

Krieger's Acoustical Door and Window Wall Assembly

NEW!



Highest Tested Acoustical Assembly of Its Kind—up to STC 52



Acoustical Door and Window Wall Assembly

Krieger's new Acoustical Door and Window Wall Assembly is fully customizable and is ideal for a wide range of interior and exterior applications, including industrial plant noise reduction, office buildings, meeting rooms, and schools.

Lab Tested as a Unit

Unlike other manufactures that test various door and window components separately, Krieger's Acoustical Door and Window Wall Assembly underwent rigorous lab testing—in multiple configurations, testing higher than any other wall assembly on the market.

The benefits of being tested as a unit include:

- Testing for sound loss due to splices in large areas
- Guaranteed to achieve the desired STC rating
- Strengthened reproducibility in the field

Lowest Frequency Loss

The Acoustical Door and Window Wall Assembly NVLAP accredited laboratory acoustical test reports demonstrate that our designs have industry-leading transmission loss between the 63 HZ to 125 Hz frequencies, with no deficiencies measured at greater than 95% confidence in dB. The Acoustical Door and Window Wall Assembly low-frequency performance is best-in-class, making it the ideal choice for locations exposed to noise.

Customizable and Changeable Configuration

As with all Krieger products, the Acoustical Door and Window Wall Assembly can be configured to your exact specifications of size, number and placement of doors and windows and acoustical needs. The construction makes it possible to swap out the doors, panels, transoms, and side light components in case your needs change.



Eligible for LEED Credits

The Acoustical Door and Window Wall Assembly enables your project to earn LEED (Leadership in Energy and Environmental Design) credits for day light as well as acoustical standards that can help your project to become LEED certified.

Easier Installation

The perimeter and mullion sections of the Acoustical Door and Window Wall Assembly are filled with rock wool material for sound control instead of heavy grouting compound. Rock wool makes the unit lighter weight, which makes installation faster and easier.



Performance Combinations

Krieger's Acoustical Door and Window Wall Assembly can be manufactured for multiple performance requirements including bullet resistance, blast resistance, radio frequency shielding or any combination thereof.

Krieger offers standard frame designs and can engineer special frame profiles to complement wall construction and architectural style.

Fire Rated up to 90 Minutes

Krieger's Acoustical Door and Window wall Assembly are fire rated up to 90 minutes. The fire rated configuration is subject to the overall size and individual light or door limitation with Underwriters Laboratories (Doors - Cat. GSZN, Frames - Cat. GVTV), listings of HMMA with the fire rating manual, the ANSI/NAAMM HMMA 801, the IBC and/or NFPA 80. For more information, contact Krieger to discuss your project.

Test Reports

On the following pages are the test reports which were performed at Western ElectroAcoustic Laboratory (WEAL) in accordance with ASTM E 9009 (2016), Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and ASTM E2235-04 (2012), Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods. The test standards are available at www.astm.org. The test chamber source and receiving room volumes are 204 and 148.4 cubic meters respectively.

Western ElectroAcoustic Laboratory (WEAL) is accredited by the United States Department of Commerce, National Institute of Standards and Technology under the National Voluntary Accreditation Program (NVLAP) Lab Code 100256-0 for this test procedure. This test report relates only to the item(s) tested and does not give the product certification, approval, or endorsement by WEAL, NVLAP, NIST or any agency of the federal government.

Sound Transmission Loss Test Report TL19-261

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-light and triple-transom-light pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame perimeter was filled using 8-lb density Thermafiber (Rockwool) insulation in lieu of grout.

The side-light sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-light and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-light and transom frame was a dual-glazed-window-system. The side-light glass panes (2 side-light openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The transom-light glass panes (3 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high.

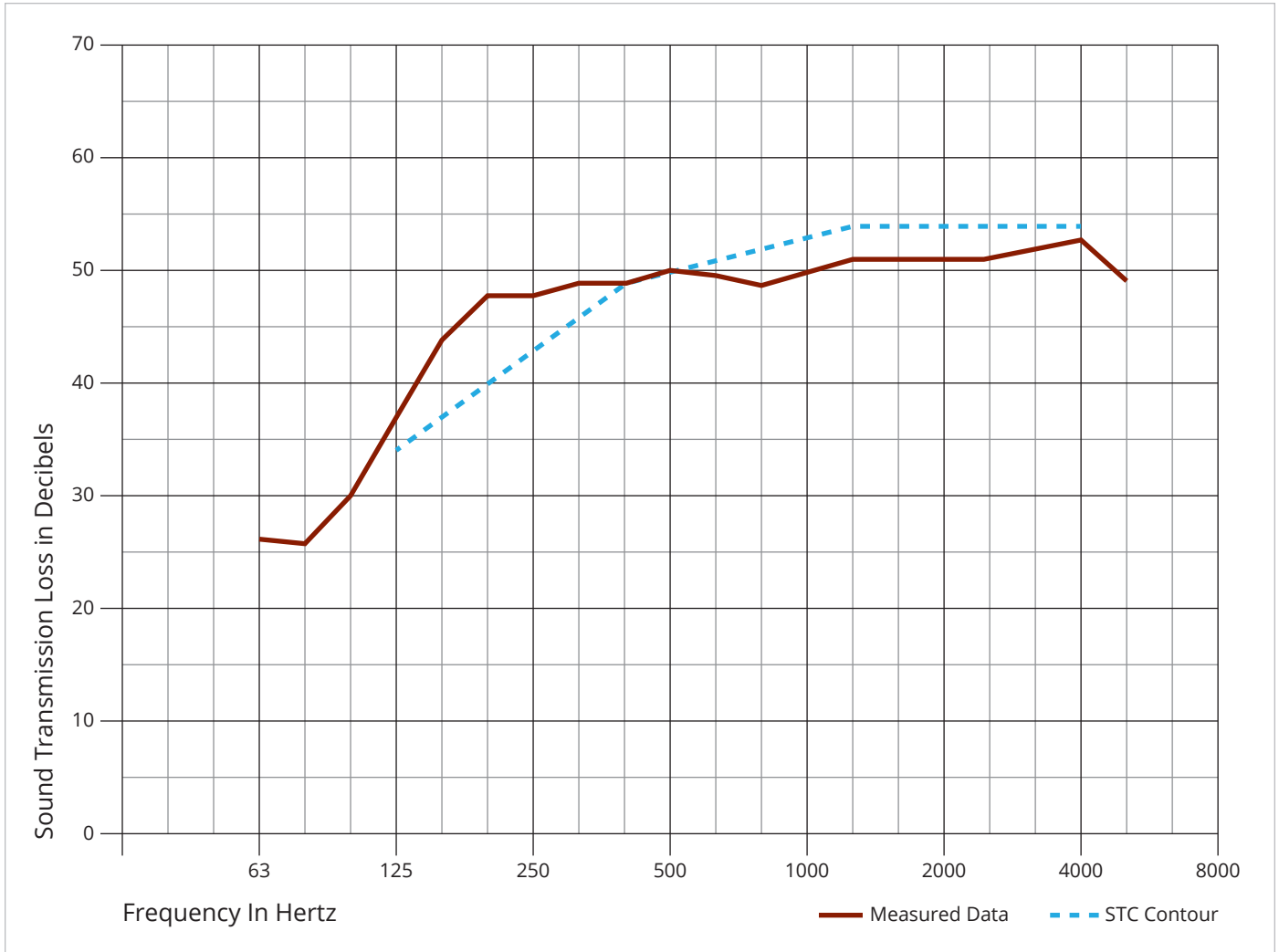
The flush door panels were steel Krieger doors. Details of the Krieger door core construction are proprietary and are on file at WEAL. The doors were 908 mm (35 ¾ inches) wide and 211.6 cm (83 5/16 inches) high. The overall thickness of the door panel was 44.5 mm (1 ¾ inches) with a semi-mortised NC2 adjustable Cam Lift door bottom. The door panel was hung on three 114 mm (5 inch) Krieger Cam Lift hinges.

