The Florida Department of Community Affairs
Building Code Information System

PRODUCT APPROVAL

Product Type Detail

Overview | Product Search | Organization Search | Product Application

User: Public User - Not Associated with Organization -

Need Help ?

Application #:	FL2267
Date Submitted:	04/01/2004
Product Manufacturer:	Wheeling Corrugating Company
Address/Phone/email:	1134 Market Street Wheeling, WV 26003
Technical Representative:	David W. Boltz
Technical Representative Address/Phone/email:	1134 Market Street Wheeling, WV 26003 boltzdw@wpsc.com
Category:	Roofing
Subcategory:	Non-structural Metal Roofing
Evaluation Method:	Evaluation Report from a Florida Registered Architect or Florida Professional Engineer

Referenced Standards from the Florida Building Code:	Section	Standard	Year
	1507.5	UL 580	1994

Florida Engineer or Architect Name:	James L. Buckner
Florida License:	PE-31242
Quality Assurance Entity:	Underwriters Laboratories Inc.
Validation Entity:	Warren W. Schaefer, P.E.
Authorized Signature:	James Buckner jimmy@cbuckinc.net
Evaluation/Test Reports Uploaded:	PTID 2267 T 0- SV 29GaSteelOnWood 26in EVALREPORT.pdf PTID 2267 T 0-

CenturyDrain_29GaSteelOnWood_36in_EVALREPORT.pdf
PTID 2267 T 0-
R_29GaSteelOnWood_36in_EVALR EPORT.pdf
PTID 2267 T 1-5V_29GaSteelOnWood_26in_AP1_TP.pdf
PTID 2267 T 1-
CenturyDrain_29GaSteelOnWood_36in_AP1_TP.pdf
PTID 2267 T 1-R_29GaSteelOnWood_36in_AP1_TP.pdf
PTID 2267 T 2-CertificationofIndependence.pdf
PTID 2267 T 3-
5V_29GaSteelOnWood_26in_AP3_QA.pdf
PTID 2267 T 3-
CenturyDrain_29GaSteelOnWood_36in_AP3_QA.pdf
PTID 2267 T 3-R_29GaSteelOnWood_36in_AP3_QA.pdf
PTID 2267 T 4-5V_29GaSteelOnWood_26in_AP4_UL.pdf
PTID 2267 T 4-
CenturyDrain_29GaSteelOnWood_36in_AP4_UL.pdf
PTID 2267 T 4-R_29GaSteelOnWood_36in_AP4_UL.pdf

Installation Documents Uploaded:

Product Approval Method: Method 1 Option D

Application Status: Approved
Date Validated: 04/06/2004

Page:
Go

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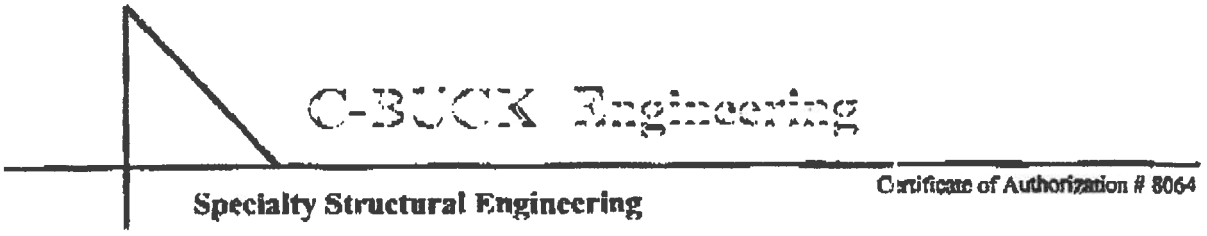
App/Seq #	Product Model # or Name	Model Description
2267.1	"5V" Roof Panel	29 Gauge Steel over Wood Deck
2267.2	"CenturyDrain" Roof Panel	29 Gauge Steel over Wood Deck
2267.3	"R" Roof Panel	29 Gauge Steel over Wood Deck

Next



Evaluation Report

of

Wheeling Corrugating Co. "Century Drain" Steel Roof Assembly

for

Florida Product Approval

 # FL 2267.2

Florida Building Code 2001

Method: 1 - D

Category: Roofing

Sub - Category: Non – Structural Metal Roofing

Product:	***Century Drain Panel***
Material:	***Steel***
Panel Thickness:	***29 gauge***
Panel Width:	***36"***
Deck Type:	***Wood***

Prepared for:
Wheeling Corrugating Company
1134 Market Street
Wheeling, WV 26003

Prepared by:
James L. Buckner, P.E.
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Report No. 04-132-CD-36-S9W
Date: 3 / 30 / 04

Contents:

1334 S. Killian Drive, Suite 4, West Palm Beach, Florida 33403
Phone: (561)491-9927 Fax: (561)491-9928 Email: cbuck@cbuckinc.net

FL #: FL 2267.2
Date: 3/30/04
Report No.: 04-132-CD-36-S9W
Page 2 of 5

C-BUCK Engineering

Specialty Structural Engineering

Certificate of Authorization # 8064

Manufacturer:	**Wheeling Corrugating Company**
Product Name:	**Century Drain**
Panel Type:	**Steel, 29 gauge**
Panel Width(s)	**36"**
Deck Type:	**Wood**
Deck Description:	Plywood – Minimum 15/32" thick, APA rated Oriented Strand Board – Minimum 7/16" thick, APA rated
Slope Range:	3 : 12 or greater
Design Uplift Pressure:	**52.5 psf** (Safety Factor of 2 : 1)
Attachment To Deck:	Panels shall be attached to the deck with **#9-15 x 1" long sharp point corrosion resistant screws with a hex-washer head and a sealing washer.** Screws to penetrate through deck a minimum of 3/16".
Underlayment:	Minimum underlayment shall be per Section 1507.3.8.
Fire Classification:	This system has a Class B fire rating, as specified in Section 1505.3 and Table 1507.3.9.2 of the Florida Building Code. A Class A fire rating may be obtained with the use of additional approved substrates
Metal Panels:	Install the **"CenturyDrain Roof Panel"** to the deck with **panel fasteners spaced at a maximum of 12" o.c. along one side of each rib except at panel overlap locations where fasteners are to be spaced 12" o.c. and located on both sides of the lap.** Install system in compliance with the current published installation instructions and details in the **Wheeling Corrugating Company Metal Roofing Panel** Installation Manual.

C-BUCK Engineering

Certificate of Authorization # 8064

Specialty Structural Engineering

Material Standards: Material shall comply with Table 1507.5.3

Performance Standards: UL 580-94 Uplift Resistance engineering data.

Code Compliance: The product described herein has demonstrated compliance with the Florida Building Code, Section 1507.5.

System Limitations: Increased design pressures at perimeter and corner areas, in compliance with Florida Building Code, Chapter 16, may be met through rational analysis by increasing the number of attachment points in these areas. The maximum fastener spacing listed herein shall not be exceeded. All rational analysis computations shall be prepared by a qualified design professional, as required by Florida Building Code, Section 104.

Appendixes:

1. Test Pressure Analysis
   File Name: CD_29GaSteelOnWood_36in_AP1_TP

2. Certification of Independence
   File Name: CertificationofIndependence

3. Quality Assurance
   File Name: CD_29GaSteelOnWood_36in_AP3_QA

4. UL 580 Test
   Underwriters Laboratories, Inc., File #R20684, Report Date: 9/24/01
   File Name: CD_29GaSteelOnWood_36in_AP4_UL

FL #: FL 2267.2
Date: 3/30/04
Report No.: 04-132-CD-36-S9W
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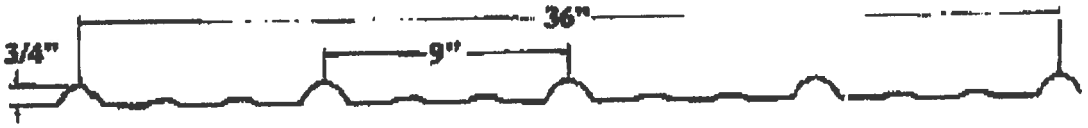
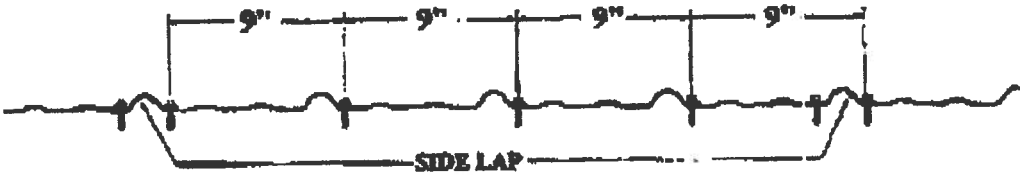
C-BUCK Engineering
Specialty Structural Engineering
Certificate of Authorization # 8064

INSTALLATION METHOD
Wheeling Corrugating Co. "CenturyDrain" ATTACHED TO WOOD DECK



