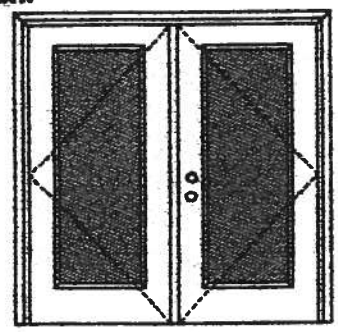
XX
Glazed Outswing Unit

COP-WL-JH4162-02

WOOD-EDGE STEEL DOORS

APPROVED ARRANGEMENT:



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

Double Door
Minimum unit size = 6'0" x 6'6"

Design Pressure
+40.5/-40.5
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-MA0012-02 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:


100 Series


133, 135 Series


136 Series


680 Series


822 Series

1/2 GLASS:


105 Series*


106, 160 Series*


129 Series*


200 Series*


12 RA, 23 RA, 24 RA Series*


107 Series*


108 Series


304 Series

*This glass kit may also be used in the following door styles: 5-panel; 5-panel with scroll; Eyebrow 5-panel; Eyebrow 5-panel with scroll.

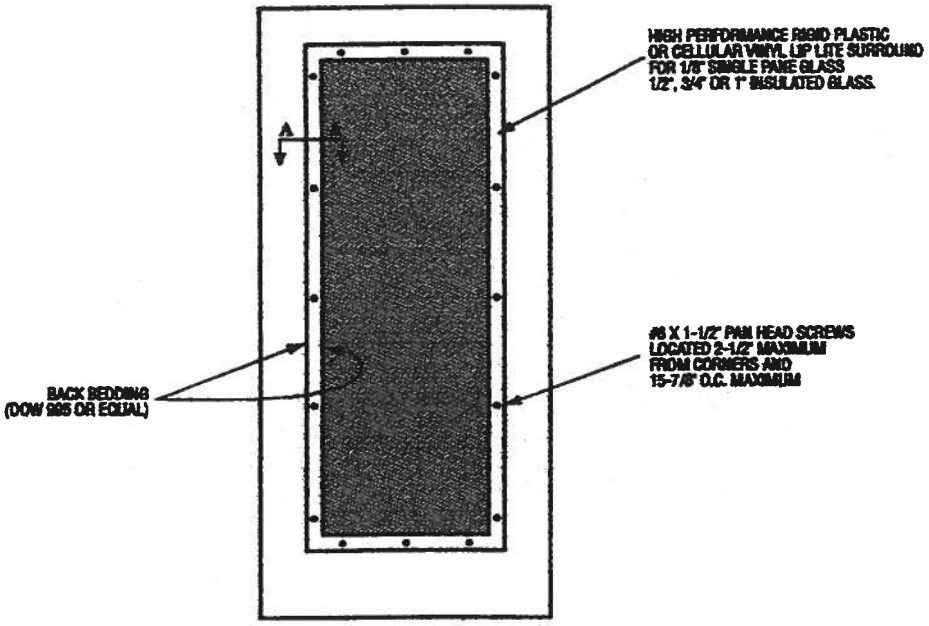
Johnson EntrySystems

March 29, 2002
Our continuing program of product improvement makes specifications, design and product details subject to change without notice.