The doors meeting style consisted of an acoustically NC3 gasketed mullion with a single-point cylindrical lever handled passage latch for each door leaf. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Krieger 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the window wall and door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 42. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 50.

Test Report TL19-261 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 13, 2019

63	80	100	125	160	200	250	315	400	500
26	26	30	37	44	48	48	49	49	50
1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36 (0)	0.38 (0)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
50	49	50	51	51	51	51	52	53	49
0.29 (1)	0.44 (3)	0.38 (3)	0.39 (3)	0.36 (3)	0.56 (3)	0.55 (3)	0.31 (2)	0.32 (1)	0.50

Specimen Area	108 sq. ft.	STC	50 (22)
Temperature	73° F	EWR	53
Relative Humidity	43%	OITC	42

Sound Transmission Loss Test Report TL19-264

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-light and triple-transom-light pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame perimeter was filled using 8-lb density Thermafiber (Rockwool) insulation in lieu of grout.

The side-light sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-light and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-light and transom frame was a dual-glazed-window-system. The side-light glass panes (2 side-light openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The transom-light glass panes (3 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high.

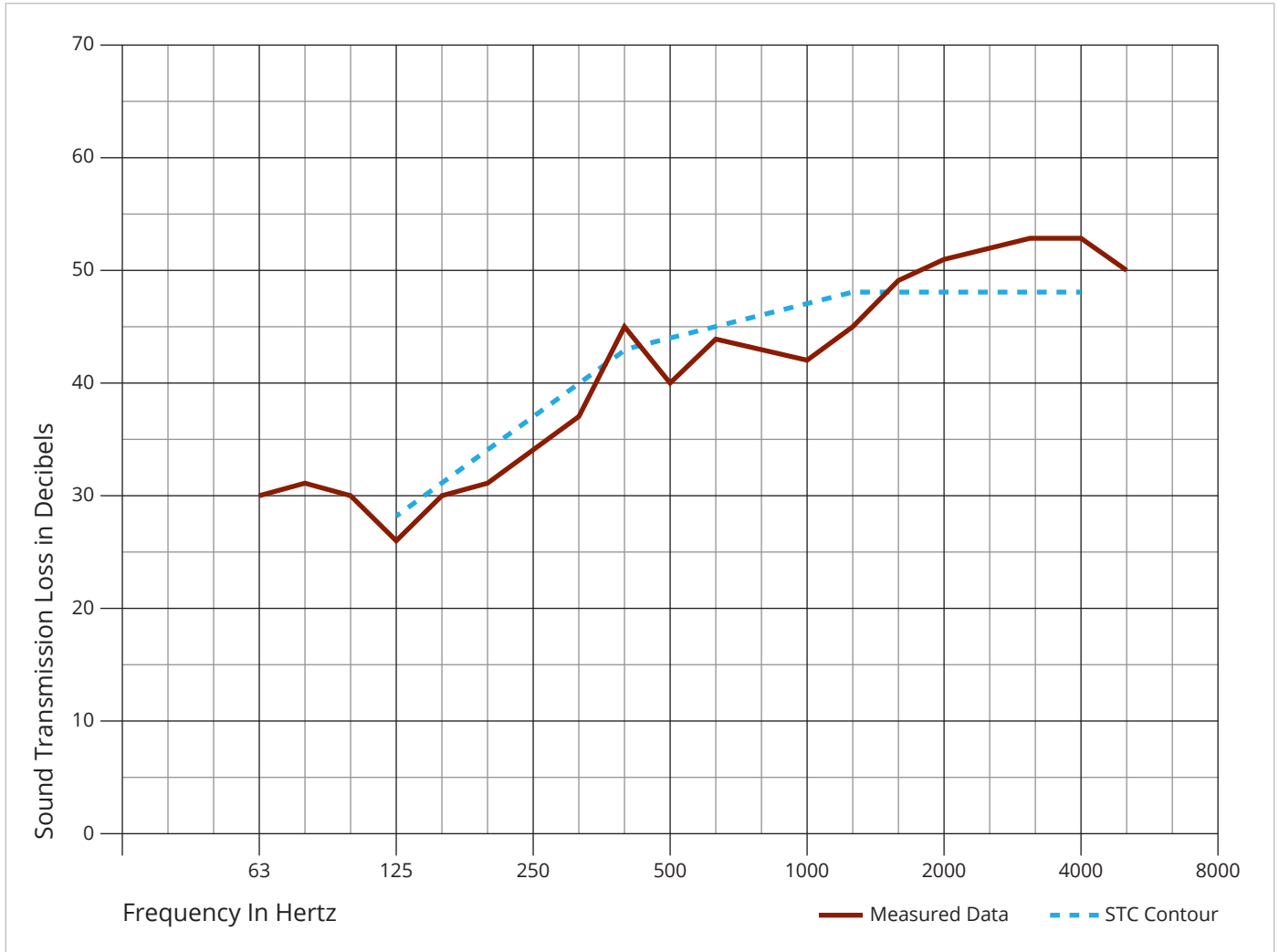
The door panels were full-vision-light steel Kriegersonic doors with Insulated Glass Units (IGU's). Details of the Krieger door core construction are proprietary and are on file at WEAL. The doors were glazed with an IGU: 6 mm (1/4 inch) Laminated glass with a 1.52 mm (.060 inch) PVB interlayer on the exterior, 27 mm (1-1/16 inch) air space and a 6 mm (1/4 inch) Laminated glass with a 1.52 mm (.060 inch) PVB interlayer, on the interior. The IGU was 546 mm (21 ½ inches) wide, 168.9 cm (66 ½ inches) high and 39.69mm (1 9/16 inches) thick. The overall thickness of the door panel was 44.5 mm (1 3/4 inches) with a semi-mortised NC2 adjustable Cam Lift door bottom. The door panel was hung on three 114 mm (5 inch) Krieger Cam Lift hinges.