FASTENER LOCATION



Panel Profile

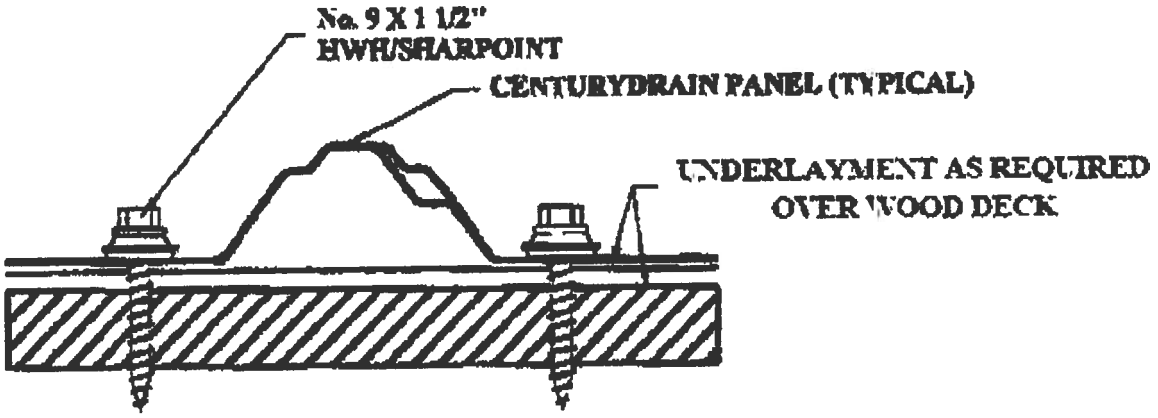
FL #: FL 2267.2
Date: 3/30/04
Report No.: 04-132-CD-36-S9W
Page 5 of 5

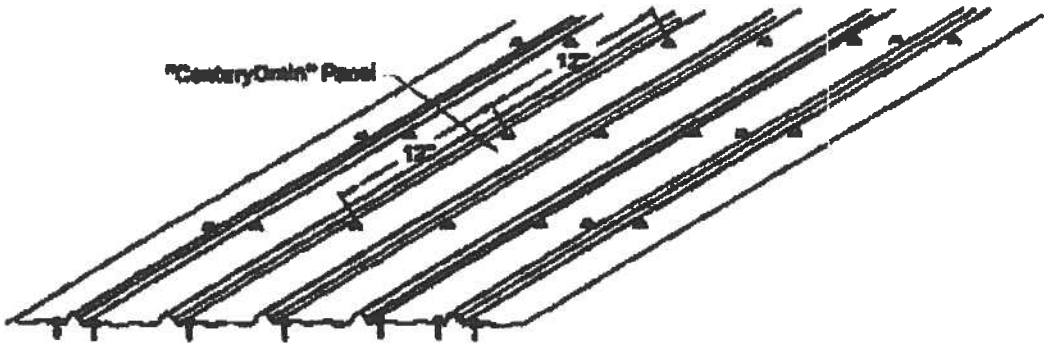
C-BUCK Engineering

Specialty Structural Engineering

Certificate of Authorization # 8064

INSTALLATION METHOD (cont.)
Wheeling Corrugating Co. "CenturyDrain" ATTACHED TO WOOD DECK





C-BUCK Engineering

Specialty Structural Engineering

APPENDIX 1

EVALUATION REPORT

TEST PRESSURE ANALYSIS

Page 1 of 1
DATE: 3 / 30 / 04
C04-13?-CD-36-S9W-TP

MANUFACTURER: WHEELING CORRUGATING CO.
PRODUCT: "CENTURYDRAIN" PANEL
MATERIAL: STEEL, 29 GA
WIDTH: 36"

SUMMARY OF UPLIFT PRESSURE:

UL 580 TEST BY UNDERWRITERS LABORATORIES, INC.
CONSTRUCTION NO.: 584. DATE: 3 / 17 / 04
RESULTS: UL CLASS 90

PER TAS 125-03 SEC. 8.9
COMBINED TEST PRESSURE = 105 PSF

CALCULATE MINIMUM DESIGN PRESSURE:

MARGIN OF SAFETY 2 : 1 REFERENCE: FBC, 125-95, SECTION 5.2.1

$$DP := \frac{105}{2}$$

$DP = 52.5$ PSF MAXIMUM DESIGN PRESSURE

ROOFING MATERIALS AND SYSTEMS DIRECTORY 2004

This Directory contains all Listings and Classifications in effect as of December 12, 2003 for product categories covered.

UL Online Certifications Directory Listings and Classifications are updated daily. To confirm the current status of any UL record, please consult UL's Online Directory at www.ul.com.

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ISBN-0-7629-0930-7

Introduction

This Directory contains the names of companies authorized to use the UL Mark on or in connection with products which have been evaluated by UL and found to be in compliance with UL's requirements. These companies, as well as the manufacturers and submitters of the products, have entered into an Agreement with UL to use the UL Mark only on or in connection with products manufactured in compliance with UL's requirements. It should be noted that UL certified products of different makes or model designations are not necessarily equivalent in quality or performance.

The appearance of catalog or model numbers or other specific product designations in this Directory signifies that: (1) representative samples of these products have been submitted to UL and found to comply with the applicable requirements, and that (2) the manufacturer has been authorized to use the appropriate UL Mark on production that continues to comply with UL's requirements and is subject to UL's Follow-Up Service. Since manufacturers are not obligated to apply the UL Mark on all of their production, products which do not bear the UL Mark are not required by UL to comply with UL's requirements. Accordingly, the appearance of a company's name or a specific product designation in this Directory does not in itself assure that products so specified or identified are subject to UL's Follow-Up Service. The manufacturer's products are not subject to UL's Follow-Up Service unless they bear the UL Mark. Only those products bearing the appropriate UL Mark and the company's name, trade name, trademark or other authorized identification should be considered as being covered by UL's Listing or Classification and Follow-Up Service. The UL Mark provides evidence of listing or labeling which may be required by installation codes or standards.

Many of the products bearing the UL Mark incorporate components that bear the UL Recognized Component Mark . The Recognized Component Mark is applicable to components that are incomplete in construction features or limited in performance capabilities. The Recognized Component Mark does not provide evidence of listing or labeling which may be required by installation codes or standards.

This Directory contains Listings and Classifications in effect as of December 12, 2003 . Records of Listings and Classifications issued or withdrawn after this date will be found in UL's Listing Information database. In addition, Listings and Classifications issued after the effective date will be found in UL's Online Certifications Directory at www.ul.com and will appear in the next annual printed Directory.

Note: At the back of this Directory is important information about UL services for manufacturers and other clients, regulatory authorities, and consumers.

Installation and Use of Products Bearing the UL Mark

Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Listed or Classified products, equipment, systems, devices and materials.

Use of this Directory

This Directory includes the following:

- General Guide Information for each product category that includes references to the requirements used for the investigation of the products and the UL Mark to be used on the product;
- Information relating to limitations or special conditions applying to the product;
- Names of companies which are authorized to provide products bearing the UL Mark.

The companies whose names appear in this Directory may not be the manufacturer of the product, but are qualified to provide products that bear the UL Mark.

UL Listings and Classifications are arranged alphabetically in this Directory by product category and alphabetically by company name under each category. The four-letter code (shown in parenthesis) following each category title is the product category guide designation.

For attachment of plywood deck (Item 3) to joists (Item 5), fasteners to be min. No. 6 by 1-7/8 in. long bugle head screw or annular ring shank nails. Spacing to be 6 in. OC at plywood edges and 12 in. OC at intermediate supports.

When light gauge structural steel joists are used, fasteners to be No. 12 by 1-5/8 in. long with a Phillips head.

3. Substructure — (Plywood) - Plywood decking to be a nom 5/8 in. thick, exposure sheathing span C-D, 40/20 plywood. All butt joints to be sealed against leakage by using tape and/or caulk or with one-part urethane sealant.
4. Moisture Barrier — (Optional)(Not Shown) - Any suitable membrane to protect substructure (Item 3).
5. Joists — Joists spaced at 2 ft, 0 in. OC, may be one of the following:

A. Nom 2 by 6 in. wood joists No. 2, or better.

B. Nom 2 by 4 in. wood when used on a top cord of a wood truss, No. 2, or better.

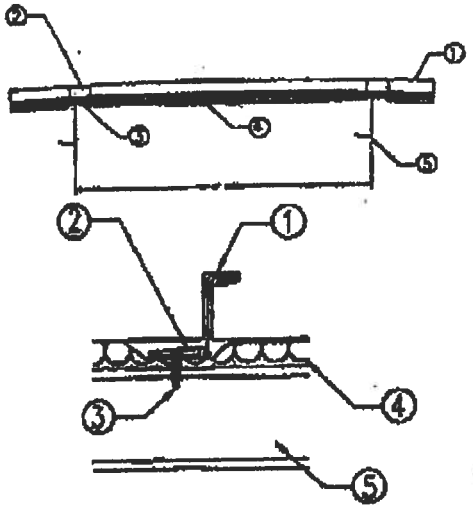
C. Light gauge structural steel framing with the member against the plywood to be a minimum No. 22 MSG coated steel.

Refer to general information, Roof Deck Construction, for items not evaluated.

*Bearing the UL Classification Mark

Construction No. 583

Uplift — Class 90
Fire Not Investigated



1. Metal Roof Deck Panels* — No. 28 MSG min thickness coated steel, 16 in. max width, rib height 2 in. Panels continuous over two or more spans. End lap to occur over purlins with panels overlapped 6 in. Panels may be mechanically curved at a radius between 20 ft and 100 ft, inclusive. A bead of sealant may be used at panel end and side laps. Side laps to be tightened and crimped with an electric crimping machine to a nominal 90 degree angle.
   NCI BUILDING SYSTEMS L.P.—"Curved BattenLok"
2. Roof Deck Fasteners* — (Panel Clip) - Either of the following: Fixed or Utility Clip - one piece assembly fabricated from 22 MSG min gauge steel, 3 in. wide. Floating Clip - two piece assembly with a base fabricated from 16 MSG min. gauge steel, 4-1/4 in. wide.
   NCI BUILDING SYSTEMS L.P.—"SuperLok" High or Low, Fixed or Floating; "SuperLok" Utility Clip
3. Fasteners — (Screws) - Screws used to attach panel clips (Item 2) to purlins (Item 5) to be 1/4 in. - 14 by 1-1/4 in. long, hex washer head, self drilling fasteners. Two fasteners per clip.
4. Insulation — (Optional) - Any compressible blanket insulation, 6 in. max thickness before compression.
5. Purlins — No. 16 MSG min. 0.056 thickness coated steel (min yield strength 40 ksi). Max spacing 60 in. OC.
6. Lateral Bracing — (Not Shown) - As required.