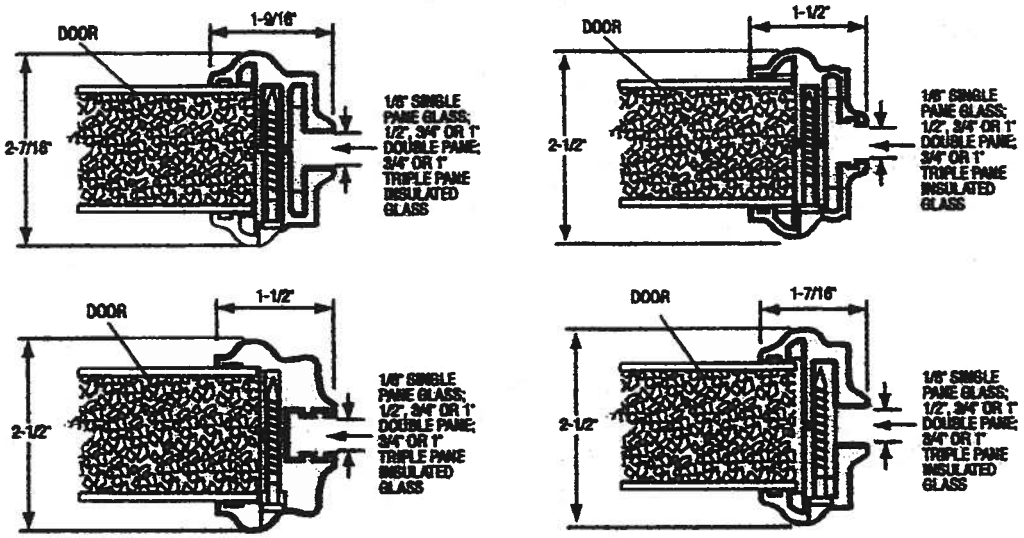
PREMDOR Premium Quality Doors

Exclusively from Masonite
Masonite International Corporation

GLASS INSERT IN DOOR OR SIDELITE PANEL



SECTION A-A
TYPICAL RIGID PLASTIC LIP LITE SURROUND



XX
Glazed Outswing Unit

COP-WL-JH4162-02

WOOD-EDGE STEEL DOORS

APPROVED DOOR STYLES:

3/4 GLASS:


404 Series


410 Series


450 Series

FULL GLASS:


199 Series


114, 120, 122 Series


182 Series


149 Series


300 Series

CERTIFIED TEST REPORTS:

NCTL 210-1897-7, 8, 9, 10, 11, 12; NCTL 210-1864-5, 6, 7, 8; NCTL 210-2178-1, 2, 3

Certifying Engineer and License Number: Barry D. Portney, P.E. / 16258.

Unit Tested in Accordance with Miami-Dade BCCO PA202.

Evaluation report NCTL-210-2794-1

Door panels constructed from 26-gauge 0.017" thick steel skins. Both stiles constructed from wood. Top end rails constructed of 0.041" steel. Bottom end rails constructed of 0.021" steel. 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 bumper 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