The doors meeting style consisted of an acoustically NC3 gasketed mullion with a single-point cylindrical lever handled passage latch for each door leaf. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Kriegersonic 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the window wall and door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 37. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 44.

Test Report TL19-264 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 14, 2019

63	80	100	125	160	200	250	315	400	500
30*	31	30	26	30	31	34	37	45	40
1.42	1.92	2.07	1.47 (2)	0.89 (1)	0.76 (3)	0.80 (3)	0.52 (3)	0.36	0.38 (4)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
44	43	42	45	49	51	52	53	53	50
0.29 (1)	0.44 (3)	0.38 (5)	0.39 (3)	0.36	0.56	0.55	0.31	0.32	0.50

Specimen Area	108 sq. ft.	STC	44 (28)
Temperature	67.6° F	EWR	44
Relative Humidity	41%	OITC	37

*Minimum estimate of transmission loss. Measurement limited by filler wall. Actual TL will be equal or greater than value reported.

Sound Transmission Loss Test Report TL19-266

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-light and triple-transom-light pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame perimeter was filled using 8-lb density Thermafiber (Rockwool) insulation in lieu of grout.

The side-light sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-light and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-light and transom frame was a dual-glazed-window-system consisting of one pane with a 9.5 mm (3/8 inch) laminated glass constructed with a (.060 inch) PVB interlayer and the other pane with a 6 mm (1/4 inch) Laminated glass with a .76 mm (.030 inch) PVB interlayer. The side-light glass panes (2 side-light openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The transom-light glass panes (3 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high.

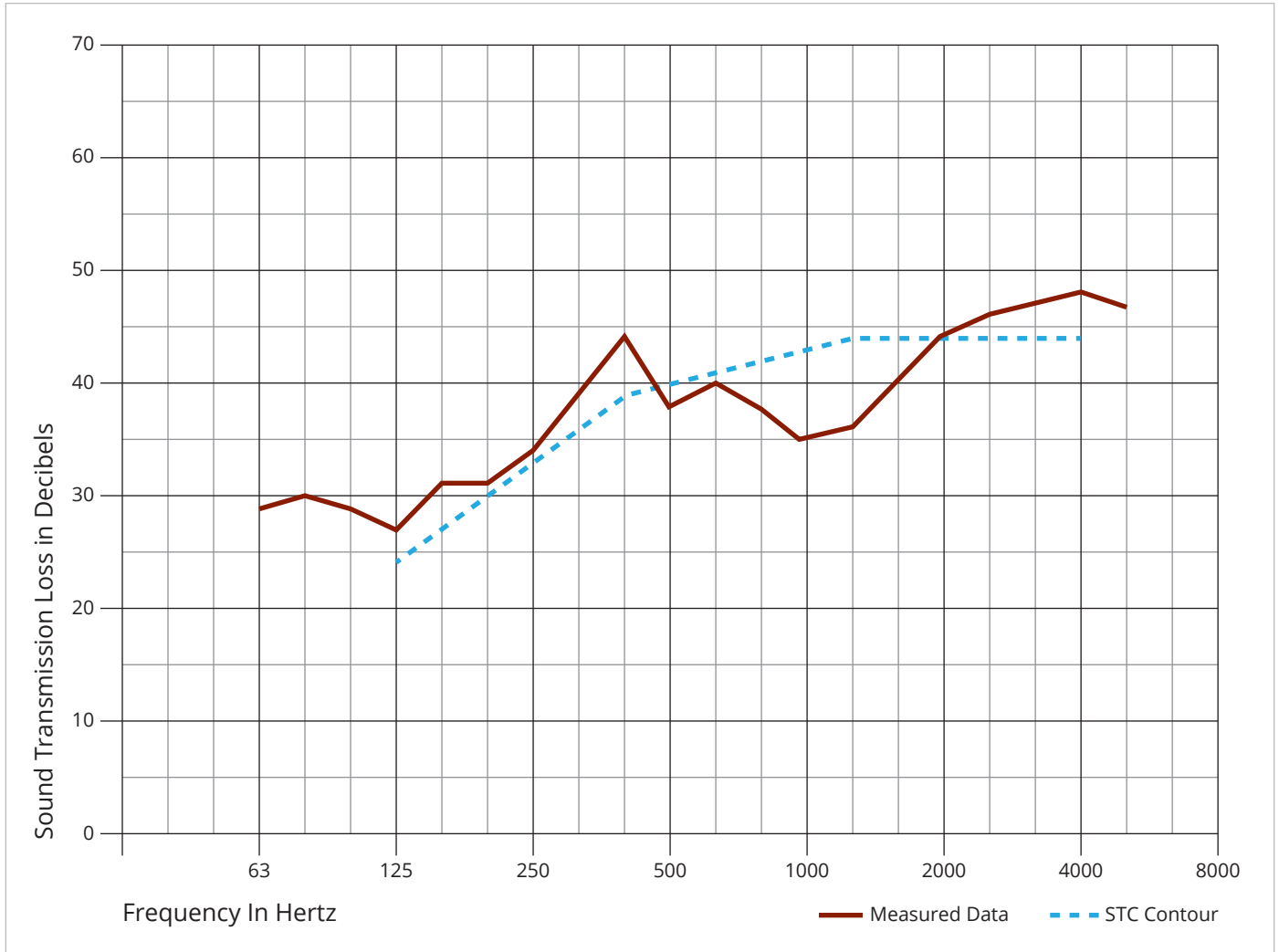
The door panels were full-vision-light steel Kriegersonic doors with Insulated Glass Units (IGU's). Details of the Krieger door core construction are proprietary and are on file at WEAL. The active door was 908 mm (35 3/4 inches) wide and 211.6 cm (83 5/16 inches) high. The inactive door was 965 mm (38 inches) wide and 221.6 cm (83 5/16 inches) high. The doors were glazed with an IGU. The IGU was 546 mm (21 ½ inches) wide, 1689 mm (66 ½ inches) high and 39.7 mm (1 9/16 inches) thick. The overall thickness of the door panels was 44.5 mm (1 3/4 inches) with a semi-mortised NC2 adjustable Cam Lift door bottoms. The door panels were hung on three 114 mm (5 inch) Krieger Cam Lift hinges.