Construction No. 584

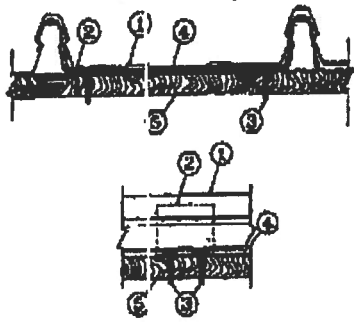
Uplift — Class 90
Fire Not Investigated

1. Metal Roof Deck Panels* — No. 29 MSG min. thick coated steel, 36 in. wide (cover width).
   WHEELING-PITTSBURGH STEEL CORP, DIV OF WHEELING CORRUGATING CO—"CenturyDeck"
2. Fasteners Screws — Fasteners used to attach the plywood deck to the joists to be 2 in. long, No. 8 coarse thread screws. Fasteners to be spaced 6 in. OC at the plywood joints over supports and 12 in. OC in the field of the plywood. Fasteners used to attach the panels to the deck to be No. 9-15 x 1 in. long sharp point screws with a low-washer head and sealing washer. Fasteners to be spaced a maximum of 12 in. OC along one side of each rib except at panel overlap locations where fasteners are to be spaced 8 in. OC and located on both sides of the lap.
3. Deck — Min 15/32 in. thick, Type C-D, APA rated plywood or minimum 7/16 in. thick oriented strand board.
4. Underlayment — Min. Type 15 asphalt saturated felt, min. 2 in. side-lap, attached per manufacturer's recommendations.
5. Joists — Graded dimension lumber, No. 2 or better. Spaced a maximum of 24 in. OC.

*Bearing the UL Classification Mark

Construction No. 586

Uplift — Class 90
Fire Not Investigated



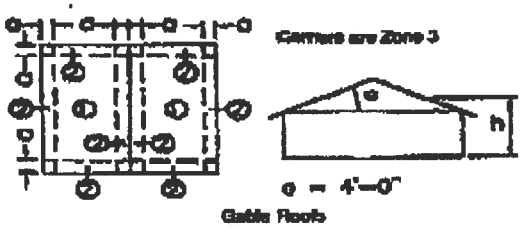
1. Metal Roof Deck Panels* — No. 24 MSG min gauge coated steel. Panel width 16 in., height 1-3/4 in. at female rib and center rib and 1-5/8 in. at male rib. Panels continuous over two or more spans with no end laps. A bead of sealant may be used at ribs.
   METAL SALES MFG CORP—"Clip Loc"
2. Roof Deck Fasteners* — (Panel Clips) — One piece assembly, 2-1/2 in. wide and 3 in. long with formed areas to engage panel side and center ribs. Fabricated from min. 20 MSG coated steel. Three guide holes located at clip ends. Clips spaced 24 in. OC.
   METAL SALES MFG CORP—"Clip Loc Clip"
3. Fasteners — (Screws)—Fasteners used to attach the panel clips (Item 2) to the plywood (Item 4) to be No. 10-12 by 2 in. long No. 2 Phillips Drive, washer head, coated steel, wood screws. Four screws used for each clip with two screws fastened into two inner guide holes at each clip end.
4. Plywood Deck — Nominal 5/8 in. thick (19/32 in. actual) plywood, CDX Grade, APA rated. Fastened to supports (joists) with No. 8 by 2-1/2 in. long No. 2 Phillips Drive, coarse thread coated steel screws. Spaced 6 in. OC at butt ends and 12 in. OC in field. All joints to be sealed with a one part urethane sealant fastened out from the joint.
5. Joists — (Not Shown) — Graded dimensional lumber, No. 2 or better. Spaced 24 in. OC max.

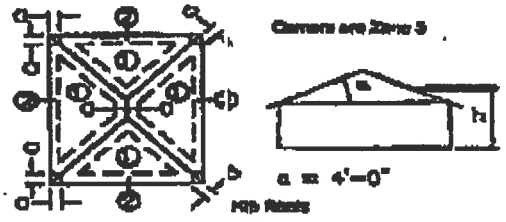
Fastening Schedule

Recommended Fastening Guide

Based on International Residential Code™ 2000*, Table R301.2(2) Component and Cladding Loads for a Building with a Mean Roof Height of 30 feet Located in Exposure B and Roof Slopes 10 to 30 degrees.

WIND (MPH)	ZONE (FORCE – PSF)	DECK	UP SLOPE FASTENER SPACING CENTURYDRAIN	SV
90	1 (-13.3)	7/16" OSB	24"	24"
		15/32" PLYWOOD	24"	24"
		19/32" PLYWOOD	24"	24"
	2, 3 (-28.2)	7/16" OSB	24"	20"
		15/32" PLYWOOD	24"	20"
		19/32" PLYWOOD	24"	24"
100	1 (-16.5)	15/32" PLYWOOD	24"	24"
		19/32" PLYWOOD	24"	24"
	2, 3 (-34.8)	15/32" PLYWOOD	18"	18"
		19/32" PLYWOOD	24"	20"
110	1 (-19.9)	15/32" PLYWOOD	24"	24"
		19/32" PLYWOOD	24"	24"
	2, 3 (-42.1)	15/32" PLYWOOD	12"	12"
		19/32" PLYWOOD	24"	18"
120	1 (-23.7)	15/32" PLYWOOD	24"	24"
		19/32" PLYWOOD	24"	24"
	2, 3 (-50.1)	15/32" PLYWOOD	12"	12"
		19/32" PLYWOOD	24"	15"
130	1 (-27.8)	15/32" PLYWOOD	24"	24"
		19/32" PLYWOOD	24"	24"
	2, 3 (-58.7)	15/32" PLYWOOD	12"	10"
		19/32" PLYWOOD	15"	12"





Fasteners are placed in the bottom flat adjacent to each rib as shown in Figure 6a. At eaves, laps, and ridges, the fasteners are placed on both sides of each rib as shown in figure 6b.

Figure 6a

Figure 6b

Note: In areas where local building code requirements exceed the above recommendation, the local code will govern.

Revised June 1, 2004

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C-BUCK Engineering

Specialty Structural Engineering

Design Information For METAL Roofs

GENERAL INFORMATION:

Date:		Project Name:	
Client:		Address:	
Contact:		Address Con't:	
Phone:		City/Permit Dept:	
Fax:		Occupancy Use:	
Cell:		Need By:	

PROJECT INFORMATION:

Job Type: New Roof ☐ Remove and re-roof ☐ Recover over existing ☐

Building Geometry:

Eave Height:		Slope:		Approx. Area: (SQ.)	
Ridge Height:		Building Width:			

Architectural Panel (Non-structural)	Deck:	Steel ☐	Gage:	Seam Type:
		Wood ☐	Thickness:	
		Other:		

Structural Panel	Purlin ☐	Gage:	Spacing:	Seam Type:
	Joist ☐	Thickness:	Spacing:	

Roof System:

MFG/Profile Name/ #:				Panel Width:	
Material	Steel ☐	Aluminum ☐	Other:		Thickness
Attachment	Clip & Screw ☐	Thru Screw ☐	Screw Size:	Preferred Brand:	
Product Approval # (Miami-Dade N.O.A., Florida P.A., FM, UL or ICC):					
Page Number:					
Design Code	FBC ☐	IBC ☐	ASCE 7- ☐	OTHER:	
If Specified, Project Wind Velocity:				Project Specified Design Loads - Attach Copy	

Notes:

"Official Web Site of Wheeling-Nisshin Inc."

Wheeling-Nisshin

Product Selections:

GALVALUME®
(Aluminum- Zinc Alloy Coated Steel)

- **Outstanding Flatness**
- **Excellent surface for paint applications**
- **Wide range of available sizes**

Sizes Thickness: 0.008" through 0.046" Width: 24" through 50"

ASTM Specifications ASTM A792 Commercial Steel, Forming Steel and Structural Steel. ***Please inquire about any specification other than ASTM.***

Coating Weight AZ50 AZ55 AZ60 ***(UL available)***

Coil Weight 10,000 lbs. max. through 55,000 lbs. max.

Coil ID 20" and 24"

After Treatment ***(upon request)*** **Chemical Treatment Oiling** ***(vanishing oil available)***

®GALVALUME is a registered trademark of BIEC International, Inc.

"Official Web Site of Wheeling-Nisshin Inc."

Wheeling-Nisshin

Product Selections:

Galvalume® Plus
Galvanized Plus

PRODUCT DESCRIPTION

Wheeling-Nisshin now offers two new products: GALVALUME® PLUS and GALVANIZED PLUS. Both substrates are coated with a thin, clear, chromated acrylic coating which not only creates a corrosion resistant sheet, but also eliminates any need for oil during rollforming. This acrylic coating also provides resistance to finger printing, hand printing, foot printing and smudging - a plus for installation and job-site cleanup.