Johnson EntrySystems

March 29, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

PREMDOR Premium Quality Doors

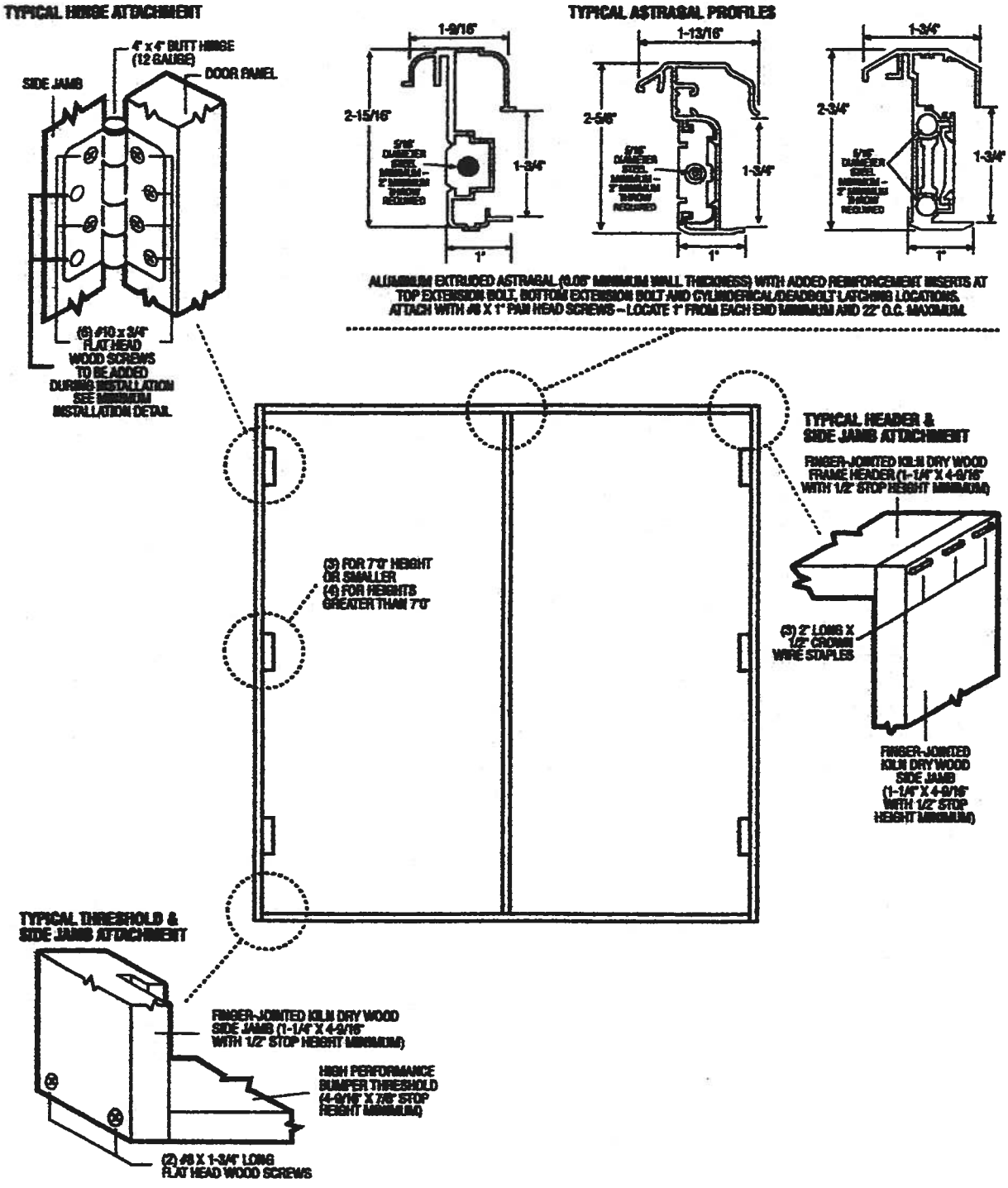
Exclusively from Masonite

Masonite International Corporation

XX
Unit

MAD-WL-MA0012-02

OUTSWING UNITS WITH DOUBLE DOOR



March 29, 2012

PREMDOR Collection Premium Quality Doors

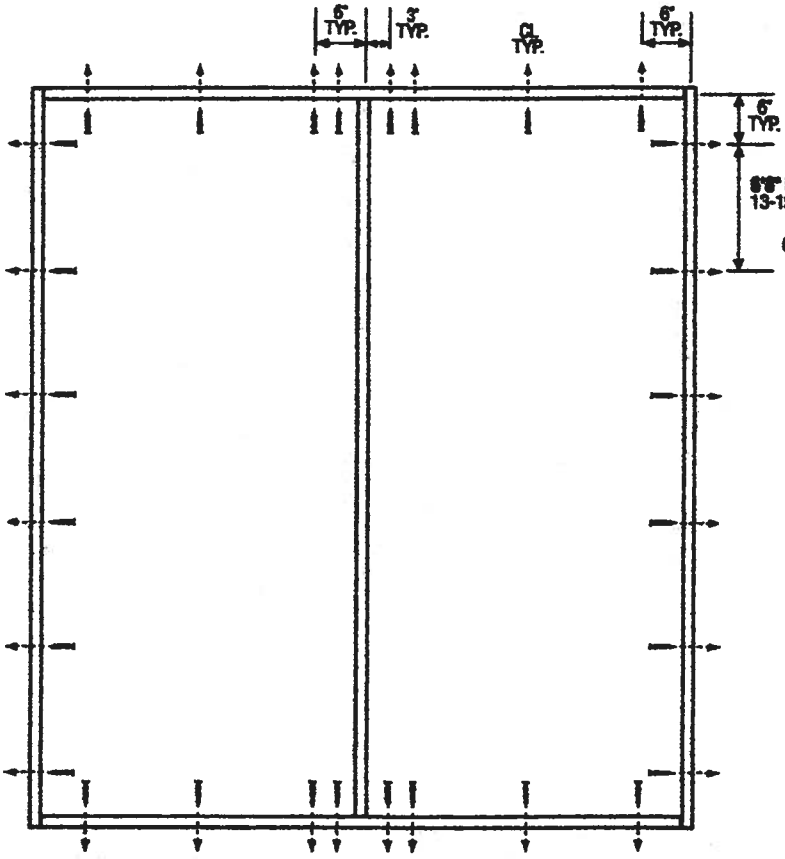
Exclusively from Masonite®

Masonite International Corporation

XX
Unit

MID-WL-MA0002-02

DOUBLE DOOR



Minimum Fastener Count

- 6 per vertical framing member
- 8 per horizontal framing member

Hinge and strike plates require two 2-1/2" long screws per location.

Latching Hardware:

- Compliance requires that GRADE 2 or better (ANSI/BHMA A156.2) cylinderical and deadlock hardware be installed.

Notes:

1. Anchor calculations have been carried out with the lowest (least) fastener rating from the different fasteners being considered for use. Fasteners analyzed for this unit include #8 and #10 wood screws or 3/16" Tapcons.
2. The wood screw single shear design values come from Table 11.3A of ANSI/AF & PA NDS for southern pine lumber with a side member thickness of 1-1/4" and achievement of minimum embedment. The 3/16" Tapcon single shear design values come from the ITW and ELCO Dade Country approvals respectively, each with minimum 1-1/4" embedment.
3. Wood bucks by others, must be anchored properly to transfer loads to the structure.