The doors meeting style consisted of Krieger "D" seal dual astragals with a Surface Vertical Rod (SVR) exit device on the active leaf and a set of top and bottom flush bolts on the inactive. The space between the two door leaves was sealed with two single surface mounted neoprene astragals mounted on both the source and receiving sides of the room. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Kriegersonic 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 36. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 40

Test Report TL19-266 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 15, 2019

63	80	100	125	160	200	250	315	400	500
29*	30	29	27	31	31	34	39	44	38
1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36	0.38 (2)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
40	38	35	36	40	44	46	47	48	47
0.29 (1)	0.44 (4)	0.38 (8)	0.39 (8)	0.36 (4)	0.56 (0)	0.55	0.31	0.32	0.50

Specimen Area	108 sq. ft.	STC	40 (27)
Temperature	68.7° F	EWR	41
Relative Humidity	41%	OITC	36

*Minimum estimate of transmission loss. Measurement limited by filler wall. Actual TL will be equal or greater than value reported.

Sound Transmission Loss Test Report TL19-269

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-light and triple-transom-light pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame perimeter was filled using 8-lb density Thermafiber (Rockwool) insulation in lieu of grout.

The side-light sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-light and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-light and transom frame was a dual-glazed-window-system consisting of one pane with a 9.5 mm (3/8 inch) laminated glass constructed with a (.060 inch) PVB interlayer and the other pane with a 6 mm (1/4 inch) Laminated glass with a .76 mm (.030 inch) PVB interlayer. The side-light glass panes (2 side-light openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The transom-light glass panes (3 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high.

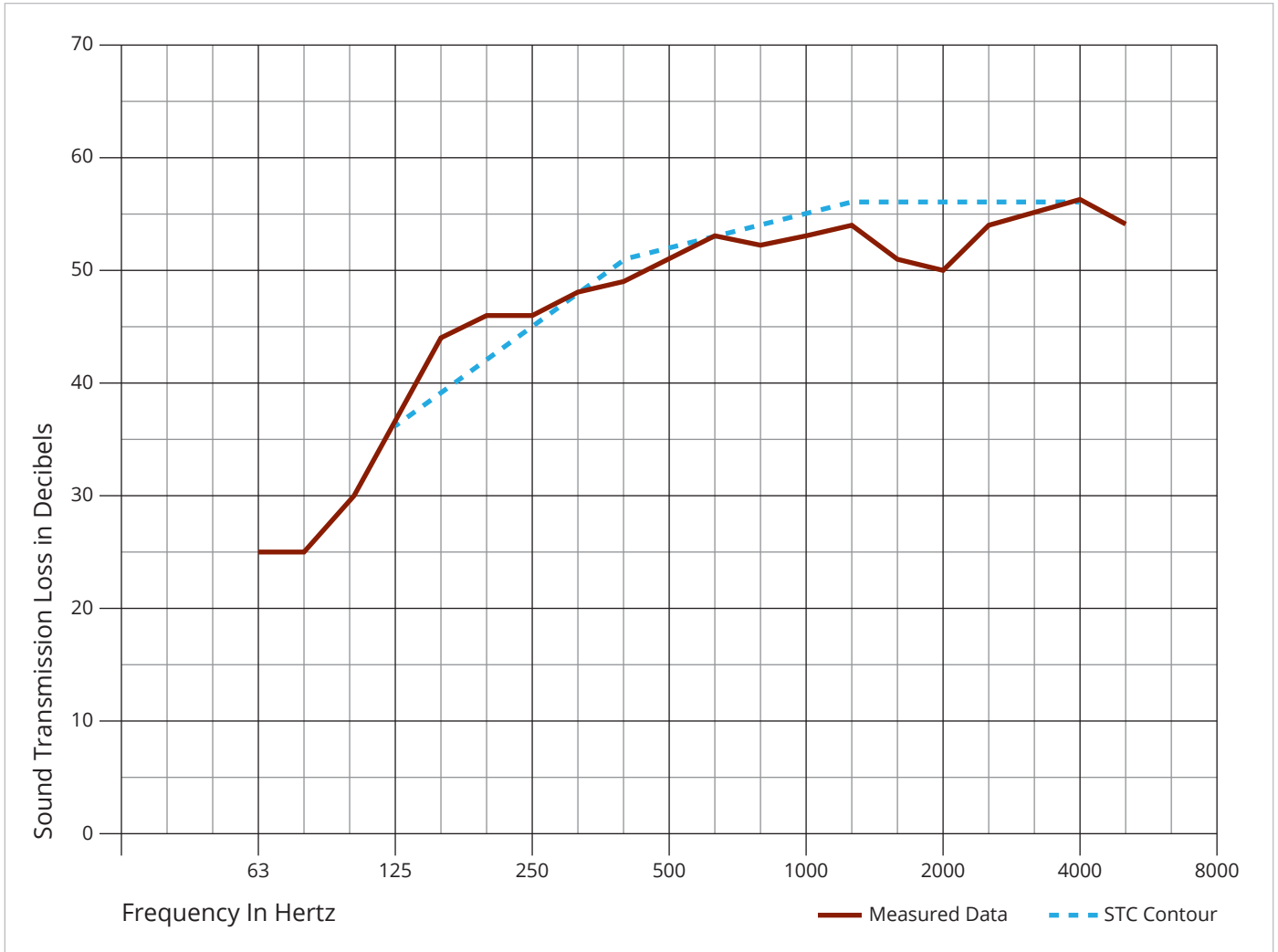
The flush door panels were steel Kriegersonic doors. Details of the Krieger door core construction are proprietary and are on file at WEAL. The active door was 908 mm (35 3/4 inches) wide and 211.6 cm (83 5/16 inches) high. The inactive door was 965 mm (38 inches) wide and 221.6 cm (83 5/16 inches) high. The overall thickness of the door panels was 44.5 mm (13/4 inches) with a semi-mortised NC2 adjustable Cam Lift door bottoms. The door panels were hung on three 114 mm (5 inch) Krieger Cam Lift hinges.

The doors meeting style consisted of Krieger "D" seal dual astragals with a Surface Vertical Rod (SVR) exit device on the active leaf and a set of top and bottom flush bolts on the inactive. The space between the two door leaves was sealed with two single surface mounted neoprene astragals mounted on both the source and receiving sides of the room. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Kriegersonic 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 42. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 52.