IMPORTANT INFORMATION

1. MANUFACTURE: Wheeling-Nisshin applies this chromated acrylic on bare GALVALUME® and GALVANIZED sheet. This process is accomplished on the CGL in-line using a chemcoater. The chemcoater applies the acrylic using reverse roll-coating method similar to a prepaint line. The acrylic is then dried, eliminating the need for vanishing/standard oiling.

2. ACRYLIC SUPPLIER: Our current supplier is OAKITE. This product is called GARDOBOND PC 4610. The amount of chromate in this product is the same as is currently on our chemically treated product (F1), which is applied with a chromate concentration in the 1-2 mg/sq.ft. range.

3. ADVANTAGES:

- **Will not dry out/evaporate like typical vanishing oils.**
- **Can be rollformed dry without the need for additional lubricating oil.**
- **Increased productivity - can rollform with prepainted sheet on the same rollformer, without requiring extensive cleanup of rollforming dies.**
- **Resists finger/hand/ and foot printing during installation.**
- **Provides a bright appearance which will weather uniformity.**
- **Excellent transit and field storage performance without darkening or staining.**

4. WARRANTY:

- **GALVALUME® PLUS: Same warranty that currently applies to BARE GALVALUME® (20 year, 6 month).**
- **GALVANIZED PLUS: NONE (like bare galvanized sheet).**

5. PAINTABILITY:

- **Prepaint : Wheeling-Nisshin does not recommend that this product be prepainted. There are no paint warranties which cover this product.**
- **Field painting: With proper treatment, this product can be field painted.**

6. CLEANABILITY: This product should not be solvent cleaned.

7. INSTALLATION AT JOB SITE: Same care and compatibility as the chemically treated (bare) product.

8. PRECAUTIONS:

- **Acrylic-coated product must never be oiled. Oiling will decrease the coefficient of friction. Some solvents in the vanishing oil may affect the acrylic coating.**
- **Only mild, non-abrasive cleaners should be used.**
- **Removal of the acrylic using solvents or via damage/abrasion will result in substrate exposure and corrosion.**

®GALVALUME is a registered trademark of BIEC International, Inc.

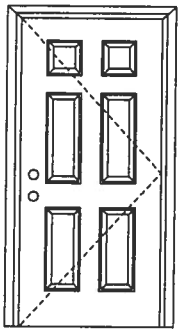
< Back to Top >

X
Opaque Outswing Unit

COP-WL-MA0121-02

FIBERGLASS DOORS

APPROVED ARRANGEMENT:



Note:
Units of other sizes are covered by this report as long as the panel used does not exceed 3'0" x 6'8".

Warnock Hersey

Test Data Review Certificate #3026447A; #3026447B; #3026447C and COP/Test Report Validation Matrix #3026447A-001, 002, 003; #3026447B-001, 002, 003; #3026447C-001, 002, 003 provides additional information - available from the ITS/WH website (www.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Single Door
Maximum unit size = 3'0" x 6'8"

Design Pressure
+76.0/-76.0
limited water unless special threshold design is used.

Large Missile Impact Resistance
Hurricane protective system (shutters) is REQUIRED.

Actual design pressure and impact resistant requirements for a specific building design and geographic location is determined by ASCE 7-national, state or local building codes specify the edition required.

MINIMUM ASSEMBLY DETAIL:

Compliance requires that minimum assembly details have been followed – see MAD-WL-MA0011-02.

MINIMUM INSTALLATION DETAIL:

Compliance requires that minimum installation details have been followed – see MID-WL-MA0001-02.

APPROVED DOOR STYLES:

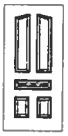

Flush


6-panel


New England 4-panel


Eyebrow 4-panel


9-panel


Eyebrow 5-panel with scroll

Oakcraft Wood-grain Textured FIBERGLASS ENTRY DOORS

ARTEK™ Non-Textured Fiberglass Entry Doors

PREMDOR Collection Premium Quality Doors

Exclusively from Masonite®
Masonite International Corporation

X
Opaque Outswing Unit

COP-WL-MA0121-02

FIBERGLASS DOORS

CERTIFIED TEST REPORTS:

NCTL 210-1973-1, 2, 3

Certifying Engineer and License Number: Ramesh Patel, P.E./20224

Unit Tested in Accordance with Miami-Dade BCCO PA202.

Door panels constructed from 0.075" minimum thick fiberglass skins. Both stiles constructed of 1-5/8" laminated lumber. Top end rails constructed of 31/32" wood. Bottom end rails constructed of 31/32" wood composite. Interior cavity of slab filled with rigid polyurethane foam core.

Frame constructed of wood with an extruded aluminum threshold.

PRODUCT COMPLIANCE LABELING:

TESTED IN
ACCORDANCE WITH
MIAMI-DADE BCCO PA202

COMPANY NAME
CITY, STATE

To the best of my knowledge and ability the above side-hinged exterior door unit conforms to the requirements of the 2001 Florida Building Code, Chapter 17 (Structural Tests and Inspections).

Kurt L Balthazor

State of Florida, Professional Engineer
Kurt Balthazor, P.E. – License Number 56533

Warnock Hersey

Test Data Review Certificate #3026447A; #3026447B; #3026447C and COP/Test Report Validation Matrix #3026447A-001, 002, 003; #3026447B-001, 002, 003; #3026447C-001, 002, 003 provides additional information - available from the ITS/WH website (www.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Oakcraft™ Wood-grain Textured FIBERGLASS ENTRY DOORS

ARTEK™ Non-Textured Fiberglass Entry Doors

June 17, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

PREMDOR Collection Premium Quality Doors

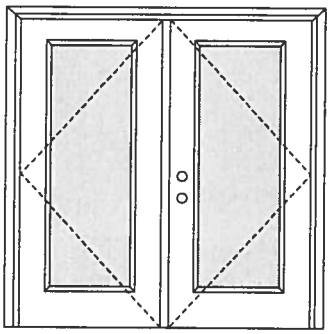
Exclusively from Masonite®
Masonite International Corporation

XX
Glazed Inswing Unit

COP-WL-MA0147-02

8'0" FIBERGLASS DOORS

APPROVED ARRANGEMENT:



Double Door
Maximum unit size = 6'0" x 8'0"

Warnock Hersey

Test Data Review Certificate #3026447A; #3026447B; #3026447C and COP/Test Report Validation Matrix #3026447A-001, 002, 003; #3026447B-001, 002, 003; #3026447C-001, 002, 003 provides additional information - available from the ITS/WH website (www.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Note:
Units of other sizes are covered by this report as long as the panels used do not exceed 3'0" x 8'0".

Design Pressure

+40.0/-40.0
Limited water unless special threshold design is used.

Large Missile Impact Resistance

Hurricane protective system (shutters) is REQUIRED.

Actual design pressure and impact resistant requirements for a specific building design and geographic location is determined by ASCE 7-national, state or local building codes specify the edition required.

MINIMUM ASSEMBLY DETAIL:

Compliance requires that minimum assembly details have been followed – see MAD-WL-MA0002-02 and MAD-WL-MA0041-02.

MINIMUM INSTALLATION DETAIL:

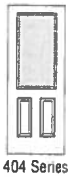
Compliance requires that minimum installation details have been followed – see MID-WL-MA0002-02.

APPROVED DOOR STYLES:

1/4 GLASS:

822 Series

1/2 GLASS:



404 Series

108 Series

Oakcraft Wood-grain Textured FIBERGLASS ENTRY DOORS

ARTEK Non-Textured Fiberglass Entry Doors

June 17, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

PREMDOR Collection Premium Quality Doors

Exclusively from Masonite®
Masonite International Corporation

XX
Glazed Inswing Unit

COP-WL-MA0147-02

8'0" FIBERGLASS DOORS

APPROVED DOOR STYLES:
FULL GLASS:


810 Series


852 Series


300 Series

CERTIFIED TEST REPORTS:

CTLA-805W

Certifying Engineer and License Number: Ramesh Patel, P.E./20224

Unit Tested in Accordance with Miami-Dade BCCO PA202.

Door panels constructed from 0.075" minimum thick fiberglass skins. Both stiles constructed of 1-5/8" laminated lumber. Top end rails constructed of 31/32" wood. Bottom end rails constructed of 31/32" wood composite. Interior cavity of slab filled with rigid polyurethane foam core. Slab glazed with insulated glass mounted in a rigid plastic lip lite surround.

Frame constructed of wood with an extruded aluminum threshold.

PRODUCT COMPLIANCE LABELING:

TESTED IN
ACCORDANCE WITH
MIAMI-DADE BCCO PA202

COMPANY NAME
CITY, STATE

To the best of my knowledge and ability the above side-hinged exterior door unit conforms to the requirements of the 2001 Florida Building Code, Chapter 17 (Structural Tests and Inspections).

Kurt L Balthy

State of Florida, Professional Engineer
Kurt Balthazor, P.E. – License Number 56533

Warnock Hersey

Test Data Review Certificate #3026447A; #3026447B; #3026447C and COP/Test Report Validation Matrix #3026447A-001, 002, 003; #3026447B-001, 002, 003; #3026447C-001, 002, 003 provides additional information - available from the ITS/WH website (www.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Oakcraft Wood grain Textured FIBERGLASS ENTRY DOORS

ARTEK Non-Textured Fiberglass Entry Doors

June 17, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

PREMDOR Collection Premium Quality Doors

Exclusively from Masonite®
Masonite International Corporation

AAMA/NWWDA 101/I.S.2-97
TEST REPORT SUMMARY

Rendered to:

MI HOME PRODUCTS, INC.

