intertek
Total Quality. Assured.

THERMA-TRU CORPORATION
ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 SOUND TRANSMISSION LOSS TESTING ON A
3068 FLUSH GLAZED DOOR WITH MINIBLINDS, SIDE-HINGED SINGLE DOOR SYSTEM

REPORT NUMBER
K7952.01-113-11-R2

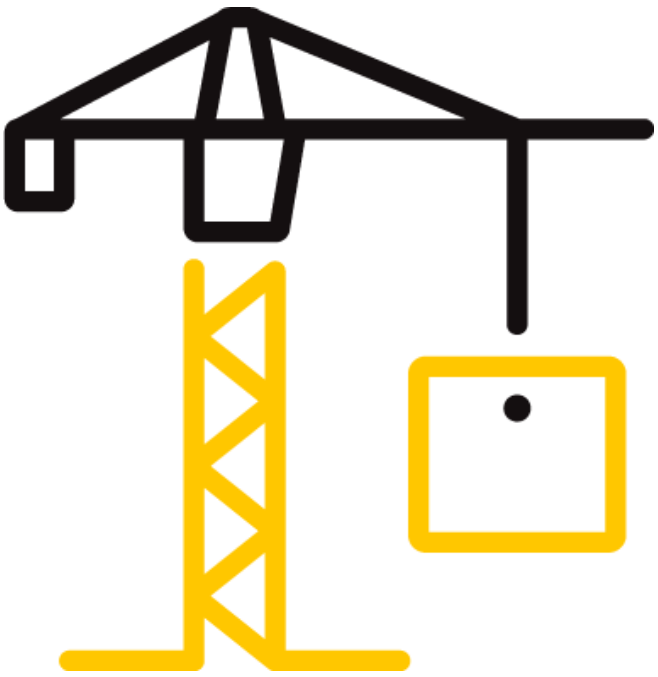
TEST DATE
03/17/20

ISSUE DATE
03/25/20

REVISION 2 DATE
04/12/22

PAGES
14

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2756 (01/24/19)



130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR THERMA-TRU CORPORATION

Report No.: K7952.01-113-11-R2
Revision 2 Date: 04/12/22 Date: 03/25/20

REPORT ISSUED TO

THERMA-TRU CORPORATION
6214 Monclova Road
Maumee, Ohio 43537

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Therma-Tru Corporation to conduct a sound transmission loss test. Results obtained are tested values and were secured by using the designated test methods. The complete test data is included herein. The client provided the test specimen. All measurements were conducted in the HT test chambers at Intertek B&C located in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

For INTERTEK B&C:

COMPLETED BY:	Andrew M. Johnston	**REVIEWED BY:**	Kurt A. Golden
TITLE:	Technician Acoustical Testing	**TITLE:**	Senior Project Lead Acoustical Testing
SIGNATURE:	Digitally Signed by: Andrew Johnston	**SIGNATURE:**	Digitally Signed by: Kurt A. Golden
DATE:	04/12/22	**DATE:**	04/12/22

AMJ:jmcs

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR THERMA-TRU CORPORATION
Report No.: K7952.01-113-11-R2
Revision 2 Date: 04/12/22 Date: 03/25/20

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	3068 Flush glazed door with miniblinds
TYPE	Side-hinged single door system
DESCRIPTION	1" IG (1/8" tempered, 3/4" air space, 1/8" tempered)

OPTION K7952.01A

TEST CONDITION	Operable with blinds up
DATA FILE NO.	K7952.01A
STC	30
OITC	27

OPTION K7952.01A1

TEST CONDITION	Operable with blinds down and closed
DATA FILE NO.	K7952.01A1
STC	30
OITC	27

SECTION 3
TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM E90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*

ASTM E413-16, *Classification for Rating Sound Insulation*

ASTM E1332-16, *Standard Classification for Rating Outdoor-Indoor Sound Attenuation*

ASTM E2235-04 (2012), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

COMMENTS
Whether the tested door system utilizes wood or composite stile edges, the ratings would remain unchanged.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 4
SPECIMEN INSTALLATION

A sound transmission loss test was initially performed on a filler wall.