Test Report TL19-269 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 16, 2019

63	80	100	125	160	200	250	315	400	500
25	25	30	37	44	46	46	48	49	51
1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52 (0)	0.36 (2)	0.38 (1)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
53	52	53	54	51	50	54	55	56	54
0.29 (0)	0.44 (2)	0.38 (2)	0.39 (2)	0.36 (5)	0.56 (6)	0.55 (2)	0.31 (1)	0.32 (0)	0.50

Specimen Area	108 sq. ft.	STC	52 (23)
Temperature	67.5° F	EWR	54
Relative Humidity	41%	OITC	42

Sound Transmission Loss Test Report TL19-271

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-panel and triple-transom-panel pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame was filled using 8-lb density Thermafiber® (Rockwool) insulation in lieu of grout.

The side-panel sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-panel and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-panel and transom openings were installed with 44.5mm (1 ¾ inch) thick Kriegersonic transom panels, attached using 7-gauge formed hot-rolled-steel L-brackets and ¼-20 truss head machine screws, installed at 12 inches on center. The side-panel openings transom panels (2 side-panel openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The left and right transom-panel openings transom panels (2 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high. The center transom-panel opening transom panel (1 transom opening) was 114 cm (45 inches) wide by 520 mm (20 ½ inches) high.

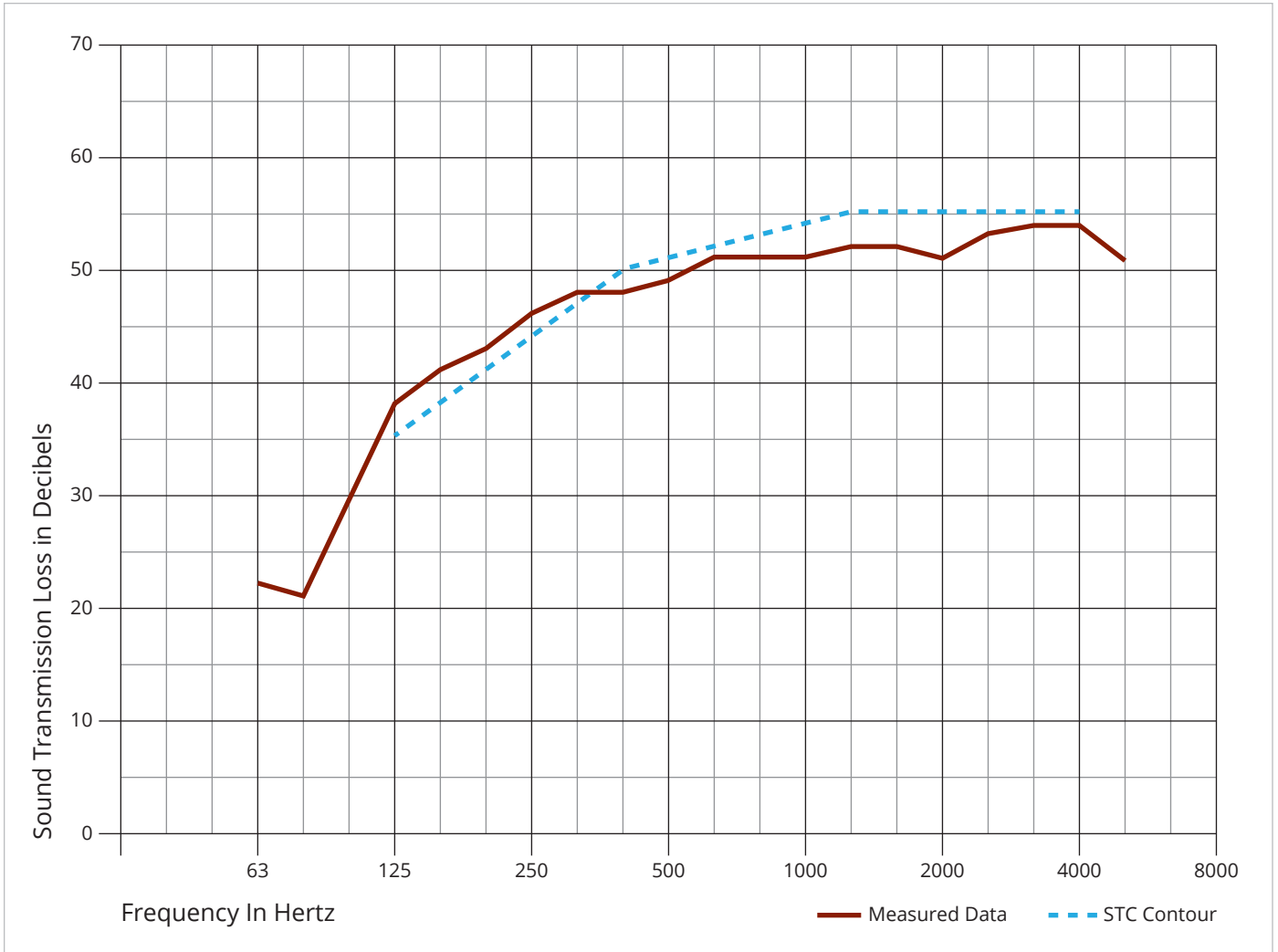
The flush door panels were steel Kriegersonic doors. Details of the Krieger door core construction are proprietary and are on file at WEAL. The active door was 908 mm (35 ¾ inches) wide and 211.6 cm (83 5/16 inches) high. The inactive door was 965 mm (38 inches) wide and 221.6 cm (83 5/16 inches) high. The overall thickness of the door panels was 44.5 mm (1 ¾ inches) with a semi-mortised NC2 adjustable Cam Lift door bottoms. The door panels were hung on three 114 mm (5 inch) Krieger Cam Lift hinges.

The doors meeting style consisted of Krieger "D" seal dual astragals with a Surface Vertical Rod (SVR) exit device on the active leaf and a set of top and bottom flush bolts on the inactive. The space between the two door leaves was sealed with two single surface mounted neoprene astragals mounted on both the source and receiving sides of the room. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Kriegersonic 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 39. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 51.

Test Report TL19-271 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 19, 2019

63	80	100	125	160	200	250	315	400	500
22	21	29	38	41	43	46	48	48	49
1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36 (2)	0.38 (2)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
51	51	51	52	52	51	53	54	54	51
0.29 (1)	0.44 (2)	0.38 (3)	0.39 (3)	0.36 (3)	0.56 (4)	0.55 (2)	0.31 (1)	0.32 (1)	0.50

Specimen Area	108 sq. ft.	STC	51 (24)
Temperature	67.5° F	EWR	53
Relative Humidity	41%	OITC	39

Sound Transmission Loss Test Report TL19-273

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-panel and triple-transom-panel pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame was filled using 8-lb density Thermafiber® (Rockwool) insulation in lieu of grout.