SERIES/MODEL: 650
TYPE: Aluminum Picture Window

Title of Test	Results
Rating	F-R45 60 x 80
Overall Design Pressure	+45.0 psf -47.2 psf
Air Infiltration	0.04 cfm/ft^2
Water Resistance	8.25 psf
Structural Test Pressure	+67.5 psf -70.8 psf
Forced Entry Resistance	Grade 10

Reference should be made to Report No. 01-41135.01 dated 03/26/02 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

Mark A. Hess, Technician

MAH:nlb

Allen N. Reeves
1 APRIL 2002

ALLEN N. REEVES
CERTIFICATE
No. 12[illegible]
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Architectural Testing

AAMA/NWWDA 101/I.S.2-97 TEST REPORT

Rendered to

MI HOME PRODUCTS, INC.
650 West Market Street
P.O. Box 370
Gratz, Pennsylvania 17030-0370

Report No: 01-41135.01
Test Date: 03/07/02
Report Date: 03/26/02
Expiration Date: 03/07/06

Project Summary: Architectural Testing, Inc. (ATI) was contracted by MI Home Products, Inc. to perform tests on Series/Model 650, aluminum picture window at their facility located in Elizabethville, Pennsylvania. The samples tested successfully met the performance requirements for a F-R45 60 x 80 rating.

Test Specification: The test specimen was evaluated in accordance with AAMA/NWWDA 101/I.S.2-97, *Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.*

Test Specimen Description

Series/Model: 650

Type: Aluminum Picture Window

Overall Size: 5' 0" wide by 6' 8" high

Daylight Opening Size: 4' 9-1/4" wide by 6' 5-1/4" high

Finish All aluminum was white.

Glazing Details: The test specimen utilized 7/8" thick, sealed insulating glass constructed from two sheets of 3/16" thick, clear annealed glass and a metal reinforced butyl spacer system. The glass was interior glazed against double-sided adhesive foam tape and secured with aluminum snap-in glazing beads.

130 Derry Court
York, PA 17402-9405
phone: 717.764.7700
fax: 717.764.4129
www.archtest.com

Allen M. Reeves
1 APR 12 2002

ALLEN M. REEVES
CERTIFICATE
NO. 11994
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

Frame Construction: The frame was constructed of extruded aluminum with coped, butted, and sealed corners fastened with two #8 x 1" screws through the head and sill into each jamb screw boss.

Reinforcement: No reinforcement was utilized

Installation: The test specimen was installed into a 2 x 8 #2 Spruce-Pine-Fir wood test buck. #8 x 2-1/2" installation screws were utilized 18" on center around the interior perimeter. Polyurethane was utilized to seal the exterior.

Test Results:

The results are tabulated as follows:

Paragraph	Title of Test - Test Method	Results	Allowed
	Air Infiltration (ASTM E 283-91) @ 1.57 psf (25 mph)	0.04 cfm/ft^2	0.3 cfm/ft^2 max.
	Water Resistance (ASTM E 547-00) WTP = 2.86 psf	No leakage	No leakage
2.1.4.1	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the jamb) (Loads were held for 33 seconds) @ 25.9 psf (positive) @ 34.7 psf (negative)	 0.01" 0.01"	 0.41" max 0.41" max.
2.1.4.2	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the jamb) (Loads were held for 10 seconds) @ 38.9 psf (positive) @ 52.1 psf (negative)	 0.0" 0.01"	 0.29" max. 0.29" max.

Note #1: The tested specimen meets the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration.

ALLEN H. REEVES
No. 13884
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Allen H. Reeves
1 APRIL 2002

Test Results: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
	Forced Entry Resistance (ASTM F 588-97)		
	Type: D Grade: 10		
	Hand and Tool Manipulation Test	No entry	No entry
Optional Performance			
4.3	Water Resistance (ASTM E 547-00) WTP = 8.25 psf	No leakage	No leakage
	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the jamb) (Loads were held for 33 seconds)		
	@ 45.0 psf (positive)	0.02"	0.41" max.
	@ 47.2 psf (negative)	0.02"	0.41" max.
	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the jamb) (Loads were held for 10 seconds)		
	@ 67.5 psf (positive)	0.01"	0.29" max.
	@ 70.8 psf (negative)	0.02"	0.29" max.

Detailed drawings, representative samples of the test specimen, and a copy of this report will be retained by ATI for a period of four years. The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

For ARCHITECTURAL TESTING, INC

Mark A. Hess
Technician

MAH:nlb
01-41135.01

Allen N. Reeves, P.E.
Director - Engineering Services
1 APRIL 2002

ALLEN N. REEVES
CERTIFICATE
NO. 39854
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

AAMA/NWWDA 101/I.S.2-97
TEST REPORT SUMMARY

Rendered to:

MI HOME PRODUCTS, INC.

SERIES/MODEL: 650 Fin
TYPE: Aluminum Single Hung Window

Title of Test	Results
Rating	H-R40 52 x 72
Overall Design Pressure	+45.0 psf -47.2 psf
Operating Force	11 lb max.
Air Infiltration	0.13 cfm/ft^2
Water Resistance	6.00 psf
Structural Test Pressure	+67.5 psf -70.8 psf
Deglazing	Passed
Forced Entry Resistance	Grade 10

Reference should be made to Report No. 01-41134.01 dated 03/26/02 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

Mark A. Hess, Technician

MAH:nlb

1 APRIL 2002

REEVES CERTIFICATE NO. 18354 STATE OF FLORIDA PROFESSIONAL ENGINEER

Architectural Testing

AAMA/NWWDA 101/I.S.2-97 TEST REPORT

Rendered to

MI HOME PRODUCTS, INC.
650 West Market Street
P.O. Box 370
Gratz, Pennsylvania 17030-0370

Report No: 01-41134.01
Test Date: 03/07/02
Report Date: 03/26/02
Expiration Date: 03/07/06

Project Summary: Architectural Testing, Inc. (ATI) was contracted by MI Home Products, Inc. to perform tests on Series/Model 650 Fin, aluminum single hung window at their facility located in Elizabethville, Pennsylvania. The samples tested successfully met the performance requirements for a H-R40 52 x 72 rating.

Test Specification: The test specimen was evaluated in accordance with AAMA/NWWDA 101/I.S.2-97, *Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.*

Test Specimen Description

Series/Model: 650 Fin

Type: Aluminum Single Hung Window

Overall Size: 4' 4-1/4" wide by 6' 0-3/8" high

Active Sash Size: 4' 1-3/4" wide by 3' 0-5/8" high

Daylight Opening Size: 3' 11-3/8" wide by 2' 9-1/2" high

Screen Size: 4' 0-1/4" wide by 2' 11-1/8" high

Finish: All aluminum was white.

Glazing Details: The active and fixed lites utilized 5/8" thick, sealed insulating glass constructed from two sheets of 1/8" thick, clear annealed glass and a metal reinforced butyl spacer system. The active sash was channel glazed utilizing a flexible vinyl wrap around gasket. The fixed lite was interior glazed against double-sided adhesive foam tape and secured with PVC snap-in glazing beads.

130 Derry Court
York, PA 17402-9405
phone: 717.764.7700
fax: 717.764.4129
www.archtest.com

Allen M. Reeves
1 APRIL 2002

ALLEN M. REEVES
No. 19354
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

Weatherstripping:

Description	Quantity	Location
0.230" high by 0.270" backed polypile with center fin	1 Row	Fixed meeting rail
0.250" high by 0.187" backed polypile with center fin	2 Rows	Active sash stiles
1/2" x 1/2" dust plug	4 Pieces	Active sash, top and bottom of stiles
1/4" foam-filled vinyl bulb seal	1 Row	Active sash, bottom rail

Frame Construction: The frame was constructed of extruded aluminum with coped, butted, and sealed corners fastened with two #8 x 1" screws through the head and sill into each jamb screw boss. End caps were utilized on the ends of the fixed meeting rail and secured with two 1-1/4" screws per cap. Meeting rail was secured to the frame utilizing two 1-1/4" screws.

Sash Construction: The sash was constructed of extruded aluminum with coped, butted, and sealed corners fastened with two #8 x 1-1/2" screws through the rails into each jamb screw boss.

Screen Construction: The screen was constructed from roll-formed aluminum with keyed corners. The fiberglass mesh was secured with a flexible spline.

Hardware:

Description	Quantity	Location
Metal cam lock with keeper		Midspan, active meeting rail with keeper adjacent on fixed meeting rail
Plastic tilt latch	2	Active sash, meeting rail ends
Metal tilt pin	2	Active sash, bottom rail ends
Balance assembly	2	One in each jamb
Screen plunger	2	4" from rail ends on top rail

Allen N. Reeves
1 APRIL 2002

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NO. 19[illegible]
STATE OF
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PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
2.2.1.6.2	Deglazing Test (ASTM E 987) In operating direction at 70 lbs		
	Meeting rail Bottom rail	0.12"/25% 0.12"/25%	0.50"/100% 0.50"/100%
	In remaining direction at 50 lbs		
	Left stile Right stile	0.06"/12% 0.06"/12%	0.50"/100% 0.50"/100%
	Forced Entry Resistance (ASTM F 588-97)		
	Type: A Grade: 10		
	Lock Manipulation Test	No entry	No entry
	Tests A1 through A5 Test A7	No entry No entry	No entry No entry
	Lock Manipulation Test	No entry	No entry
Optional Performance			
4.3	Water Resistance (ASTM E 547-00) (with and without screen) WTP = 6.00 psf	No leakage	No leakage
	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 33 seconds)		
	@ 45.0 psf (positive) @ 47.2 psf (negative)	0.47"* 0.46"*	0.26" max. 0.26" max.
	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 10 seconds)		
	@ 67.5 psf (positive) @ 70.8 psf (negative)	0.05" 0.05"	0.18" max. 0.18" max.

