

Project Number: ESP025396P-18

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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:

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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:	<b>1 3/8" (33.3 mm) Triple Glaze</b>	<b>28</b>	<b>23</b>	<b>22</b>
Exterior Lite:	1/8" (3.1mm)			
Gap / Airspace:	1/2" (12mm)			
Center Lite:	1/8" (3.1mm)			
Gap / Airspace:	1/2" (12mm)			
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 -ft<sup>2</sup>
**Weight:** -lbs

**Weight (psf):** 0.0 -lb/ft<sup>2</sup>
**Glazing Details:**

(Measured Thickness)

**1 3/8" (33.3 mm) Triple Glaze**

<b>Exterior Lite:</b>	1/8" (3.1mm)
<b>Space/Gap:</b>	1/2" (12mm)
<b>Center Lite:</b>	1/8" (3.1mm)
<b>Space/Gap:</b>	1/2" (12mm)
<b>Interior Lite:</b>	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:**

<b>Component</b>	<b>Location</b>	<b>Weatherstrip Type</b>	<b>Height, in</b>	<b>Qty</b>
<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

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**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.)

A<sub>2</sub> = 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-ft<sup>3</sup> (83-m<sup>3</sup>) and the receiving room has a volume of 5825-ft<sup>3</sup> (165-m<sup>3</sup>).

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:**

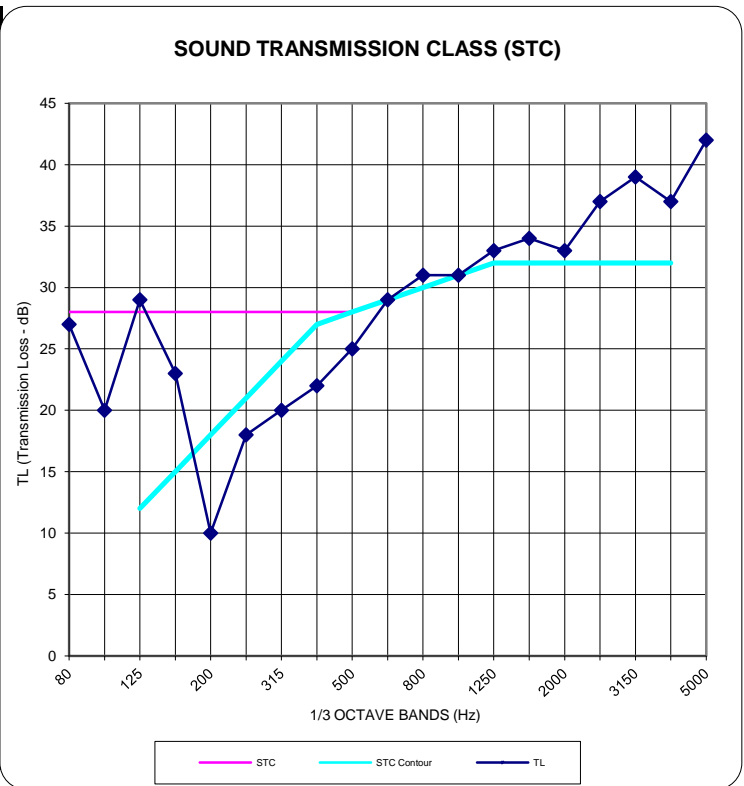
Item Description	ID#	Manufacturer/Model	Serial #	Cal. Due	Location
1/2" Pressure Condensor Mic	PT-162-075	GRAS/40AD	19220-1244	5/25/2017	Reverberation Chamber
1/2" Pressure Condensor Mic	PT-162-216	BSWA/MP253	450005	9/27/2017	Source Chamber
Microphone Calibrator	PT-162-107	Norsonic/1251	29144	5/25/2017	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 <sub>1</sub> (dB)	L <sub>2</sub> (dB)	Bkgd (dB)	A <sub>v</sub> (m <sup>2</sup> ) Sabins	TL (dB)	Def (dB)	95% Conf.	Notes	
								1	2
80	95.5	68.8	43.5	4.1	27	-	3.3		
100	99.9	78.3	42.9	5.4	20	-	2.2		
125	101.7	73.2	40.1	3.7	29	0	2.3		
160	97.0	73.7	37.2	3.7	23	0	1.3		
200	92.6	81.8	35.6	4.2	10	8	1.2		
250	98.8	80.1	33.6	4.2	18	3	1.2		
315	99.7	78.5	29.8	4.3	20	4	0.6		
400	100.1	76.8	28.2	4.8	22	5	0.5		
500	102.5	75.9	28.8	4.8	25	3	0.5		
630	101.3	71.0	25.9	5.3	29	0	0.5		
800	99.2	66.7	23.9	5.8	31	0	0.4		
1000	97.0	63.4	23.3	6.2	31	0	0.4		
1250	95.3	59.9	23.6	6.2	33	0	0.3		
1600	96.1	59.8	20.8	7.0	34	0	0.4		
2000	95.3	58.4	20.9	8.5	33	0	0.4		
2500	93.4	52.9	18.7	9.1	37	0	0.4		
3150	89.2	45.6	18.6	10.2	39	0	0.3		
4000	86.5	44.7	19.4	11.5	37	0	0.3		
5000	87.8	39.4	20.2	14.7	42	-	0.4		


**STC Rating: 28**

TL = Transmission Loss (dB)

Def = Deficiencies (below STC contour)

**Deficiency: 23**

Note #1: Noise Level was less than 10dB above ambient.

Note #2: Confidence Level Exceeded

**OITC Rating: 22**
**Test Conditions:**

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

 Temp(°C):    % RH:    ATM (hPa)  
 Source Room:    21.5    54    973  
 Receive Room:    22.1    52    973

**SPECIMEN IDENTIFICATION:**
**Type:** Patio Door  
**Series:** Forgent Series T780 Teutonic Sliding Patio Door  
**Size:** 71.50" W x 79.50" H            **Area:** 39.5 -ft<sup>2</sup>  
**Depth:** 6"  
**Mass:** 0 -lbs                            **Mass (psf):** 0.0 -lb/ft<sup>2</sup>
**Test Date:** 18-May-17  
**Time Stamp:** 3:47 PM  
**Tested by:** JAB

**Glazing Description**
**1 3/8" (33.3 mm) Triple Glaze**

 Exterior Lite:            1/8" (3.1mm)  
 Gap / Space:            1/2" (12mm)  
 Interior Lite:            1/8" (3.1mm)  
 Gap / Space:            1/2" (12mm)  
 Interior Lite:            1/8" (3.1mm)


\* As stated by Manufacturer.