The side-panel sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-panel and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-panel and transom openings were installed with 44.5 mm (1 ¾ inch) thick Kriegersonic transom panels, attached using 7-gauge formed hot-rolled-steel L-brackets and ¼-20 truss head machine screws, installed at 12 inches on center. The side-panel openings transom panels (2 side-panel openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The left and right transom-panel openings transom panels (2 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high. The center transom-panel opening transom panel (1 transom opening) was 114 cm (45 inches) wide by 520 mm (20 ½ inches) high.

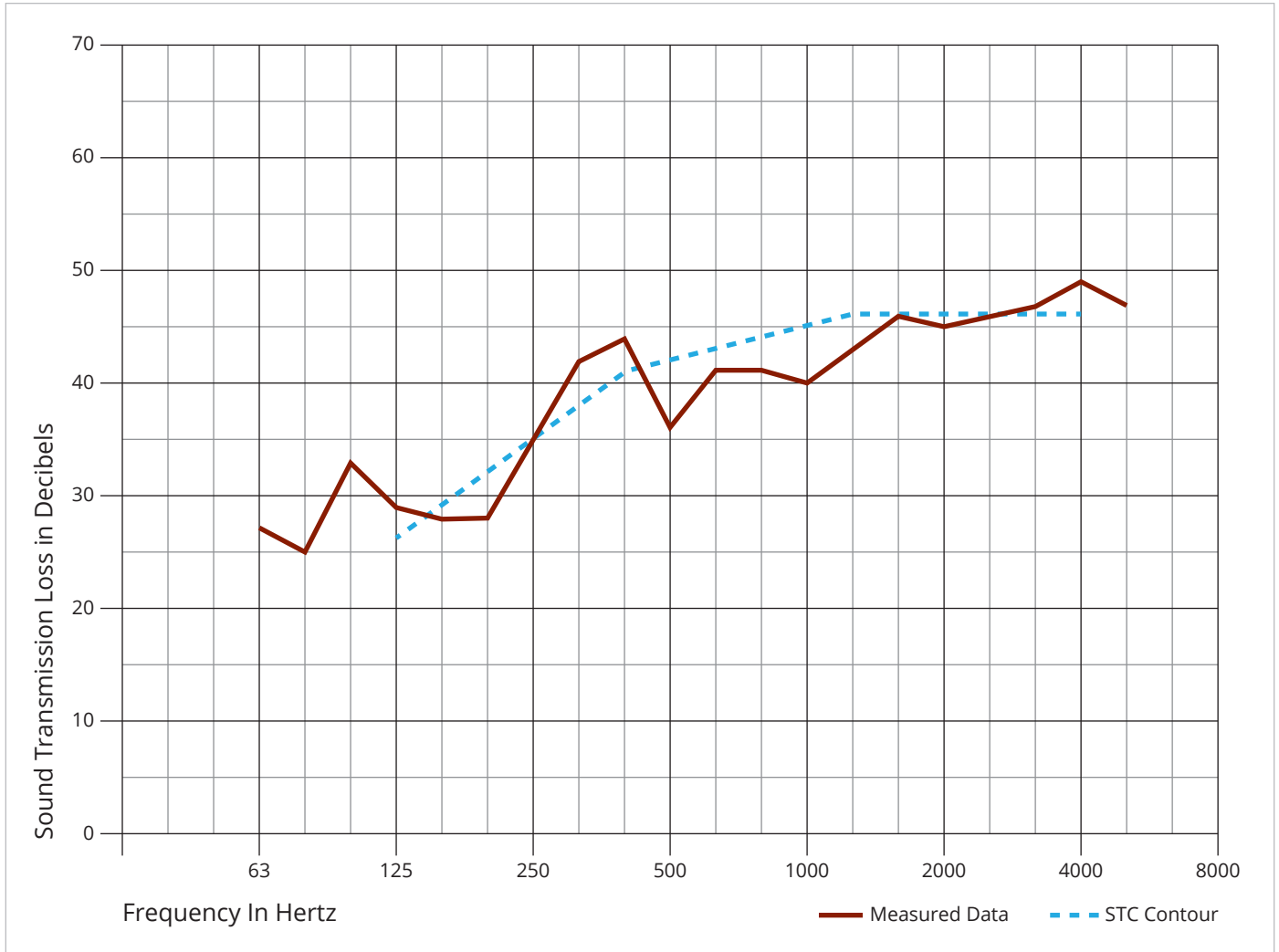
The door panels were full-vision-panel steel Kriegersonic doors with Insulated Glass Units (IGU's). Details of the Krieger door core construction are proprietary and are on file at WEAL. The active door was 908 mm (35 ¾ inches) wide and 211.6 cm (83 5/16 inches) high. The inactive door was 965 mm (38 inches) wide and 221.6 cm (83 5/16 inches) high. The doors were glazed with an IGU. The IGU was 546 mm (21 ½ inches) wide, 1689 mm (66 ½ inches) high and 39.7 mm (1 9/16 inches) thick. The overall thickness of the door panels was 44.5 mm (1 ¾ inches) with a semi-mortised NC2 adjustable Cam Lift door bottoms. The door panels were hung on three 114 mm (5 inch) KSP Cam Lift hinges.

The doors meeting style consisted of Krieger "D" seal dual-astragals with a Surface Vertical Rod (SVR) exit device on the active leaf and a set of top and bottom flush bolts on the inactive. The space between the two door leaves was sealed with two single surface mounted neoprene astragals mounted on both the source and receiving sides of the room. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Kriegersonic 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 36. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 42.

Test Report TL19-273 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 20, 2019

63	80	100	125	160	200	250	315	400	500
27	25	33	29	28	28	35	42	44	36
1.42	1.92	2.07	1.47	0.89 (1)	0.76 (4)	0.80 (0)	0.52	0.36	0.38 (6)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
41	41	40	43	46	45	46	47	49	47
0.29 (2)	0.44 (3)	0.38 (5)	0.39 (3)	0.36 (0)	0.56 (1)	0.55 (0)	0.31	0.32	0.50

Specimen Area	108 sq. ft.	STC	42 (25)
Temperature	67.5° F	EWR	43
Relative Humidity	41%	OITC	36

Sound Transmission Loss Test Report TL19-275

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-panel and triple-transom-panel pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame was filled using 8-lb density Thermafiber® (Rockwool) insulation in lieu of grout.

The side-panel sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-panel and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-panel and transom openings were installed with 44.5 mm (1 ¾ inch) thick Kriegersonic transom panels, attached using 7-gauge formed hot-rolled-steel L-brackets and ¼-20 truss head machine screws, installed at 12 inches on center. The side-panel openings transom panels (2 side-panel openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The left and right transom-panel openings transom panels (2 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high. The center transom-panel opening transom panel (1 transom opening) was 114 cm (45 inches) wide by 520 mm (20 ½ inches) high.