Exceeds L/175 for deflection, but passes all other test requirements.

Allen N. Reeves
1 APRIL 2002

ALLEN N. REEVES
CERTIFICATE NO. 19334
STATE OF FLORIDA
PROFESSIONAL ENGINEER

LEGACY REPORT

2202A

Issued October 1, 2003

ICC Evaluation Service, Inc.
www.icc-es.org

Business/Regional Office ■ 5360 Workman Mill Road, Whittier, California 90601 ■ (562) 699-0543
Regional Office ■ 900 Montclair Road, Suite A, Birmingham, Alabama 35213 ■ (205) 599-9800
Regional Office ■ 4051 West Flossmoor Road, Country Club Hills, Illinois 60478 ■ (708) 799-2305

The Subcommittee on Evaluation has reviewed the data submitted for compliance with the *Standard Building Code*©, the *SBCCI Standard for Hurricane Resistant Residential Construction*© *SSTD10*, the *International One and Two Family Dwelling Code*, and the *Florida Building Code-Building* and submits to the Building Official or other authority having jurisdiction the following report. The Subcommittee on Evaluation, ICC-ES and its staff are not responsible for any errors or omissions to any documents, calculations, drawings, specifications, tests or summaries prepared and submitted by the design professional or preparer of record that are listed in the Substantiating Data Section of this report. Portions of this report were previously included in Evaluation Report #2202.

REPORT NO.: 2202A

EXPIRES: See the current EVALUATION REPORT LISTING

CATEGORY: DOORS AND WINDOWS

SUBMITTED BY:

GENERAL AMERICAN DOOR COMPANY
5050 BASELINE ROAD
MONTGOMERY, ILLINOIS 60538
www.gadco.com

1. PRODUCT TRADE NAME

GADCO Garage Doors:

1.1 Liberty Series 4126
1.2 Series 4324
1.3 Series 4420
1.4 Series 4726
1.5 Independence-Series 7100
1.6 Plainsman-Series 7400
1.7 Americana-Series 7524
1.8 Series 7624
1.9 Pioneer-Series 7825
1.10 Series 7926
1.11 Freedom-Series 9001
1.12 Presidential Series

2. SCOPE OF EVALUATION

Structural - Transverse Wind Loads

3. USES

GADCO Garage Doors are used as garage doors with specified allowable wind pressures.

4. DESCRIPTION

4.1 General

GADCO residential garage doors are nominally 2 inches (51 mm) thick and have various heights and widths. With the exception of the Presidential Series, GADCO residential garage doors are fabricated from either roll formed 24, 25, or 26 gauge [0.024, 0.019, or 0.017 inch (0.6, 0.5, or 0.4 mm)] steel or 1¾ inches (44 mm) thick high-density polyethylene plastic panels framed with ASTM 6063-T6 aluminum extrusions. The steel is zinc coated deep drawing steel (DDS) with a minimum yield strength of 20 ksi (137.9 MPa) or commercial steel (CS) with a minimum yield strength of 30 ksi (206.9 MPa) per ASTM A 653 with a coating designation G40 or greater with a baked on prime coat and polyester topcoat applied to both sides and embossed with a wood grain texture.

All garage doors, unless otherwise noted, are horizontally reinforced for transverse wind loads with 2¼ or 3 inch (57 or 76 mm) horizontal strut U-bars roll formed from 20 gauge [0.036 inch (0.9 mm)] steel with a minimum yield strength of 50 or 80 ksi. These horizontal strut U-bars extend the width of the door.

Some garage doors are vertically reinforced for transverse wind loads with a vertical 3 inch (76 mm) aluminum alloy 6061 T-6 American Standard Channel designated as a Marko Fortress Post or GADCO Hurricane "I" Post which is activated when there is a hurricane warning.

4.2 Liberty Series 4126

Series 4126 is a ribbed panel roll formed steel door with a 26 gauge steel skin. Each section is reinforced with 20 gauge [0.036" (0.9 mm)] steel hat shaped 2¼ inch wide x 1⅜ inch deep (57 x 35 mm) vertical supports (stiles). The door can be optionally insulated with 1 inch (25 mm) 1 pcf (16 kg/m³) expanded polystyrene insulation with PTP backer. See Table 1 of this report for allowable wind loads.

4.3 Series 4324

Series 4324 is a ribbed panel roll formed steel door with a 24 gauge steel skin. Each section is reinforced with 20 gauge [0.036" (0.9 mm)] steel hat shaped 2¼ inch wide x 1⅜ inch deep (57 x 35 mm) vertical supports (stiles). The door can be optionally insulated with 1 inch (25 mm) 1 pcf (16 kg/m³) expanded polystyrene insulation with PTP backer. See Table 1 of this report for allowable wind loads.

4.4 Series 4420

Series 4420 is a ribbed panel roll formed steel door with a 20 gauge steel skin. Each section is reinforced with 20 gauge [0.036" (0.9 mm)] steel hat shaped 2¼ inch wide x 1⅜ inch deep (57 x 35 mm) vertical supports (stiles). The door can be optionally insulated with 1 inch (25 mm) 1 pcf (16 kg/m^3) expanded polystyrene insulation with PTP backer. See Table 1 of this report for allowable wind loads.

4.5 Series 4726

Series 4726 is a ribbed panel roll formed steel door with a 26 gauge steel skin. Each section is reinforced with 20 gauge [0.036" (0.9 mm)] steel hat shaped 2¼ inch wide x 1⅜ inch deep (57 x 35 mm) vertical supports (stiles). The door can be optionally insulated with 1 inch (25 mm) 1 pcf (16 kg/m^3) expanded polystyrene insulation with PTP backer. See Table 1 of this report for allowable wind loads.

4.6 Independence-Series 7100

The Series 7100 is a raised panel or flush roll formed steel door, with 26 gauge steel located on the exterior side and 29 gauge steel located on the interior. Both exterior and interior "steel skins" are bonded to 1⅞ inch (48 mm) thick expanded polystyrene 1 pcf (16.02 kg/m^3) density insulation with a polyurethane reactive hot melt (PURHM) adhesive. Each door section is reinforced externally with 20 gauge [0.036" (0.9 mm) min.] steel vertical supports (end stiles) and internally at the upper and lower horizontal edges with a 2 inch (51 mm) x 20 gauge [0.036" (0.9 mm) min.) steel strip bonded to the interior steel skin with PURHM or Surebond SB12 metal sealant adhesive. See Table 2 of this report for allowable wind loads.

4.7 Plainsman-Series 7400

The Series 7400 is a raised panel roll formed steel door with a 26 gauge steel skin. Each door section is reinforced with 20 gauge [0.036" (0.9 mm) min.) steel box shaped [2¼ inches wide x 1¾ inches deep (57 x 44 mm)] vertical supports (stiles). The door can be optionally insulated with 1½ inch (38 mm) thick 1 pcf (16.02 kg/m^3) expanded polystyrene insulation with PTP backer. See Tables 1 and 2 of this report for allowable wind loads.

4.8 Americana-Series 7524

The Series 7524 is a raised panel roll formed steel door with 24 gauge steel skin. Each door section is steel reinforced with 20 gauge [0.036" (0.9 mm) min.) steel box shaped [2¼ inches wide x 1¾ inches deep (57 x 44 mm)] vertical supports (stiles). The door can be optionally insulated with 1½ inch (38 mm) thick 1 pcf (16.02 kg/m^3) expanded polystyrene insulation with PTP backer. See Tables 1, 2, and 3 of this report for allowable wind loads.

4.9 Series 7624

Series 7624 is a raised panel roll formed steel door with a 24 gauge steel skin. Each section is reinforced with 20 gauge [0.036" (0.9 mm)] steel box shaped 2¼ inch wide x 1¾ inch deep (57 x 44 mm) vertical supports (stiles). The door can be optionally insulated with 1½ inch (38 mm) 1 pcf (16 kg/m^3) expanded polystyrene insulation with PTP backer. See Table 1 of this report for allowable wind loads.

4.10 Pioneer-Series 7825

The Series 7825 is a raised panel roll formed steel door with 25 gauge steel skin. Each door section is steel reinforced with 20 gauge [0.036" (0.9 mm) min.) steel. box shaped [2¼ inches wide x 1¾ inches deep (57 x 44 mm)] vertical supports (stiles). The door can be optionally insulated with 1½ inch (38 mm) thick 1 pcf (16.02 kg/m^3) expanded polystyrene insulation with PTP backer. See Tables 1, 2, and 3 of this report for allowable wind loads.

4.11 Series 7926

The 7926 Series is a raised panel roll formed steel door with 26 gauge steel skin over 1 pcf (16.02 kg/m^3) expanded polystyrene. Each door section is steel reinforced with 20 gauge [0.036" (0.9 mm) min.] steel box shaped [2¼ inches wide x 1⅛ inches deep (57 x 29 mm)] vertical supports (stiles). The door is insulated with ¾ inch (19 mm) thick expanded polystyrene 1 pcf (16.02 kg/m^3) insulation with PTP backer. The insulation is bonded to the exterior metal skin with PURHM adhesive. See Table 3 of this report for allowable wind loads.

4.12 Freedom-Series 9001

The Series 9001 is a raised panel plastic door constructed with 1¾ inch (44 mm) thick high density polyethylene panels framed with ASTM 6063-T6 aluminum extrusions and lined with an expanded polystyrene 1 pcf (16.02 kg/m^3) density insulation with PTP backer. See Table 3 of this report for allowable wind loads.

