



ETC Laboratories

ETC Laboratories
Corporate Offices / Laboratories
297 Buell Road
Rochester, NY 14624
(585) 328-7668
Fax: (585) 328-7777

Insulated Glass Division
29633 Lakeland Blvd
Wickliffe, OH 44092-2203
(440) 944-3665
Fax: (440) 944-3671

Simulation Test Report

Rendered To:

Door & Access Systems Manufacturers Association
1300 Sumner Avenue
Cleveland, OH 44115

Productline Series/Model

Non-Insulated 5-Panel Garage Door (2" Thick)

Report Number

ETC-05-1005-16557.1

Report Number: ETC-05-1005-16557.1
 Job Number: ETC-05-1005-16557-3
 Simulation Date: January 15, 2006
 Report Date: January 15, 2006
 Revision Date: January 15, 2007

Simulation Report

Rendered To:

Door & Access Systems Manufacturers Association
 1300 Sumner Avenue
 Cleveland, OH 44115

Product Series/Model	Operating Type	Model Size (in x in)
Non-Insulated 5-Panel Garage Door (2" Thick)	Garage Door	120 x 120

Door Description

Item	Unit	Value
Skin Material	-	24 Gauge Galvanized Steel (Painted)
Insulation	-	None
Number of Panels/Sections	-	5
Height of Panel/Section	in.	24
Glazing Sections	-	None

Results

Item	Unit	Value
Simulated U-Factor	Btu/hr-ft²-°F	1.17

Software Used

THERM 5.2
 Excel Area Weighting Spreadsheet

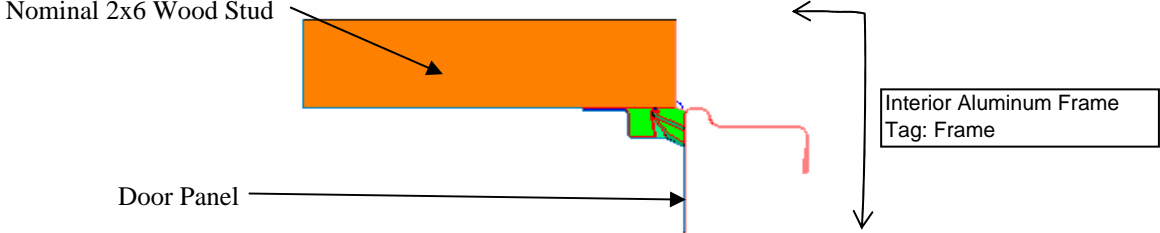
Assumptions

- Nominal 2x8 wood stud is used in the bottom rail simulation model, and nominal 2x6 wood stud is used in the stile and top rail simulation models.
- Rollers, center hinges and end hinges are non-continuous and thus are not included in the simulation. The torsion spring assembly is also not included in the simulation.
- Door core model is combined with the meeting rail model.
- See simulation model figures for interior boundary condition details.
- Emissivity of painted steel door skin material is 0.9.

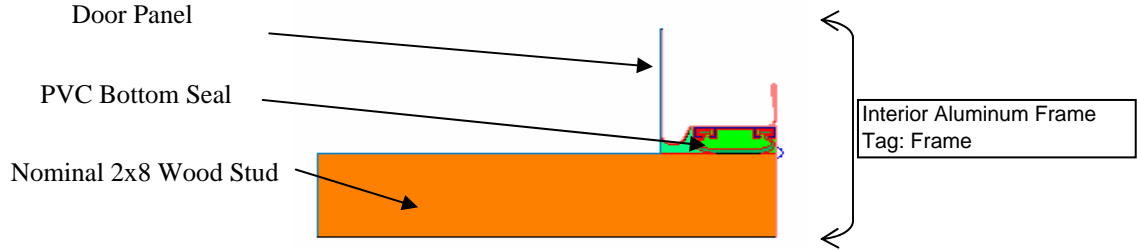
Simulation Models

Report Number: ETC-05-1005-16558.0

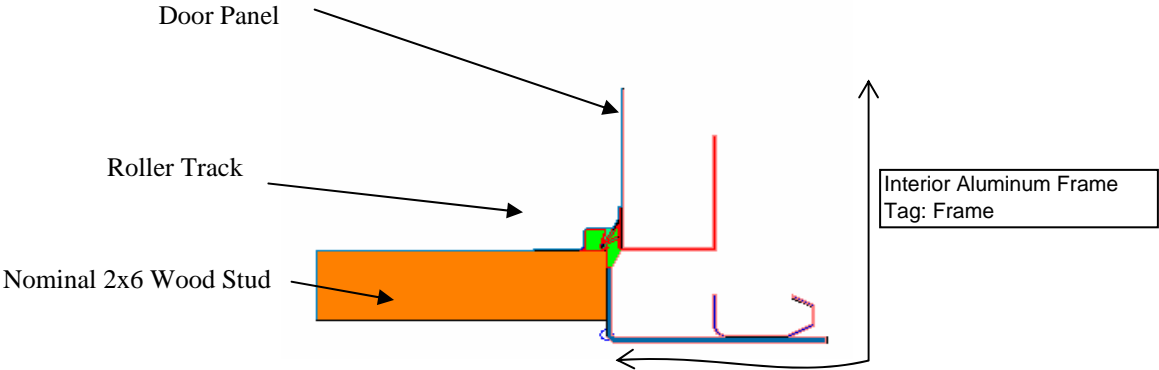
Top Rail Model:



Bottom Rail Model:



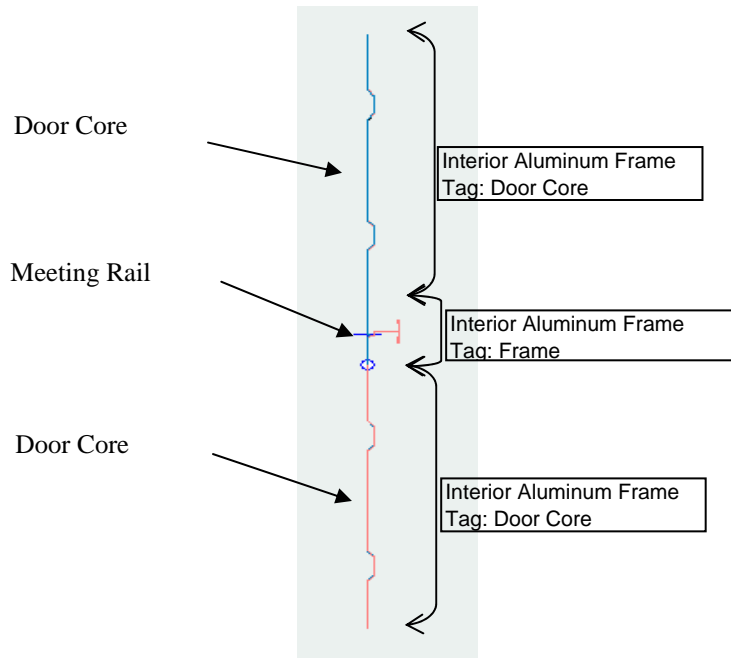
Stile Model:



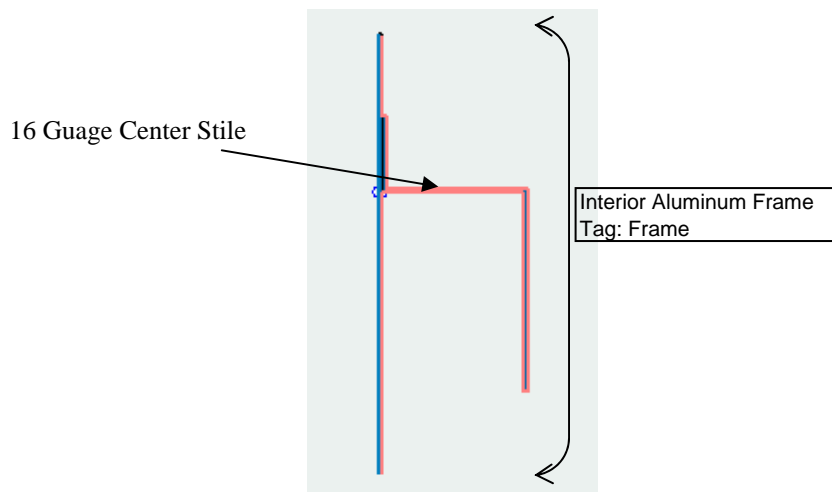
Simulation Models

Report Number: ETC-05-1005-16558.0

Meeting Rail and Door Core Model:



Center Stile Model:



Report Number: ETC-05-1005-16557.1

Conditions, Terms, and General Notes Regarding The Simulation

The individual products were simulated using NFRC approved programs THERM 5.2. All window specifications were received from drawings and bill of materials supplied by the manufacturer. This report may not be reproduced except in full, without the approval of ETC Laboratories. This report relates only to the items simulated. Rounding is per NFRC unit conversion and rounding Policy.

ETC Laboratories makes no opinions or endorsements regarding this product and its performance. ETC Laboratories letters, reports, its name or insignia or mark are for the exclusive use of the client so named herein and any other use is strictly prohibited. The report, letters and the name of ETC Laboratories, its seal or mark shall not be used in any circumstance to the public or in any advertising.