The specimen plug was removed from the filler wall assembly. The specimen was placed on an isolation pad in the test opening. Duct seal was used to seal the perimeter of the specimen to the test opening on both sides. The interior side of the specimen, when installed, was approximately 1/4" from being flush with the receive room side of the filler wall. A stethoscope was used to check for any abnormal air leaks around the test specimen prior to testing. Operable portions of the test specimen, if any, were cycled at least five times prior to testing.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 5
EQUIPMENT

The equipment listed below meets the requirements of the test methods stated in Section 3 of this report.

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	CAL DATE
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65125*	05/18
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	65126*	05/18
Data Acquisition Card	National Instruments	PXI-4462	Data Acquisition Card	63763-3*	04/18
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64902	10/19
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65969	04/19
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT01089	01/20
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65968	01/20
Source Room Microphone	PCB piezotronics	378C20	Microphone and Preamplifier	65586	01/20
Receive Room Microphone	PBC Piezotronics	378B20	Microphone and Preamplifier	64907	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64908	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64909	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64910	01/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64911	10/19
Receive Room Environmental Indicator	Comet	T7510	Receive Room	64915	01/20
Source Room Environmental Indicator	Comet	T7510	Source Room	64914	02/20
Microphone Calibrator	Norsonic	1251	Acoustical Calibrator	Y002919	04/19

**- Note: The calibration frequency for this equipment is every two years per the manufacturer's recommendation.*

TEST CHAMBER

	VOLUME	DESCRIPTION
RECEIVE ROOM	234 m^3	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor
SOURCE ROOM	207 m^3	Stationary diffusers only Temperature and humidity controlled

	MAXIMUM SIZE	DESCRIPTION
TL TEST OPENING	4.27 m wide by 3.05 m high	Vibration break between source and receive rooms

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Andrew M. Johnston	Intertek B&C
Kurt A. Golden	Intertek B&C

SECTION 7
TEST PROCEDURE

The sensitivity of the microphones was checked before measurements were conducted.

The transmission loss values were obtained for a single direction of measurement.

Two background noise sound pressure level and five sound absorption measurements were conducted at each of five microphone positions.

Two sound pressure level measurements were made simultaneously in receive and source rooms at each of five microphone positions.

The air temperature and relative humidity conditions were monitored and recorded during all measurements.

Data for flanking limit tests, repeatability measurements, and reference specimen tests are available upon request.

The specimen was returned per the client's request.

SECTION 8
ACOUSTICAL TEST CALCULATIONS

Transmission loss (TL) at each 1/3 octave frequency is the average source room sound pressure level minus the average receive room sound pressure level, plus, 10 times the log of the specimen area divided by the sound absorption of the receive room with the sample in place.

STC Rating
To obtain the Sound Transmission Class (STC), read the TL of the contour curve at 500 Hz. The sum of the deficiencies below the contour curve must not exceed 32. The maximum deficiency at any one frequency must not exceed 8.

OITC Rating
The Outdoor-Indoor Transmission Class (OITC) is calculated by subtracting the logarithmic summation of the TL values from the logarithmic summation of the A-weighted transportation noise spectrum stated in ASTM E1332.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 9
SPECIMEN DESCRIPTION

	FRAME
SIZE	37-5/8" by 82"
THICKNESS	4-1/2"
CORNERS	Butted
FASTENERS	Screws
SEAL METHOD	N/A
MATERIAL	Wood
REINFORCEMENT	N/A
THERMAL BREAK MATERIAL	N/A
DAYLIGHT OPENING SIZE	N/A
SPECIMEN WEIGHT (lbs)	20

COMMENTS
The SMC skins with foam fill leaf was 36" by 78-1/2" and 1-3/4" thick with a day light opening of 22" by 59" and weighed 77 lbs. Per the client's request, the contents of the door leaf are proprietary.

MEASURED OVERALL INSULATION GLASS UNIT THICKNESS	1.024"
SPACER TYPE	Aluminum

	EXTERIOR SHEET	GAP	INTERIOR SHEET
MEASURED THICKNESS	0.119"	0.780"	0.125"
MUNTIN PATTERN	N/A	N/A	N/A
MATERIAL	Tempered	Air*	Tempered
LAMINATE MATERIAL	N/A	N/A	N/A

GLAZING METHOD	Channel
GLAZING MATERIAL	Foam tape
GLAZING BEAD MATERIAL	N/A

** - Stated per Client/Manufacturer, N/A-Not Applicable*

COMMENTS
Whether the tested door system utilizes wood or composite stile edges, the ratings would remain unchanged.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR THERMA-TRU CORPORATION