4.13 Presidential Series

The Presidential series wood sectional door is a nominal 2¾ inch (70 mm) thick composite panel consisting of front and back ¼ inch (6 mm) thick fir exterior plywood nailed and bonded to a 1 inch (25 mm) thick pine frame. The cavities formed by the 3¼ inch (83 mm) wide rails and vertical stiles are filled with a ¾ pcf (11.5 kg/m^3) expanded polystyrene sheet. Tee nuts are inserted into strategically placed holes for hardware and strut attachment prior to the bonding of the exterior paneling and batten boards. See Table 1 of this report for allowable wind loads.

5. INSTALLATION

The manufacturer's published installation instructions, drawings, and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the job site during installation.

TABLE 1
MAXIMUM ALLOWABLE TRANSVERSE WIND LOAD

MODEL SERIES	MAX. DOOR WIDTH	MAX. DOOR HEIGHT	DRAWING NUMBER	MAX ALLOWABLE POS/NEG LOAD	MIN. NO. OF REINF. STRUTS PER DOOR PANEL[1]	MAXIMUM SPACING OF JAMB BRACKETS[6]
4126, 4324, 4420, 4726, 7400, 7524, 7624, 7825	16 ft. 0 in.	14 ft. 0 in.	W13920	20 psf	1[2]	19½"
4126, 4324, 4420, 4726, 7400, 7524, 7624, 7825	16 ft. 0 in.	16 ft. 0 in.	W13830	31 psf	2[3]	12"
4126, 4324, 4420, 4726, 7400, 7524, 7624, 7825	16 ft. 0 in.	16 ft. 0 in.	W14038	38 psf	3[4]	12"
4126, 4324, 4420, 4726, 7400, 7524, 7624, 7825	18 ft. 0 in.	8 ft. 1½ in.	W14257	57 psf	1[2,5]	12"
Presidential Series	10 ft. 0 in.	8 ft. 0 in.	W14350	50 psf	1	12"

SI: 1 inch = 25.4 mm; 1 psf = 47.88 Pa

1. All horizontal strut U-bars are 3 inches and have a yield strength of 80 ksi.
2. Bottom panel shall have 2 struts.
3. Top and bottom panels shall have 3 struts.
4. Top panel shall have 4 struts.
5. A vertical post located at mid-span is required.
6. Three jamb brackets are placed at the bottom panel; one bracket located approximately 3 inches from the floor, one bracket located at the horizontal centerline of the bottom panel, one bracket located at the top of the panel.

TABLE 2
MAXIMUM ALLOWABLE TRANSVERSE WIND LOAD

MODEL SERIES	MAX. DOOR WIDTH	MAX. DOOR HEIGHT	DRAWING NUMBER	MAX ALLOWABLE POS/NEG LOAD	HORIZONTAL REINFORCING STRUTS PER DOOR[1]	
					Qty[2]	Size
7100	10 ft. 0 in.	8 ft. 0 in.	W12320	20 psf	3	2¼ inches
7100	10 ft. 0 in.	8 ft. 0 in.	W12432	32 psf	5	2¼ inches
7100	10 ft. 0 in.	8 ft. 0 in.	W13737	37 psf	5	3 inches
7100	16 ft. 0 in.	8 ft. 0 in.	W12720	20 psf	6	3 inches
7100	16 ft. 0 in.	8 ft. 0 in.	W12837	37 psf	5	3 inches w/vert. post
7400, 7524, 7825	9 ft. 0 in.	7 ft. 0 in.	W13420	20 psf	4	3 inches
7400, 7524, 7825	9 ft. 0 in.	7 ft. 0 in.	W13532	32 psf	4	3 inches
7400, 7524, 7825	9 ft. 0 in.	7 ft. 0 in.	W13637	37 psf	4	3 inches
7400, 7524, 7825	16 ft. 0 in.	7 ft. 0 in.	W13220	20 psf	5	3 inches (80 ksi)
7400, 7524, 7825	16 ft. 0 in.	7 ft. 0 in.	W13325	25 psf	7	3 inches (80 ksi)

SI: 1 inch = 25.4 mm; 1 psf = 47.88 Pa

1. Unless otherwise indicated, all horizontal strut U-bars have a yield strength of 50 ksi.
2. The number of horizontal strut U-bars indicated are per door.

TABLE 3
MAXIMUM ALLOWABLE TRANSVERSE WIND LOAD

MODEL SERIES	MAX. DOOR WIDTH	MAX. DOOR HEIGHT	DRAWING NUMBER	MAX ALLOWABLE POS/NEG LOAD	HORIZONTAL REINFORCING STRUTS PER DOOR[1]	
					Qty[2]	Size
7524, 7825	9 ft. 0 in.	7 ft. 0 in.	W11520	20 psf	4	2¼ inches
7524, 7825	9 ft. 0 in.	7 ft. 0 in.	W11137	37 psf	4	3 inches
7524, 7825	9 ft. 0 in.	8 ft. 0 in.	W10737	37 psf	6	3 inches
7524, 7825	10 ft. 0 in.	8 ft. 0 in.	W12132	32 psf	5	3 inches
7524, 7825	16 ft. 0 in.	7 ft. 0 in.	W11220	20 psf	6	3 inches
7524, 7825	16 ft. 0 in.	7 ft. 0 in.	W10925	25 psf	8	3 inches
7524, 7825	16 ft. 0 in.	7 ft. 0 in.	W11037	37 psf	4	3 inches w/vert. post
7524, 7825	18 ft. 0 in.	8 ft. 0 in.	W10832	32 psf	5	3 inches w/vert. post
7926	10 ft. 0 in.	8 ft. 0 in.	W12520	20 psf	4	2¼ inches
7926	10 ft. 0 in.	8 ft. 0 in.	W12232	32 psf	5	3 inches
7926	16 ft. 0 in.	8 ft. 0 in.	W12920	20 psf	6	3 inches
7926	16 ft. 0 in.	8 ft. 0 in.	W13037	37 psf	5	3 inches (80 ksi w/vert. post)
9001	8 ft. 0 in.	8 ft. 0 in.	W11832	32 psf	4	3 inches
9001	8 ft. 0 in.	8 ft. 0 in.	W11937	37 psf	5	3 inches
9001	9 ft. 0 in.	7 ft. 0 in.	W11620	20 psf	4	2¼ inches
9001	10 ft. 0 in.	8 ft. 0 in.	W12037	37 psf	6	3 inches
9001	16 ft. 0 in.	7 ft. 0 in.	W11420	20 psf	8	3 inches
9001	16 ft. 0 in.	7 ft. 0 in.	W11337	37 psf	5	3 inches w/vert. post
9001	16 ft. 0 in.	8 ft. 0 in.	W13120	20 psf	8	3 inches (80 ksi)
9001	16 ft. 0 in.	8 ft. 0 in.	W12637	37 psf	6	3 inches w/vert. post
9001	18 ft. 0 in.	8 ft. 0 in.	W11737	37 psf	8	3 inches w/vert. post

SI: 1 inch = 25.4 mm; 1 psf = 47.88 Pa
1. Unless otherwise indicated, all horizontal strut U-bars have a yield strength of 50 ksi.
2. The number of horizontal strut U-bars indicated are per door.

6. SUBSTANTIATING DATA

6.1 Manufacturer's specifications, drawings, and installation instructions.

Engineering drawings prepared by General American Door Company, signed and sealed by Naser R. Keyvan, P.E.

Drwg #	Date	Page	Rev.#	Rev.Date
A10597	11/11/02	1	C	05/29/03
A10599	11/11/02	1	C	05/29/03
W10737	04/14/99	1 & 2	B	09/10/01
W10832	04/14/99	1, 2, & 3	E	11/29/01
W10925	04/14/99	1 & 2	B	09/10/01
W11037	04/14/99	1 & 2	E	11/29/01
W11037	04/14/99	3	D	09/10/01
W11137	04/14/99	1 & 2	B	09/10/01
W11220	07/26/99	1	B	10/29/99
W11220	07/26/99	2	None	
W11337	08/17/99	1, 2, & 3	E	10/25/01
W11420	09/21/99	1	B	10/29/99
W11420	09/21/99	2	None	
W11520	10/29/99	1	None	
W11520	10/29/99	2	B	12/01/99
W11620	10/29/99	1	A	11/10/99
W11620	10/27/99	2	A	11/24/99
W11737	12/21/99	1, 2, & 3	C	10/25/01
W11832	12/21/99	1 & 2	None	

Drwg #	Date	Page	Rev.#	Rev.Date
W11937	01/05/00	1 &2	None	
W12037	01/21/00	1 & 2	A	01/21/00
W12132	02/01/00	1 & 2	None	
W12232	02/14/00	1	A	02/25/00
W12232	02/14/00	2	None	
W12320	02/24/00	1	None	
W12320	02/24/00	2	A	03/02/00
W12432	02/28/00	1	None	
W12432	02/28/00	2	A	03/02/00
W12520	03/08/00	1 & 2	None	
W12637	03/29/00	1, 2, & 3	D	10/25/01
W12720	04/14/00	1 & 2	None	
W12837	05/01/00	1, 2, & 3	C	10/25/01
W12920	06/26/00	1	A	07/6/00
W12920	06/26/00	2	None	
W13037	07/27/00	1, 2, & 3	C	10/25/01
W13120	08/17/00	1 & 2	None	
W13220	10/20/00	1	A	11/10/00
W13220	10/20/00	2	B	12/01/00
W13325	11/07/00	1	A	11/10/00
W13325	11/07/00	2	B	12/01/00
W13420	12/01/00	1 & 2	None	
W13532	01/19/01	1 & 2	None	
W13637	02/13/01	1 & 2	None	
W13737	02/21/01	1 & 2	None	
W13830	06/26/02	1, 2, & 3	B	6/26/02
W13920	07/11/02	1, 2, & 3	B	7/11/02
W14038	08/09/02	1, 2, & 3	B	8/09/02
W14257	11/11/02	1, 2, 3, & 4	B	11/11/02
W14350	02/19/03	1, 2, &3	A	02/19/03