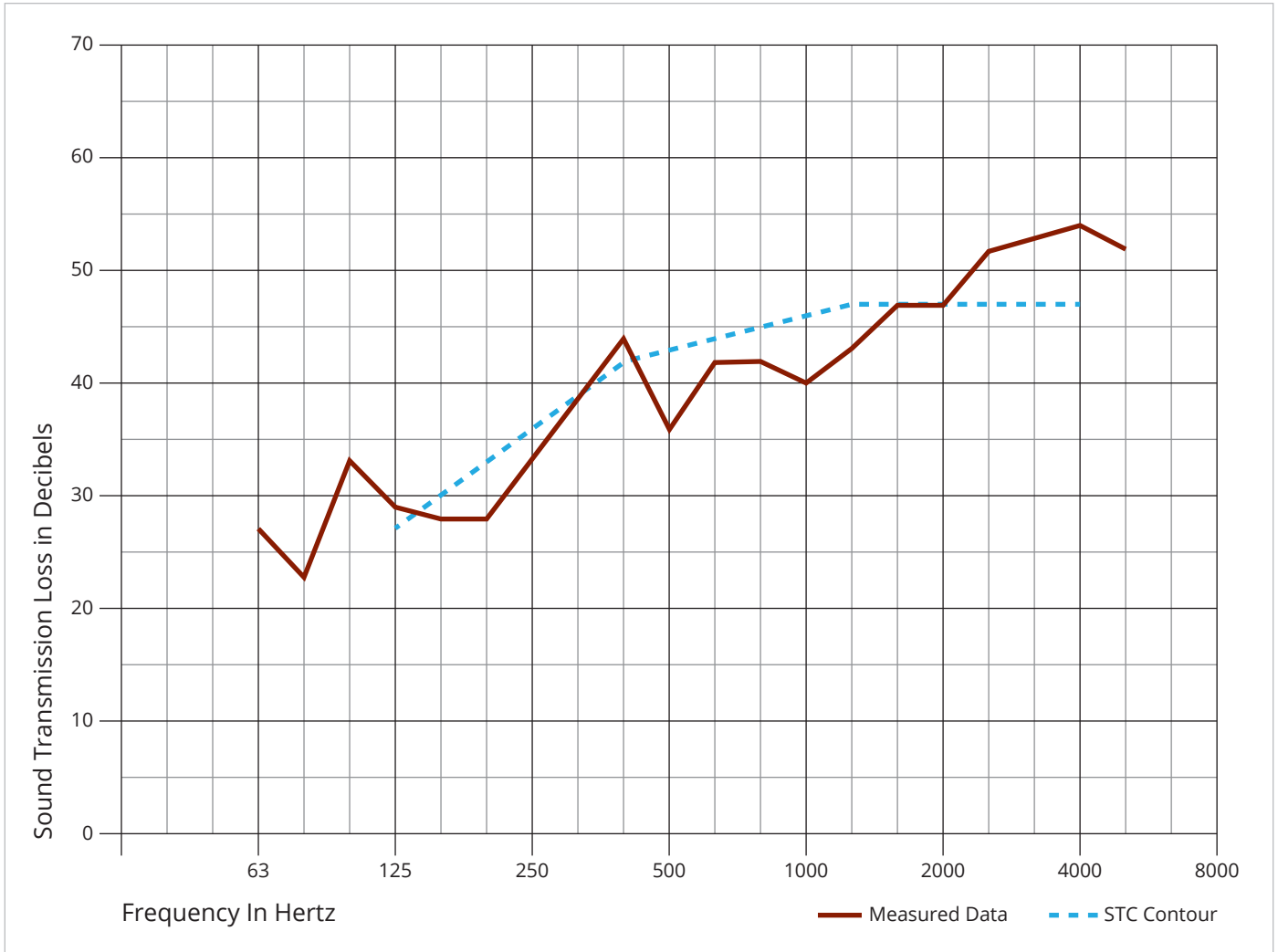
The door panels were full-vision-panel steel Kriegersonic doors with Insulated Glass Units (IGU's). Details of the Krieger door core construction are proprietary and are on file at WEAL. The active door was 908 mm (35 ¾ inches) wide and 211.6 cm (83 5/16 inches) high. The inactive door was 965 mm (38 inches) wide and 221.6 cm (83 5/16 inches) high. The doors were glazed with an IGU. The IGU was 546 mm (21 ½ inches) wide, 1689 mm (66 ½ inches) high and 39.7 mm (1 9/16 inches) thick. The overall thickness of the door panels was 44.5 mm (1 ¾ inches) with a semi-mortised NC2 adjustable Cam Lift door bottoms. The door panels were hung on three 114 mm (5 inch) KSP Cam Lift hinges.

The doors meeting style consisted of Krieger "D" seal dual-astragals with a Surface Vertical Rod (SVR) exit device on the active leaf and a set of top and bottom flush bolts on the inactive. The space between the two door leaves was sealed with two single surface mounted neoprene astragals mounted on both the source and receiving sides of the room. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Kriegersonic 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 36. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 43.

Test Report TL19-275 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 20, 2019

63	80	100	125	160	200	250	315	400	500
27	23	33	29	28	28	34	39	44	36
1.42	1.92	2.07	1.47	0.89 (2)	0.76 (5)	0.80 (2)	0.52 (0)	0.36	0.38 (7)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
42	42	40	43	47	47	52	53	54	52
0.29 (2)	0.44 (3)	0.38 (6)	0.39 (4)	0.36 (0)	0.56 (0)	0.55	0.31	0.32	0.50

Specimen Area	108 sq. ft.	STC	43 (31)
Temperature	67.5° F	EWR	43
Relative Humidity	41%	OITC	36

Sound Transmission Loss Test Report TL19-279

Description of Test Specimen

The test specimen was a glazed Krieger Window Wall System composed of dual-side-panel and triple-transom-panel pressed steel noise control frame with a double hollow metal acoustical door assembly. Each section of the assembly was separated by sound absorption mullions. The retrofit (slip-in) frame design was installed by sliding it completely into the stud wall partition test chamber opening and attaching it with anchors thru the frame. The frame was filled using 8-lb density Thermafiber® (Rockwool) insulation in lieu of grout.

The side-panel sections of the frame assembly were attached to the concrete floor using anchors through the frame. The upper (transom) section frame was splice-welded to the lower (side-panel and door pair) section at four locations (simulating transportation limitations and field assembly conditions). The specimen was sealed into the test chamber opening with acoustical caulking around the entire perimeter of the frame on both sides. The side-panel and transom openings were installed with 44.5 mm (1 ¾ inch) thick Kriegersonic transom panels, attached using 7-gauge formed hot-rolled-steel L-brackets and ¼-20 truss head machine screws, installed at 12 inches on center. The side-panel openings transom panels (2 side-panel openings) were 800 mm (31 ½ inches) wide by 208 cm (82 inches) high. The left and right transom-panel openings transom panels (2 transom openings) were 117 cm (46 inches) wide by 520 mm (20 ½ inches) high. The center transom-panel opening transom panel (1 transom opening) was 114 cm (45 inches) wide by 520 mm (20 ½ inches) high.