Report No.: K7952.01-113-11-R2
Revision 2 Date: 04/12/22 Date: 03/25/20

	TYPE	QUANTITY	LOCATION
WEATHERSTRIP	Standard reach kerf mounted compression gasket	1 Row	Hinge jamb
	Long reach kerf mounted compression gasket	1 Row	Lock jamb and head
	Dual 3/8" Hollow bulb with four leaf kerf mounted sweep	1	Bottom rail
HARDWARE	Hinge	4	Hinge jamb
	Lock assembly set	1	Lock stile
	Dead bolt	1	Lock stile
	Strike plate	1	Lock jamb
	Adjustable aluminum threshold	1	Sill
DRAINAGE	Sloped sill	1	Sill

TOTAL WEIGHT (lbs)	**AVERAGE WEIGHT** (lbs/ft^2)
97	4.48

Photographs are included in Section 11.

The client did not supply a report drawing of the test specimen.

intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR THERMA-TRU CORPORATION

Report No.: K7952.01-113-11-R2
Revision 2 Date: 04/12/22 Date: 03/25/20

SECTION 10

TEST RESULTS

K7952.01A DATA

SPECIMEN AREA	1.99 m²	**RECEIVE TEMP.**	20.4 °C	**SOURCE TEMP**	20.8 °C
TECHNICIAN	Andrew M Jo	**RECEIVE HUMIDITY**	47%	**SOURCE HUMIDIT**	44%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% CONFIDENCE LIMIT	NUMBER OF DEFICIENCIES
80	39.6	6.5	103	75	24	1.70	-
100	37.1	6.7	104	76	24	1.80	-
125	37.3	5.8	105	76	24	1.23	0
160	40.2	5.7	107	79	23	0.90	0
200	38.8	5.1	107	80	23	0.79	0
250	32.2	5.6	103	78	20	0.50	3
315	26.1	5.9	103	74	24	0.52	2
400	22.9	6.1	102	70	27	0.53	2
500	19.8	6.4	102	66	31	0.57	0
630	20.2	6.1	102	67	30	0.26	1
800	20.3	6.3	101	66	30	0.36	2
1000	15.5	6.6	103	66	31	0.25	2
1250	11.5	7.1	100	65	30	0.34	4
1600	9.6	7.5	99	65	28	0.27	6
2000	9.1	8.0	100	67	27	0.13	7
2500	8.6	9.2	101	59	36	0.16	0
3150	9.4	10.9	99	53	39	0.20	0
4000	11.3	13.8	97	54	35	0.25	0
5000	12.4	17.8	97	49	39	0.25	-
STC RATING		30	*(Sound Transmission Class)*				
DEFICIENCIES		29	*(Sum of Deficiencies)*				
OITC RATING		27	*(Outdoor-Indoor Transmission Class)*				

