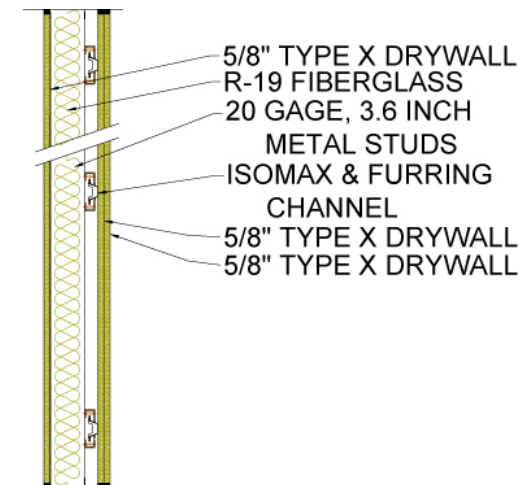


KINETICS NOISE CONTROL TEST REPORT # 02153

- **KINETICS NOISE CONTROL PRODUCTS:**
 - MODEL ISOMAX
- **ACOUSTICAL RATINGS:**
 - STC 60
- **TESTING AGENCY & REPORT NUMBER:**
 - RIVERBANK ACOUSTICAL LABORATORIES
 - RAL-TL06-025



KINETICS DRAWING NUMBER: AA001784



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TEST REPORT

FOR: Kinetics Noise Control, Inc.
Dublin, OH

Sound Transmission Loss Test
RAL™-TL06-025

ON: Insulated Steel Stud Wall, Kinetics IsoMax Clip with
Double Layer 5/8 Inch Gypsum Board One Side, Single
Layer 5/8 Inch Gypsum Board Other Side

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CONDUCTED: 3 February 2006

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-04 and E413-04, 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 (NVLAP Lab Code: 100227-0). A description of the measuring technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated as insulated steel stud wall, Kinetics IsoMax clip with double layer 5/8 inch gypsum board one side, single layer 5/8 inch gypsum board other side. The overall dimensions of the specimen as measured were nominally 4.27 m (168 in.) wide by 2.74 m (108 in.) high and 178 mm (7 in.) thick. The specimen was installed by the manufacturer directly into the laboratory's 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame and was sealed on the periphery (both sides) with a dense mastic.

The description of the specimen was as follows: The wall consisted of 92 mm (3.625 in.) 20 gauge steel studs with 159 mm (6.25 in.) thick R-19 fiberglass batt insulation. Kinetics IsoMax Clips, drywall furring channel (DWC) and a double layer of 16 mm (0.625 in.) thick Type X gypsum board were installed on one side. The other side was finished with a single layer of 16 mm (0.625 in.) thick Type X gypsum board. A more complete description follows:

Floor and Ceiling Runners: Two 92 mm (3.625 in.) wide 20 gauge 4.26 m (168 in.) long steel runners were attached to floor and ceiling with 41 mm (1.625 in) Type S bugle head drywall screws 610 mm (24 in.) on centers.

Studs: Eight 92 mm (3.625 in.) wide 20 gauge 2.73 m (107.5 in.) long steel studs were spaced on 610 mm (24 in.) centers. The end studs were attached to the frame with 41 mm (1-5/8 in.) long bugle head drywall screws spaced on 610 mm (24 in.) centers. The remaining studs were

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attached to the top and bottom runners on both sides with 13 mm (0.5 in.) long S-12 pan head screws.

Insulation: The seven cavities formed by the runners and studs were lined with unfaced R-19 fiberglass insulation measuring 159 mm (6.25 in.) thick and 610 mm (24 in.) wide. The total weight of the insulation was 29 kg (13.2 lbs).

Direct Attached Gypsum Board: On one side of the wall a single layer of 16 mm (0.625 in.) Type X gypsum board was vertically attached to the studs with 16 mm (1 in.) long Type S bugle head drywall screws at 305 mm (12 in.) on centers. Total weight of the gypsum board as measured was 128 kg (282 lbs.). All joints and screw heads were sealed using tape and all purpose joint compound.

Kinetics IsoMax Clips, DWC and Gypsum Board: On the other side of the wall, Kinetics IsoMax Clips were attached to studs on 610 mm (24 in.) centers vertically and on 1.22 m (48 in.) centers horizontally. The bottom row of clips was installed 76 mm (3 in.) from the bottom of the test frame. Clips in subsequent rows were staggered 406 mm (16 in.) vertically from adjacent rows. All clips were attached to studs with two 41 mm (1.625 in.) long S-12 drywall screws. A total of thirty clips were used. The DWC was 25 gauge roll-formed furring channel which measured 22 mm (0.875 in.) deep by 65 mm (2.56 in.) wide. Six rows of track were mounted to the clips and were overlapped 152 mm (6 in.) and double wire tied with 18 gauge tie wire as necessary. A base layer of 16 mm (0.625 in.) Type X gypsum board was applied horizontally to the DWC track and attached using 25 mm (1 in.) Type S bugle head drywall screws on 305 mm (12 in.) centers. A face layer of 16 mm (0.625 in.) Type X gypsum board was applied vertically and attached using 41 mm (1.625 in.) Type S bugle head drywall screws on 305 mm (12 in.) centers. Total weight of the gypsum board as measured was 256 kg (564 lbs.). All joints and screw heads were sealed using tape and all purpose joint compound.