6.2 Test reports on load testing in accordance with ASTM E 330, prepared by Hurricane Test Laboratory, Inc., Job No. 0191-0309-99, signed by Vinu J. Abraham, P.E.:

Date	Specimen	Model #
March 15, 1999	3	7825
March 16, 1999	4	7825
March 17, 1999	6	7825
March 17, 1999	7	7825
March 18, 1999	8	7825
March 18, 1999	9	7825
March 19, 1999	10	7825

6.3 Test reports on load testing in accordance with ASTM E 330, prepared by Structural Evaluation Engineers, Inc., Job No. 1099A, signed and sealed by Naser R. Keyvan, P.E.:

Date	Test #	Model #
July 26, 1999	99158	7825
August 17, 1999	99229	9001 Reissued 10/29/01
September 21, 1999	99264	9001
October 20, 1999	99293	7825
October 26, 1999	99299	9001
December 14, 1999	99349	9001 Reissued 10/29/01
December 20, 1999	99354	9001
December 29, 1999	99363	9001
January 20, 2000	00021	9001
January 28, 2000	00028	7825
February 14, 2000	00045	7926
February 23, 2000	00054	7100
February 25, 2000	00056	7100
March 08, 2000	00068	7926
March 28, 2000	00088	9001 Reissued 10/29/01
April 13, 2000	00104	7100
April 28, 2000	00119	7100 Reissued 10/290/01
June 23, 2000	00175	7926
July 26, 2000	00208	7926 Reissued 10/29/01
August 10, 2000	00223	9001
October 19, 2000	00293	7400 Reissued 07/11/02
November 07, 2000	00312	7400
December 01, 2000	00336	7400
January 19, 2001	01019	7400
February 13, 2001	01044	7400
February 21, 2001	01052	7100
June 26, 2002	02177	7400 Reissued 8/19/02
August 09, 2002	02221	7400
November 20, 2002	02324	7400
February 19, 2003	03050	Presidential Series

7. CODE REFERENCES

Standard Building Code - 1999 Edition

Section 103.7	Alternate Materials and Methods
Section1606	Wind Loads
Chapter 17	Structural Tests and Inspections
Section1707.4	Exterior Window and Door Assemblies
Chapter 22	Steel
Section2201	Cold-Formed Steel Construction
Appendix J	Special Requirements for Buildings Constructed in Hurricane-Prone Regions

SBCCI Standard for Hurricane Resistant Residential Construction© SSTD10-99

Section 101.3	Integrity of Building Envelope
Section101.4	Alternate Materials and Methods
Section 101.6	Design Concepts
Section 104	Design Criteria
Section 104.1	Wind Loads
Chapter 6	Windows and Doors
Appendix B	Design Load Assumptions

International One and Two Family Dwelling Code - 1998 Edition

Section 108	Alternate Materials and Systems
Section 301	Design Criteria

Florida Building Code-Building - 2001 Edition

Section 103.7	Alternate Materials and Methods
Section 1606	Wind Loads
	High Velocity Hurricane Zones (Broward and Dade Counties)
Section 1611	General
Section 1619	Wind Loads
Section 1626	Impact Tests For Windborne Debris

8. COMMITTEE FINDINGS

The Subcommittee on Evaluation in review of the data submitted finds that, in their opinion, the GADCO Garage Doors as described in this report conform with or are suitable alternates to that specified in the *Standard Building Code*, the *SBCCI Standard for Hurricane Resistant Residential Construction© SSTD10*, the International One and Two Family Dwelling Code, and the Florida Building Code - Building or Supplements thereto.

9. LIMITATIONS

9.1 The structural elements supporting door track brackets shall be designed for the appropriate components and cladding wind loads. The calculations shall be submitted to the building official when applying for a permit. The calculations shall be signed and sealed where required by the code.

9.2 The Series 9001 is limited to detached and attached garages associated with one and two family dwellings.

9.3 Evaluation of the foam plastic use with the GADCO Garage Doors is outside the scope of this report.

9.4 Framing to which garage door tracks are attached shall be a minimum of No. 2 Southern Pine.

9.5 In wind-borne debris regions (Florida Building Code), use of GADCO Garage Doors containing glazing is outside the scope of this report.

9.6 In high velocity hurricane zones (Florida Building Code), use of GADCO Garage Doors is outside the scope of this report.

10. IDENTIFICATION

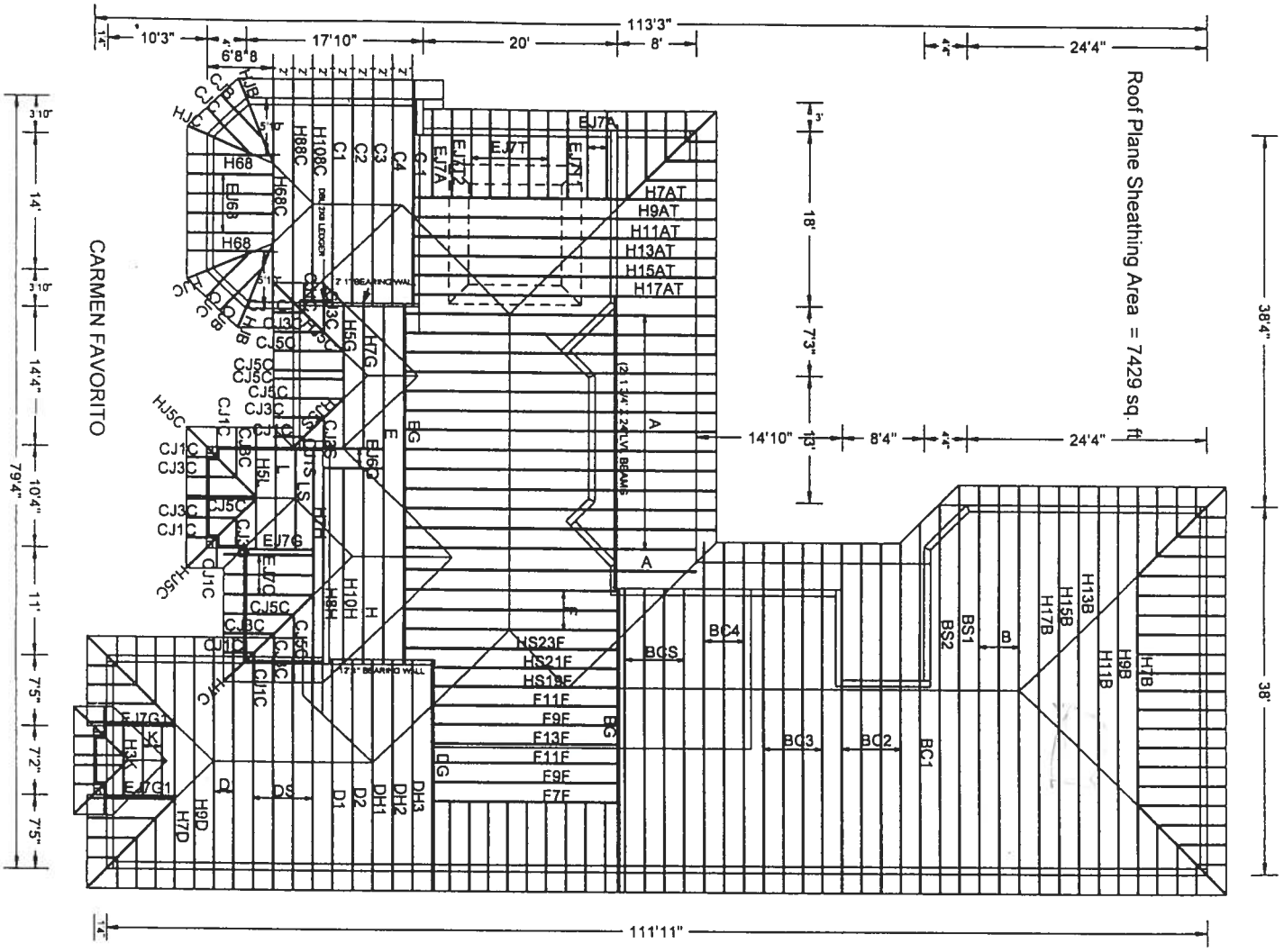
Each General American Door Company Garage Door covered by this report shall be labeled with the manufacturer's name and/or trademark, the SBCCI Public Safety Testing and Evaluation Services Inc. initials (SBCCI PST & ESI) or seal, and the number of this report for field identification.

11. PERIOD OF ISSUANCE

SEE THE CURRENT EVALUATION REPORT LISTING FOR STATUS OF THIS EVALUATION REPORT.

For information on this report contact:
Woods McRoy, P.E.
205/599-9800

Office



Approved for Layout Only
Truss Company Responsible for Structural Design
7/22/04
Robert Fultan, P.C. AR0014925

JOB NO:	DESIGNED BY:	JOB DESCRIPTION:	JOB LOCATION:
294		CARMEN FAVORITO	

PAGE NO: 1 OF 1