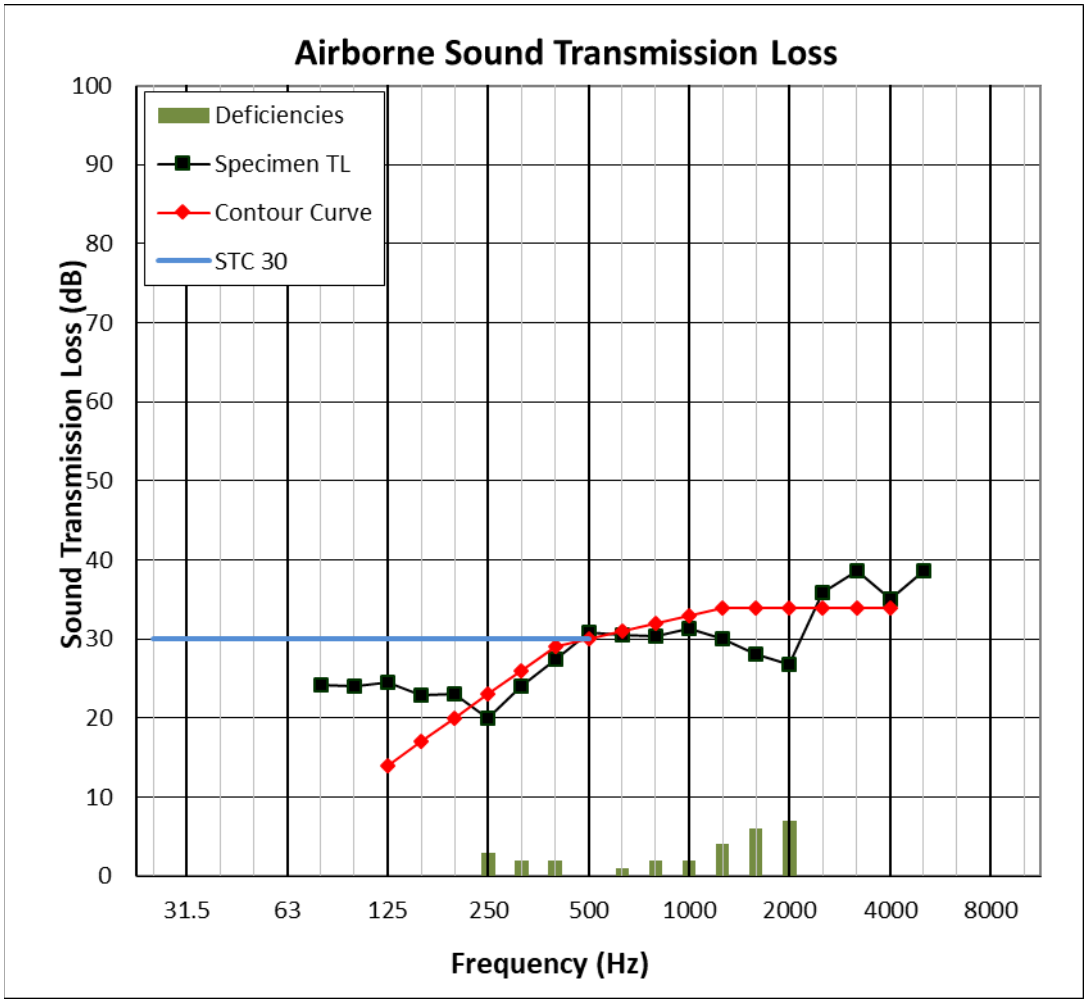
Notes: *1) Receive Room levels less than 5 dB above the Background levels are red.*
2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR THERMA-TRU CORPORATION
Report No.: K7952.01-113-11-R2
Revision 2 Date: 04/12/22 Date: 03/25/20

K7952.01A GRAPH



intertek
Total Quality. Assured.

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR THERMA-TRU CORPORATION

Report No.: K7952.01-113-11-R2
Revision 2 Date: 04/12/22 Date: 03/25/20

K7952.01A1 DATA

SPECIMEN AREA	1.99 m²	**RECEIVE TEMP.**	20.4 °C	**SOURCE TEMP**	20.8 °C
TECHNICIAN	Andrew M Jc	**RECEIVE HUMIDITY**	47%	**SOURCE HUMIDIT**	44%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% CONFIDENCE LIMIT	NUMBER OF DEFICIENCIES
80	39.6	6.2	103	75	24	1.75	-
100	37.1	5.7	105	77	25	1.87	-
125	37.3	6.1	105	76	24	1.14	0
160	40.2	5.3	107	79	24	0.83	0
200	38.8	5.1	107	80	23	0.75	0
250	32.2	5.6	103	79	20	0.37	3
315	26.1	5.9	103	75	23	0.57	3
400	22.9	6.2	102	70	27	0.48	2
500	19.8	6.3	102	66	31	0.50	0
630	20.2	6.1	102	66	31	0.24	0
800	20.3	6.2	101	65	31	0.34	1
1000	15.5	6.5	103	66	31	0.23	2
1250	11.5	7.1	100	64	30	0.36	4
1600	9.6	7.5	99	65	28	0.26	6
2000	9.1	8.0	100	67	27	0.15	7
2500	8.6	9.2	101	59	36	0.12	0
3150	9.4	11.0	99	53	39	0.19	0
4000	11.3	13.8	97	52	36	0.22	0
5000	12.4	17.8	97	49	39	0.27	-
STC RATING		30	*(Sound Transmission Class)*				
DEFICIENCIES		28	*(Sum of Deficiencies)*				
OITC RATING		27	*(Outdoor-Indoor Transmission Class)*				