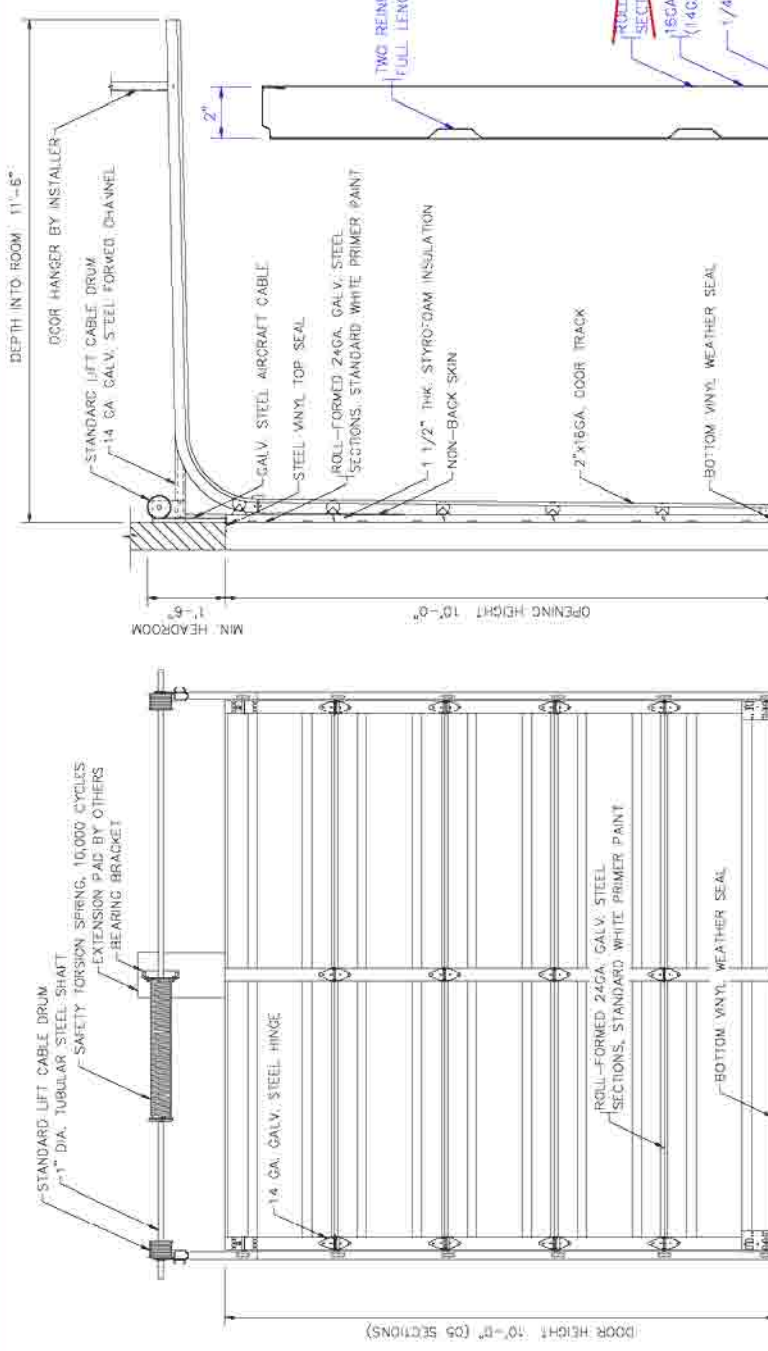
Limitation of Liability: Due diligence was used in rendering the professional opinion. By acceptance of this report, the client agrees to hold harmless and indemnify ETC Laboratories, Inc. from and against all liability, claims, and demands of any kind whatsoever, which arise out of or in any manner connected with the performance of the work referred to herein.

FOR ETC LABORATORIES

Gurjinder Singh, Simulation Engineer, NFRC Certified Simulator
Thermal Simulation Department