The weight of the specimen as measured was 465 kg (1,026 lbs.), an average of 39.7 kg/m² (8.1 lbs/ft²). The transmission area used in the calculations was 11.7 m² (126 ft²). The source and receiving room temperatures at the time of the test were 20±2°C (68±2°F) and 53±2% relative humidity. The source and receive reverberation room volumes were 178 m³ (6,298 ft³) and 177 m³ (6,255 ft³), respectively.

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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 E90-04.

<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	27	1.02		800	62	0.18	
125	38	0.36	6	1000	63	0.30	
160	41	0.52	6	1250	65	0.47	
200	46	0.48	4	1600	66	0.68	
250	51	0.36	2	2000	59	0.80	5
315	56	0.28		2500	57	0.86	7
400	59	0.32		3150	62	0.84	2
500	61	0.25		4000	68	0.79	
630	61	0.21		5000	73	0.82	

STC=60

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 (SUM OF DEF = 32)

STC = SOUND TRANSMISSION CLASS

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Tested by _____ Approved by _____

Marc Sciaky
Senior Technician

David L. Moyer
Laboratory Manager

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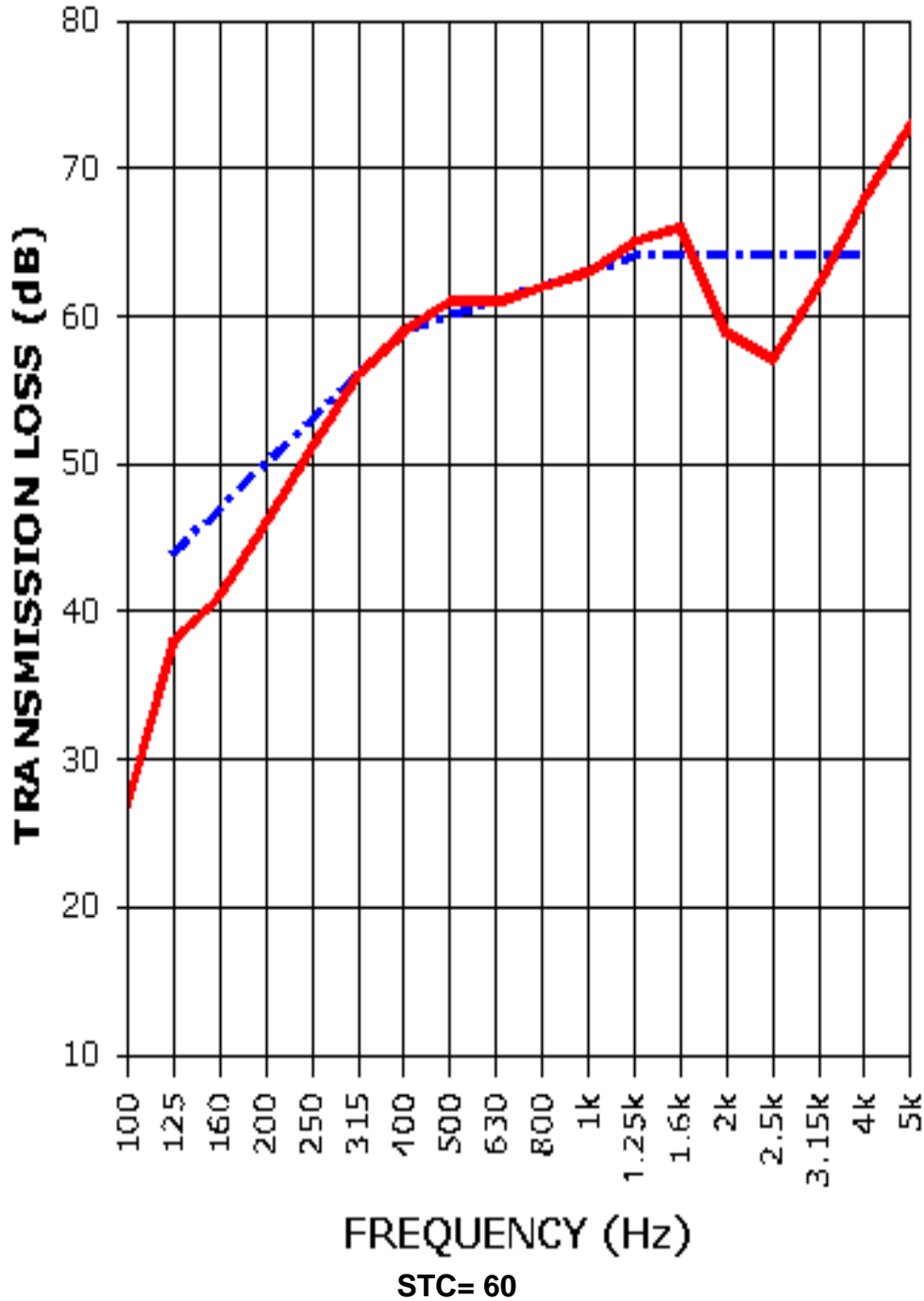
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TEST REPORT

**SOUND TRANSMISSION REPORT
RAL - TL06-025**



— TRANSMISSION LOSS
- . - . - . SOUND TRANSMISSION LOSS CONTOUR

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