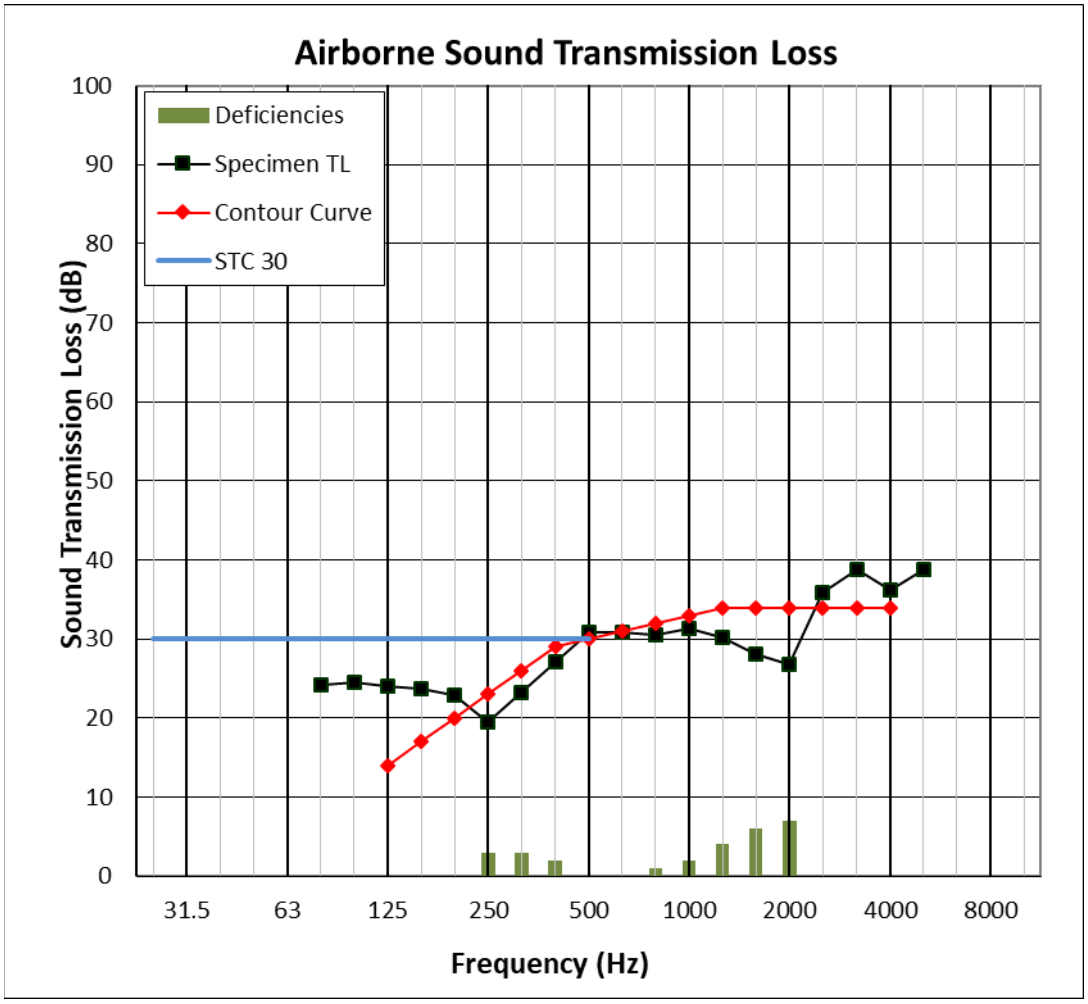
Notes: *1) Receive Room levels less than 5 dB above the Background levels are red.*
2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR THERMA-TRU CORPORATION
Report No.: K7952.01-113-11-R2
Revision 2 Date: 04/12/22 Date: 03/25/20

K7952.01A1 GRAPH



130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 11
PHOTOGRAPHS

Photo No. 1
Receive Room View of Installed Test Specimen

Photo No. 2
Source Room View of Installed Test Specimen

130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 12
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	03/25/20	N/A	Original Report Issue
1	05/08/20	1, 3, 6	Added flush glazed to Series/Model, and changed comments to state SMC skins
2	04/12/22	3, 7	Added Comments
2	04/12/22	All	Reformatted and changed total number of pages from 13 to 14