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RIVERBANK ACOUSTICAL LABORATORIES
NOVELTY TESTING
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TEST REPORT

SPONSOR: RIVERBANK ACOUSTICAL LABORATORIES | GENEVA, IL

PRODUCT NAME:

PREMIUM TOP GRAIN COW HIDE LEATHER
(1.4 MM THICK, 2.33 OZ/FT^2)

TEST DATE:

JUNE 16, 2026

TEST METHOD:

ASTM E90–23

RATING:

STC = 12
OITC = 8

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Test Report

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SPONSOR: **Riverbank Acoustical Laboratories**
Geneva, IL

Sound Transmission Loss
RAL™-TL26-255

CONDUCTED: 2026-06-16

ON: Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²)

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 1702:2017 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM E90-23: "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 Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²). The following nominal product information was provided by the sponsor prior to testing. The accuracy of such sponsor-provided information can affect the validity of the test results.

Product Under Test

Product Name:	Knockout Upholstery Leather
Material:	Premium Top Grain Cow Hide Leather
Texture:	Natural Grain
Finish:	Medium

SPECIMEN MEASUREMENTS & TEST CONDITIONS

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

Test Specimen

Materials:	Cow Hide Leather
Dimensions:	1219 mm (48 in.) wide by 1832 mm (72.125 in.) high
Thickness:	1.4 mm (0.055 in.)
Overall Weight:	1.59 kg (3.5 lbs)
Mass per Unit Area:	711 g/m² (2.33 oz/ft²)

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SPECIMEN MEASUREMENTS & TEST CONDITIONS (continued)

Overall Specimen Measurements

Dimensions:	1.22 m (48.0 in) wide by 1.83 m (72.125 in) high
Thickness:	1.4 mm (0.055 in.)
Weight:	1.59 kg (3.5 lbs)
Overall Area:	2.233 m² (24.04 ft²)
Mass per Unit Area:	0.71 kg/m² (0.15 lbs/ft²)

Test Aperture

Opening Size:	1.22 m (4.0 ft.) by 2.44 m (8.0 ft.)
Filler Wall:	Yes
Aperture Size:	1.22 m (48.0 in) wide by 1.83 m (72.125 in) high
Transmission Area:	2.233 m² (24.04 ft²)
Sealed:	Entire periphery (both sides) with dense mastic

Test Environment

Source Room

Volume:	130.83 m³
Temperature:	21.9 °C ± 0.3 °C
Relative Humidity:	53.0 % ± 0.0 %

Receive Room

Volume:	178.33 m³
Temperature:	21.7 °C ± 0.0 °C
Relative Humidity:	52.0 % ± 1.0 %

Requirements

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

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Figure 1 – Specimen mounted in test aperture, as viewed from source room (left) and receive room (right)

Figure 2 – Specimen hide prior to installation

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Figure 3 – Specimen hide prepared to be cut down to 48” by 72.125”

