-08-11
Bruel & Kjaer Mic And Preamp C	Type 4943-B-001	2311439	2024-03-29	2025-03-29
EXTECH Hygro 663	SD700	A083663	2023-12-28	2024-12-28
EXTECH Hygro 639	SD700	A.103639	2023-12-01	2024-12-01

APPENDIX F: Revisions to Original Test Report

Specimen: ProStud Motion Frame, 2-1/2" 15 mil Steel Stud 24"o.c, 3.5" R-13 Insulation, 2 layers 5/8" Gypsum each side (See Full Report)

<u>Date</u>	<u>Revision</u>
2024-08-22	Original report issued

END