FLORIDA DEPARTMENT OF Community Affairs

Community Affairs

- COMMUNITY PLANNING
- HOUSING & COMMUNITY DEVELOPMENT
- EMERGENCY MANAGEMENT
- OFFICE OF THE SECRETARY

Product Approval
USER: Public User

FL #	FL5108
Application Type	New
Code Version	2004
Application Status	Approved
Comments	
Archived	
Product Manufacturer	MI Windows and Doors
Address/Phone/Email	650 W Market St Gratz, PA 17030 (717) 365-3300 ext 2101 surich@miwd.com
Authorized Signature	Steven Urich surich@miwd.com
Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	
Address/Phone/Email	

(1) window

A·L·I
(Validator / Operations Administrator)

AAMA
CERTIFICATION PROGRAM

AUTHORIZATION FOR PRODUCT CERTIFICATION

MI Windows & Doors, Inc.
P.O. Box 370
Gratz, PA 17030-0370

Attn: Bill Emley

The product described below is hereby approved for listing in the next issue of the AAMA Certified Products Directory. The approval is based on successful completion of tests, and the reporting to the Administrator of the results of tests, accompanied by related drawings, by an AAMA Accredited Laboratory.

1. The listing below will be added to the next published AAMA Certified Products Directory.

SPECIFICATION	RECORD OF PRODUCT TESTED				LABEL ORDER NO.
AAMA/NWWDA 101/I.S. 2-97 H-R55*-36x62					
COMPANY AND PLANT LOCATION	CODE NO.	SERIES MODEL & PRODUCT DESCRIPTION	MAXIMUM SIZE TESTED		
			FRAME	SASH	
MI Windows & Doors, Inc. (Oldsmar, FL) MI Windows & Doors, Inc. (Smyrna, TN)	MTL-8 MTL-9	185/3185 SH (Fin) (AL)(O/X)(DG) (ASTM)	3'0" x 5'2"	2'10" x 2'7"	By Request

2. This Certification will expire May 14, 2008 and requires validation until then by continued listing in the current AAMA Certified Products Directory.

3. Product Tested and Reported by: Architectural Testing, Inc.

   Report No.: 01-50360.02

   Date of Report: June 14, 2004

NOTE: PLEASE REVIEW, AND ADVISE ALI IMMEDIATELY IF DATA, AS SHOWN, NEEDS CORRECTION.

Validated for Certification:

Associated Laboratories, Inc.

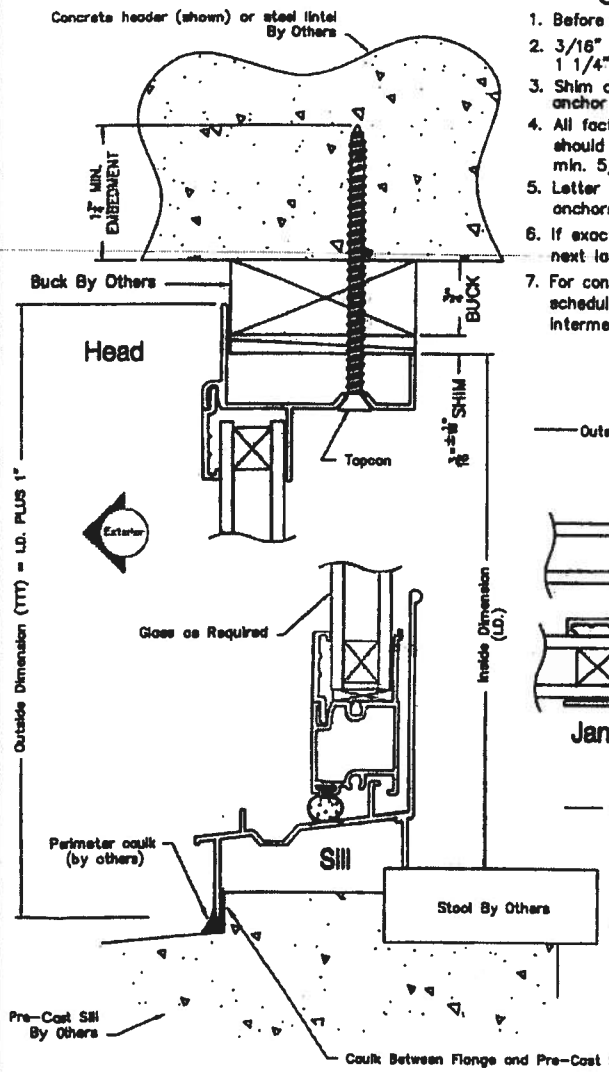
Date: August 1, 2005

Authorized for Certification:

