

Project Number: ESP025396P-20

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Report Date: 7/6/2017

ACOUSTIC

**SOUND TRANSMISSION CLASS
TEST REPORT****Series/Model: Forgent Series T780 Teutonic
Sliding Patio Door**

Prepared for:

Kolbe & Kolbe MillworkCo., Inc.**Attn: Mr. Mark Harger**

1323 South 11th Avenue

Wausau, WI 54401

US

Customer PO: M37868

Prepared by:

John Wegscheider
Manager
Product Validation
Telephone: (651) 659-7353

Reviewed by:

Jeff Brown
Fenestration Testing Technician
Product Testing Department
Telephone: (651) 659-3744

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TESTING CERT #1479.01

AIRBORNE SOUND TRANSMISSION LOSS (STC) ASTM E90-09

INTRODUCTION:

This report presents the sound transmission results of a:

Forgent Series T780 Teutonic Sliding Patio Door

The testing and data analysis were completed on: Thursday, May 18, 2017

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The results stated in this report represent only the specific construction and acoustic conditions present at the time of the test. Measurements performed in accordance with this standard on nominally identical constructions and acoustical conditions may produce different results.

Summary of Results

Forgent Series T780 Teutonic Sliding Patio Door

| Glazing Description | | Test Results | | |
|---------------------|--|--------------|-----------|-----------|
| | | STC | Def | OITC |
| Glass Type: | 1" (25.1 mm) Insulated Laminated Glass Unit (IG) | 31 | 30 | 26 |
| Exterior Lite: | 1/4" (6.4mm) Laminated | | | |
| Gap / Airspace: | 5/8" (16mm) | | | |
| Interior Lite: | 1/8" (3.1mm) | | | |

SPECIMEN DESCRIPTION:
Manufacturer: Kolbe & Kolbe MillworkCo., Inc.

Specimen: Patio Door

Model # / Series: Forgent Series T780 Teutonic

Material: Vinyl

Size: 71.50" W x 79.50" H

Area: 39.5 -ft²
Weight: -lbs

Weight (psf): 0.0 -lb/ft²
Glazing Details:

(Measured Thickness)

1" (25.1 mm) Insulated Laminated Glass Unit (IG)
Exterior Lite: 1/4" (6.4mm) Laminated

Space/Gap: 5/8" (16mm)

Interior Lite: 1/8" (3.1mm)

Sash Size: Active Panel: 36 3/8" x 75 1/2"

Daylight Opening: Each Panel: 29 1/2" x 69"

Additional Details: Forgent Series T780 Teutonic Sliding Door

Hardware: Handle Lock

Drainage: Sloped Sill, Weep

Weatherstripping:

| Component | Location | Weatherstrip Type | Height, in | Qty |
|------------------|---------------------|--------------------------|-------------------|------------|
| <i>Frame</i> | Head @ meeting rail | Pile Pads | 1/4" | 1 |
| <i>Frame</i> | Jamb | Pile | 1/8" | 2 |
| <i>Panel</i> | Meeting Rail | Pile | 1/8" | 1 |
| <i>Panel</i> | Stile | Pile | 3/16" | 2 |
| <i>Panel</i> | Upper Rail | Pile | 3/16" | 2 |

TEST METHOD:
Sound Transmission Test

ASTM:E90(09), "Laboratory Measurement of Airborne Sound Transmission of Building Partitions," was followed in every respect. The STC value was obtained by applying the Transmission Loss (TL) values to the STC reference contour of ASTM: E413(16), "Determination of Sound Transmission Class." The actual transmission loss at each frequency was calculated by the following equations:

$$TL = NR + 10 \log S - 10 \log A_2$$

where: TL = Transmission Loss (dB)

NR = Noise Reduction (dB)

S = Surface area common to both sides (sq. ft.)

A₂ = Sound absorption of the receiving room with the sample in place (sabins)

OITC Procedure

ASTM:E1332(16), "Determination of Outdoor-Indoor Transmission Class", was followed in every respect. Basically, the OITC was calculated by using the sound transmission loss values in the 80 to 4000 Hz range as measured in accordance with ASTM E-90(09). These transmission loss data are then used to determine the A-weighted sound level reduction of the specimen for the reference source spectrum specified in Table 1 of ASTM E1332(16). The appropriate calculations were made to determine the OITC value. TL measurements were obtained in a single direction, from Source Room to the Receiving room. The source room has a volume of 2948-ft³ (83-m³) and the receiving room has a volume of 5825-ft³ (165-m³).

Windows & Doors: Windows and Doors are operated at least 5-times prior to testing. The test unit is operational unless otherwise stated. The temperatures and relative humidity of the termination room met the requirements of the standard during and after the test. All frequencies met the requirements for 95% confidence established by the standard unless noted. Noise reduction measurements were performed in a single direction (source room to receiving room).

TEST EQUIPMENT:

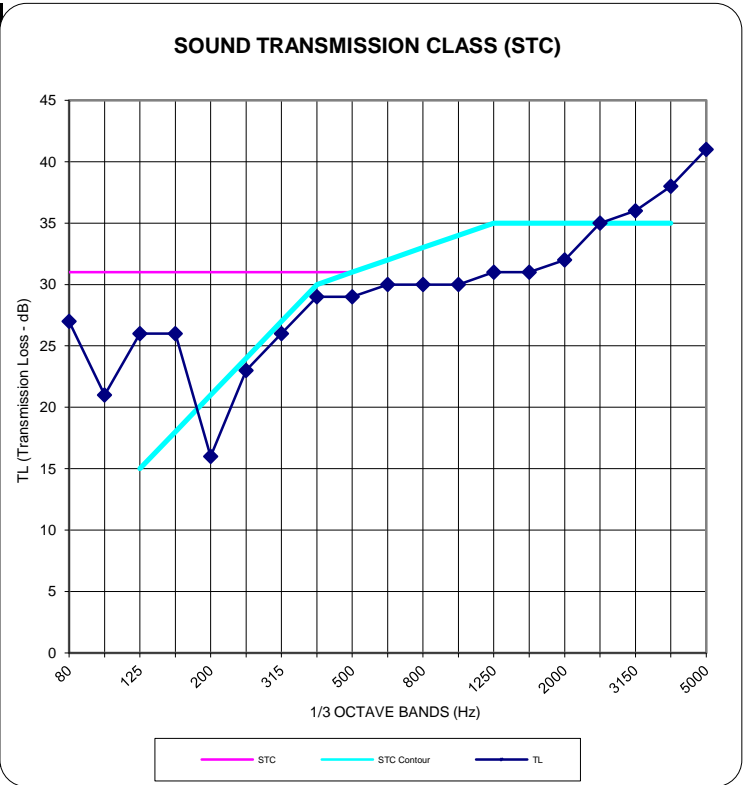
| Item Description | ID# | Manufacturer/Model | Serial # | Cal. Due | Location |
|-----------------------------|------------|-----------------------------|-----------------|-----------------|-----------------------|
| 1/2" Pressure Condensor Mic | PT-162-075 | GRAS/40AD | 19220-1244 | 5/25/2017 | Reverberation Chamber |
| 1/2" Pressure Condensor Mic | PT-162-216 | BSWA/MP253 | 450005 | 9/27/2017 | Source Chamber |
| Microphone Calibrator | PT-162-107 | Norsonic/1251 | 29144 | 5/25/2017 | N/A |
| Data Acquisition Module | PT-162-107 | National Instruments/NI9234 | 1735986-1893EB3 | 6/8/2017 | Control Center |
| Temp/Humidity Sensor | PT-162-077 | Dwyer/Series RH | M90714-e4SV-Y | 6/1/2017 | Reverberation Chamber |
| Temp/Humidity Sensor | PT-162-079 | Dwyer/Series RH | m93237-E09w-A | 6/1/2017 | Source Chamber |

REMARKS:

The test sample will be retained for a period of 10-days and then discarded if no written return-request received.

TEST RESULTS

| 1/3 Oct. Band, Hz | L ₁ (dB) | L ₂ (dB) | Bkgd (dB) | A _v (m ²) Sabins | TL (dB) | Def (dB) | 95% Conf. | Notes | |
|-------------------|---------------------|---------------------|-----------|---|---------|----------|-----------|-------|---|
| | | | | | | | | 1 | 2 |
| 80 | 96.9 | 70.0 | 38.8 | 4.3 | 27 | - | 2.7 | | |
| 100 | 102.0 | 79.1 | 43.7 | 5.2 | 21 | - | 1.8 | | |
| 125 | 103.8 | 77.1 | 42.4 | 4.6 | 26 | 0 | 2.3 | | |
| 160 | 99.5 | 72.7 | 37.7 | 4.1 | 26 | 0 | 1.8 | | |
| 200 | 95.5 | 78.7 | 37.6 | 4.7 | 16 | 5 | 1.3 | | |
| 250 | 101.3 | 77.0 | 39.0 | 4.6 | 23 | 1 | 1.0 | | |
| 315 | 102.2 | 75.8 | 37.4 | 4.5 | 26 | 1 | 0.6 | | |
| 400 | 102.2 | 72.7 | 34.7 | 4.5 | 29 | 1 | 0.5 | | |
| 500 | 104.5 | 74.1 | 34.4 | 5.1 | 29 | 2 | 0.5 | | |
| 630 | 103.4 | 71.4 | 30.1 | 5.2 | 30 | 2 | 0.5 | | |
| 800 | 101.1 | 69.2 | 27.6 | 5.5 | 30 | 3 | 0.3 | | |
| 1000 | 98.6 | 67.1 | 25.9 | 5.8 | 30 | 4 | 0.4 | | |
| 1250 | 97.0 | 64.0 | 24.9 | 6.3 | 31 | 4 | 0.4 | | |
| 1600 | 97.8 | 63.8 | 23.0 | 6.8 | 31 | 4 | 0.3 | | |
| 2000 | 97.1 | 61.8 | 21.8 | 8.3 | 32 | 3 | 0.3 | | |
| 2500 | 95.1 | 56.2 | 20.0 | 8.8 | 35 | 0 | 0.3 | | |
| 3150 | 90.7 | 49.9 | 20.2 | 10.2 | 36 | 0 | 0.3 | | |
| 4000 | 87.8 | 45.0 | 20.8 | 12.6 | 38 | 0 | 0.3 | | |
| 5000 | 88.8 | 41.5 | 21.7 | 15.6 | 41 | - | 0.4 | | |


STC Rating: 31
Deficiency: 30
OITC Rating: 26
Test Conditions:

Laminated Glass Temp(°C):
 Exterior: 21
 Interior: N/A

Temp(°C): % RH: ATM (hPa)
 Source Room: 21.5 41 989
 Receive Room: 21.4 43 989

SPECIMEN IDENTIFICATION:

Type: Patio Door
Series: Forgent Series T780 Teutonic Sliding Patio Door
Size: 71.50" W x 79.50" H **Area:** 39.5 -ft²
Depth: 6"
Mass: 0 -lbs **Mass (psf):** 0.0 -lb/ft²

Test Date: 18-May-17
Time Stamp: 11:23 AM
Tested by: JAB

Glazing Description

1" (25.1 mm) Insulated Laminated Glass Unit (IG)
 Exterior Lite: 1/4" (6.4mm) Laminated
 Gap / Space: 5/8" (16mm)
 Interior Lite: 1/8" (3.1mm)



* As stated by Manufacturer.