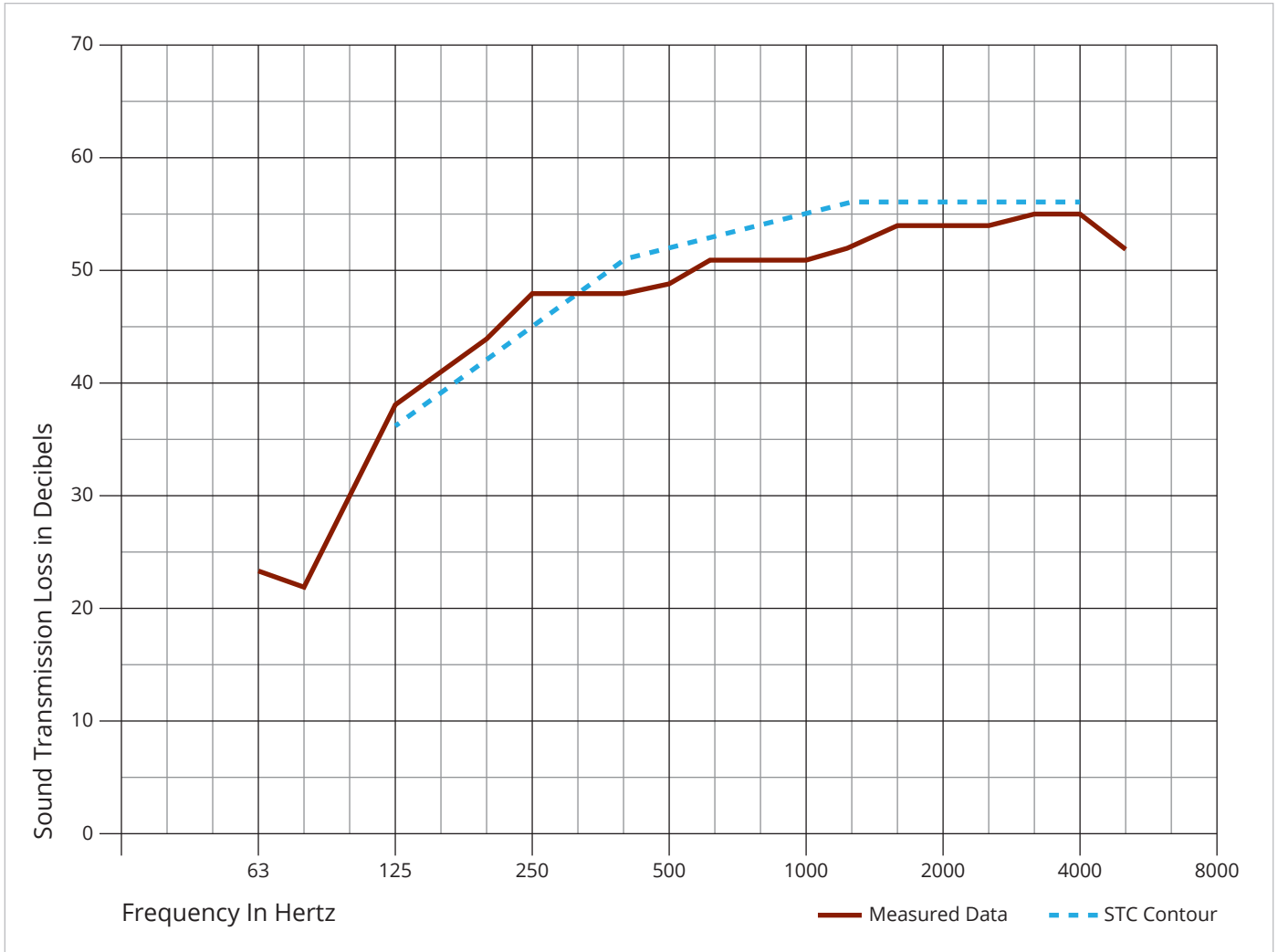
The flush door panels were steel Kriegersonic core doors. The doors were 908 mm (35 ¾ inches) wide and 211.6 cm (83 5/16 inches) high. Details of the Krieger door core construction are proprietary and are on file at WEAL. The overall thickness of the door panel was 44.5 mm (1 ¾ inches) with a semi-mortised NC2 adjustable Cam Lift door bottom. The door panel was hung on three 114 mm (5 inch) Krieger Cam Lift hinges.

The doors meeting style consisted of Krieger "D" seal dual astragals with a Surface Vertical Rod (SVR) exit device on the active leaf and a set of top and bottom flush bolts on the inactive. The space between the two door leaves was sealed with two single surface mounted neoprene astragals mounted on both the source and receiving sides of the room. On the door frame opening a perimeter NC3 compression head and jamb seal system was installed. A Kriegersonic 1A smooth (non-lipped) x 5/16" aluminum threshold was installed at the sill. The overall dimensions of the door assembly were 3.66 m (144 inches) wide by 2.74 m (108 inches) high.

Results of the Measurements

One third octave band sound transmission loss values are plotted and tabulated on the following page. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC 40. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 52.

Test Report TL19-279 Measurements



1/3 Octave Band Center Frequency

TL in dB 95% Confidence in dB Deficiencies

Test Date August 21, 2019

63	80	100	125	160	200	250	315	400	500
23	22	30	38	41	44	48	48	48	49
1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52 (0)	0.36 (3)	0.38 (3)
630	800	1000	1250	1600	2000	2500	3150	4000	5000
51	51	51	52	54	54	54	55	55	52
0.29 (2)	0.44 (3)	0.38 (4)	0.39 (4)	0.36 (2)	0.56 (2)	0.55 (2)	0.31 (1)	0.32 (1)	0.50

Specimen Area	108 sq. ft.	STC	52 (27)
Temperature	67.5° F	EWR	54
Relative Humidity	41%	OITC	40

About Krieger

Since 1936, Krieger Specialty Products has been a leading manufacturer of specialized door and window products for acoustical, blast resistant, bullet resistant, radio frequency shielding, tornado, and hurricane applications. Built to your precise specifications, Krieger doors and windows have been the choice for premier buildings throughout the world.



Made in the USA. All Krieger's products are proudly designed and manufactured in the United States.

KSP20022