

RIVERBANK ACOUSTICAL LABORATORIES

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GENEVA, IL 60134
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An ALION Technical Center

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WALLACE CLEMENT SABINE

Test Report

SPONSOR: **Avalon International Aluminum, LLC**
Tualatin, OR

Sound Transmission Loss
RAL™-TL21-348

CONDUCTED: 2021-11-29
ON: Tacitus Window System

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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 E413-16: "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 Tacitus Window System. 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

Trade Name: Tacitus
Manufacturer: Avalon International Aluminum, LLC
Glazing: Lam .2214 @ 5/32" clear tp rs, 30clear, 5/32" clear tp rs
Lam 0.342 @ 3/16" clear an rs, 60clear, 3/16" clear an rs
GLS 1321 @ 1/4" lami clear 0.30 a
Lam 2681 @ 1/4" clear an, 30clear, 1/4" clear an

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: Double-double laminated glass separated by gap in metal frame
Frame Dimensions: 1211.3 mm (47.6875 in.) by 2432 mm (95.75 in.)
Frame Depth: 150.8 mm (5.9375 in.)
Glazing Composition*: Source side exterior @ 7.94 mm (0.3125 in.)
Source side gap @ 3.37 mm (0.1328 in.)
Source side interior @ 11.11 mm (0.4375 in.)
Middle air gap @ 92.07 mm (3.625 in.)



NVLAP LAB CODE 100227-0

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Test Specimen (continued)

Glazing Composition*: Receive side exterior @ 12.7 mm (0.5 in.)
Receive side gap @ 1.19 mm (0.046875 in.)
**Receive side interior @ 6.35 mm (0.25 in.)
Daylight Opening: 1135.1 mm (44.6875 in.) by 2349.5 mm (92.5 in.)
Overall Weight: 266.26 kg (587 lbs)

* Note: Glass composition measurements are the arithmetic average of two interferometer measurements taken at the edge and center of each glazing assembly.

**Note: Test specimen receive side inner glass was cracked and sealed prior to arriving at RAL. Effects of cracks and sealant on acoustical performance undetermined.

Overall Specimen Measurements

Dimensions: 1.21 m (47.687 in) wide by 2.43 m (95.75 in) high
Thickness: 150.8 mm (5.9375 in.)
Weight: 266.26 kg (587.0 lbs)
Overall Area: 2.946 m² (31.71 ft²)
Mass per Unit Area: 90.38 kg/m² (18.51 lbs/ft²)

Test Aperture

Opening Size: 1.22 m (4.0 ft.) by 2.44 m (8.0 ft.)
Filler Wall: None
Aperture Size: 1.21 m (47.687 in) wide by 2.43 m (95.75 in) high
Transmission Area: 2.946 m² (31.71 ft²)
Sealed: Entire periphery (both sides) with dense mastic

Test Environment

Source Room

Volume: 178.33 m³
Temperature: 21.7 °C ± 0.0 °C
Relative Humidity: 48.5 % ± 1.0 %

Receive Room

Volume: 131.26 m³
Temperature: 22.2 °C ± 0.0 °C
Relative Humidity: 50.0 % ± 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.



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