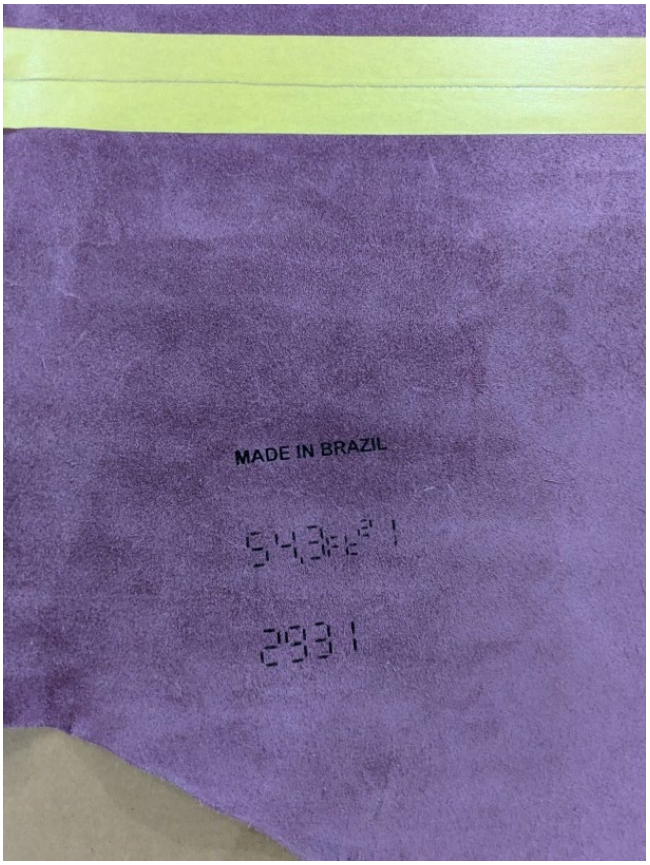

Figure 4 – Detail of test specimen material

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2026-06-16

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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 E90-23. See Appendix A for identification of corrections applied to the reported data.

FREQ.	TL	ΔTL	DEF.	FREQ.	TL	ΔTL	DEF.
100	1	0.75	0	800	11	0.13	3
125	4	0.74	0	1000	12	0.14	3
160	3	0.47	0	1250	13	0.11	3
200	4	0.64	0	1600	15	0.07	1
250	4	0.51	1	2000	17	0.09	0
315	7	0.33	1	2500	18	0.12	0
400	7	0.15	4	3150	19	0.09	0
500	8	0.17	4	4000	21	0.08	0
630	9	0.20	4	5000	22	0.09	0

STC=12

ABBREVIATION INDEX

FREQ. = 1/3 OCTAVE BAND CENTER FREQUENCY, Hz
TL = TRANSMISSION LOSS, dB
ΔTL = 95% CONFIDENCE INTERVAL OVER DURATION OF THIS TEST, dB
DEF. = DEFICIENCIES, dB BELOW SHIFTED STC CONTOUR (SUM OF DEF = 24)
STC = SOUND TRANSMISSION CLASS

Tested by _____
Marc Sciaky
Senior Experimentalist

Report by _____
Keith Kimberling
Test Engineer

Approved by _____
Eric P. Wolfram
Laboratory Manager

Digitally signed by Eric P Wolfram
Date: 2026.08.19 16:05:09 -05'00'

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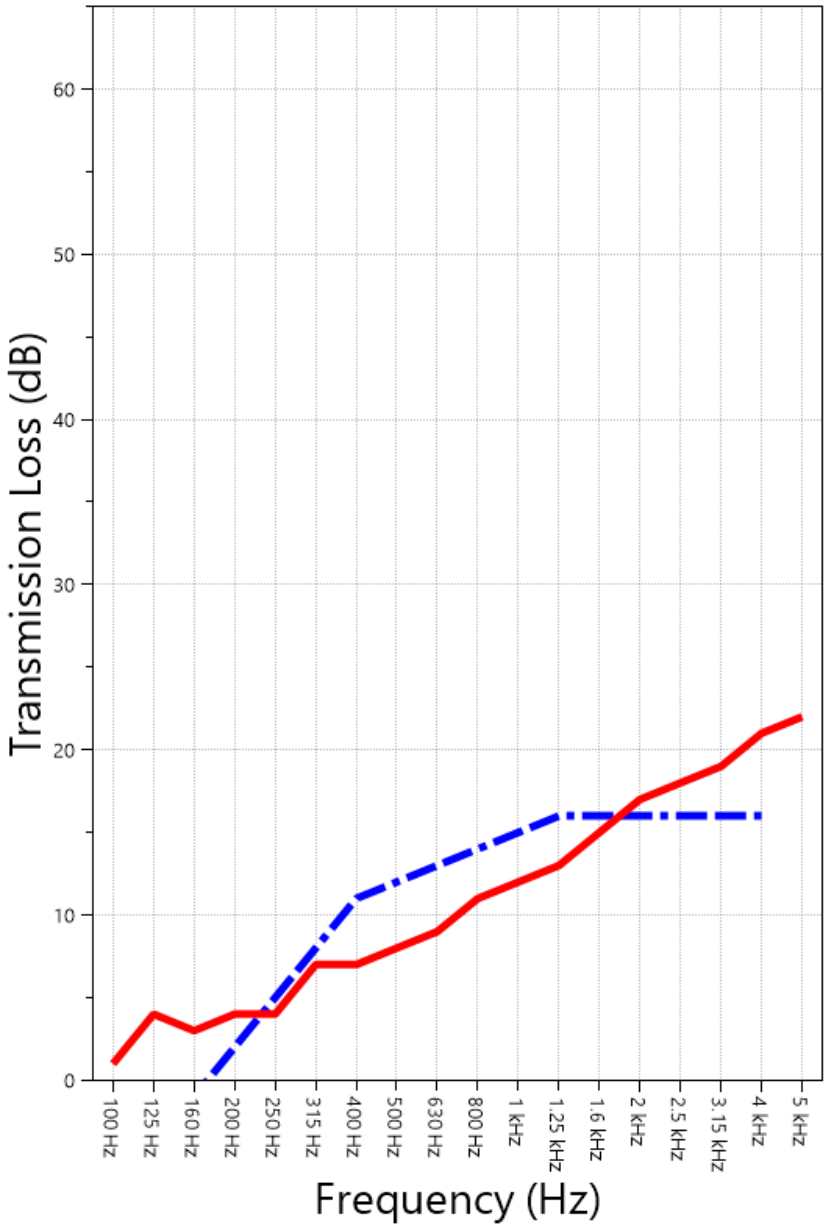
SOUND TRANSMISSION REPORT

Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²)



STC=12
OITC=8

TRANSMISSION LOSS
SOUND TRANSMISSION CLASS CONTOUR

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APPENDIX A: Extended Frequency Range Data

Specimen: Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²) (See Full Report)

The following non-accredited data were obtained in accordance with ASTM E90-23, 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	8		0.78	1.24
40	11		0.90	1.44
50	8		0.95	0.98
63	1		0.67	2.33
80	3		0.82	1.46
100	1		0.75	0.77
125	4		0.74	1.28
160	3		0.47	1.18
200	4		0.64	0.74
250	4		0.51	0.53
315	7		0.33	0.46
400	7		0.15	0.41
500	8		0.17	0.41
630	9		0.20	0.32
800	11		0.13	0.30
1000	12		0.14	0.29
1250	13		0.11	0.15
1600	15		0.07	0.18
2000	17		0.09	0.12
2500	18		0.12	0.28
3150	19		0.09	0.23
4000	21		0.08	0.18
5000	22		0.09	0.26
6300	22		0.13	0.28
8000	23		0.10	0.67
10000	21		0.09	0.93
12500	19		0.07	1.93

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APPENDIX B: Glossary of Standardized Corrections and Adjustments

Specimen: Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²) (See Full Report)

Mark	Interpretation
AA	Measured sound pressure levels in the receive room are within 6 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 10.3.2. 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 **(-∞)** 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: Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²) (See Full Report)

ΔTL, 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 2020-02-24. The tests were performed on a specimen composed of welded aluminum tubing, 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.

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

Specimen: Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²) (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 E90-23 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	3
100	102	1
125	101	4
160	98	3
200	97	4
250	95	4
315	94	7
400	93	7
500	93	8
630	91	9
800	90	11
1000	89	12
1250	89	13
1600	88	15
2000	88	17
2500	87	18
3150	85	19
4000	84	21

OITC = 8

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APPENDIX E: Instruments of Traceability

Specimen: Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²) (See Full Report)

Description	Model	Serial Number	Date of Certification	Calibration Due
System 2	3160-A-042	3160-106974	2025-08-20	2026-08-20
Bruel & Kjaer Mic And Preamp C	Type 4943-B-001	2311439	2026-04-15	2027-04-15
Bruel & Kjaer Pistonphone	Type 4228	2781248	2025-07-21	2026-07-21
EXTECH Hygro 662	SD700	A.083662	2026-01-21	2027-01-21
EXTECH Hygro 6015	SD700	A.116015	2025-06-17	2026-06-17

APPENDIX F: Revisions to Original Test Report

Specimen: Cow Hide Leather (1.4 mm thick, 2.33 oz/ft²) (See Full Report)

Date	Revision
2026-08-06	Original report issued

END

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