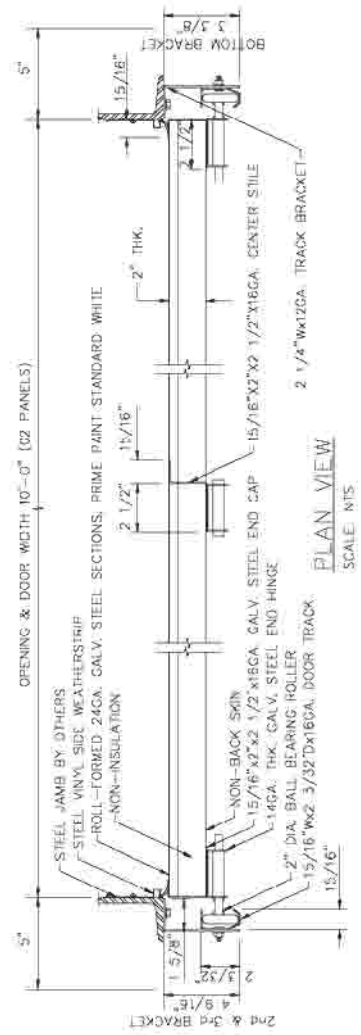
SC 2400NI DOOR

OPENING SIZE	10'-0" x 10'-0"
DOOR SIZE	10'-0" x 10'-0"
QUANTITY	01
NO. OF PANELS	02
NO. OF SECTIONS	05
STEEL SECTIONS	SC 2400NI SERIES
EXTERIOR SKIN	24GA. GALV. STEEL
INTERIOR SKIN	NIL
INSULATION	NIL
TORSION SPRING	QT SPRING AT 10,000 CYCLES
DOOR TRACK	2" x 16GA. GALV. STEEL
STEEL SHAFT	1" DIA. TUBULAR STEEL SHAFT
TRACK BRACKET	12GA. GALV. STEEL ANGLE
END HINGE	SINGLE 14GA.
WEATHERSTRIP	STEEL VINYL PERIMETER WEATHERSTRIP
TRACK SYSTEM	STANDARD LIFT
PRIMER PAINT	STANDARD WHITE FOR 24GA. SECTIONS
OPERATION	MANUAL



SECTION VIEW
SCALE: NTS

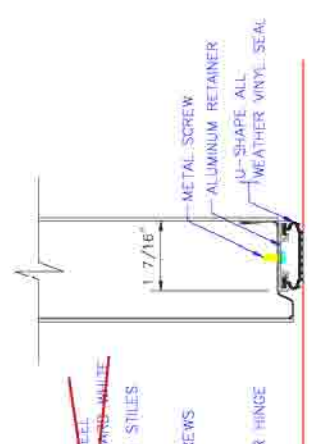
INTERIOR ELEVATION
SCALE: NTS



24GA. SECTION DETAILS
SCALE: NTS

NOTE:

- DIMENSIONS SHOWN ARE MINIMUM REQUIRED FOR THE PRODUCT
- INSTALLATION, PLEASE VERIFY PRIOR TO APPROVAL
- DOOR IS SUPPLIED BY STEEL-CRAFT DOOR PRODUCTS LTD
- DOOR IS INSTALLED BY OTHERS
- STEEL JAMBS AND JAMB EXTENSIONS ARE SUPPLIED AND INSTALLED BY OTHERS.



BOTTOM WEATHER SEAL DETAILS
SCALE: NTS

STEEL-CRAFT DOOR PRODUCTS LTD.
EDMONTON, ALBERTA

JOB: DASMA

FIRM: ETC LABORATORIES

ATT: GURJINDER SINGH

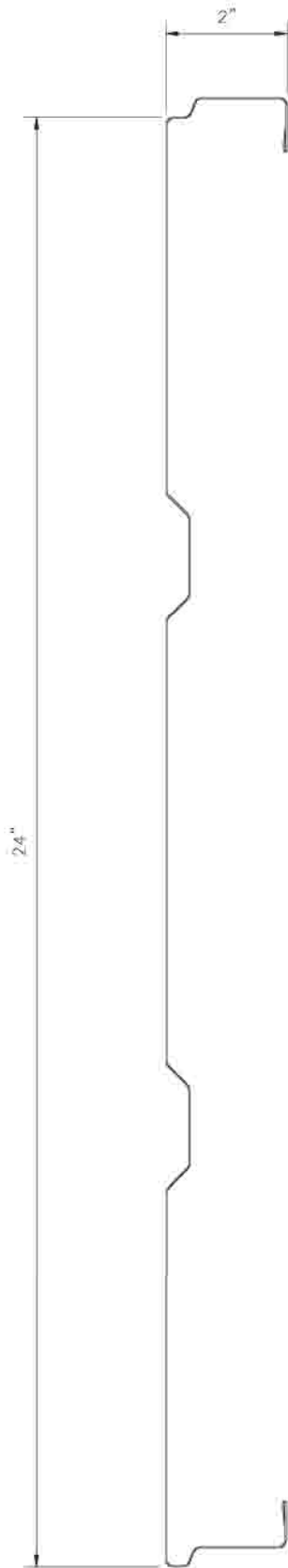
DIST: MANUFACTURE

DATE: 09-01-06

SCALE: AS NOTED

DRN BY: H. LIEU

DRG NO: 20050951R



SECTION DETAILS

SCALE: FULL SIZE FILE: 24CASECTION

Product: Non-Insulated Garage Door (DWG No. 20050951R)
 Width: 120 in
 Height: 120 in
 Number of Panels/Sections: 5

	Area	U-Factor	A*U
Top Rail:	391.47	1.13	441.73
Bottom Rail:	411.49	1.07	438.95
Stile:	1320.76	1.17	1551.32
MT:	2072.35	1.47	3044.38
Core:	9598.39	1.09	10445.93
Center Stile:	605.54	1.47	889.88

Total U-Factor: 1.17 Btu/hr-ft²-F