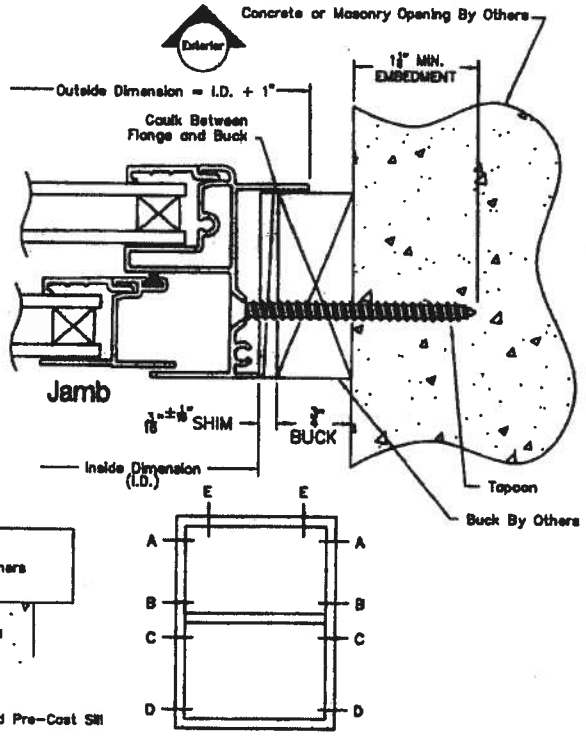
American Architectural Manufacturers Association

cc: AAMA
JGS/df
ACP-04 (Rev. 5/03)

"ONE BY" (3/4") BUCKS (SHOWN)



1. Before installation, caulk back of flange, or face of buck.
2. 3/16" dia. masonry Tapcon must be of a length to have 1 1/4" embedment into masonry or concrete.
3. Shim as required with load bearing shims at each installation anchor as shown.
4. All factory applied holes not designated for Tapcon anchor should be filled with #10 screws of sufficient length to provide min. 5/8" embedment into wood buck.
5. Letter designations on the Tapcon location chart indicate where anchors are to be installed using the elevation as a key.
6. If exact window size is not given, use anchor quantity for next larger window in chart.
7. For continuous head and sill twins & triples, use the same fastener schedule for each unit in the main frame except ignore the intermediate jamb.



*"TAPCON" TYPE HARDENED MASONRY SCREWS INCLUDE TAPCON, RAWL, & SIMPSON

"TWO BY" (1 1/2") BUCKS

"TWO BY" bucks are engineered and fastened to the masonry opening BY OTHERS.

Follow the same instructions and fastener requirements for "one by" bucks except use #10 screws of sufficient length for 1 1/4" minimum embedment into buck.

HOME PRODUCTS
BetterBilt / Capitol

* TAPCON LOCATION CHART

CODE SIZE	WINDOW ID SIZE	FASTENER LOCATIONS		
		UP TO DP35	DP36.1 TO DP55	DP55.1 TO DP69.3
12	18 1/8 x 25	A, D & E	A, D & E	A, D & E
13	18 1/8 x 37 3/8	A, D & E	A, D & E	A, D & E
14	18 1/8 x 49 5/8	A, D & E	A, D & E	A, D & E
15	18 1/8 x 62	A, D & E	A, D & E	A, D & E
16	18 1/8 x 71	A, D & E	A, D & E	A, D & E
17	18 1/8 x 83	A, D & E	A, D & E	A, D & E
1/2 32	25 1/2 x 25	A, D & E	A, D & E	A, D & E
1/2 33	25 1/2 x 37 3/8	A, D & E	A, D & E	A, D & E
1/2 34	25 1/2 x 49 5/8	A, D & E	A, D & E	A, D & E
1/2 35	25 1/2 x 62	A, D & E	A, D & E	A, D & E
1/2 36	25 1/2 x 71	A, D & E	A, D & E	A, D & E
1/2 37	25 1/2 x 83	A, D & E	A, D & E	A, C, D & E
22	36 x 25	A, D & E	A, D & E	A, D & E
23	36 x 37 3/8	A, D & E	A, D & E	A, D & E
24	36 x 49 5/8	A, D & E	A, D & E	A, D & E
25	36 x 62	A, D & E	A, D & E	A, D & E
26	36 x 71	A, D & E	A, D & E	A, C, D & E
27	36 x 83	A, D & E	A, C, D & E	A, C, D & E
32	52 1/8 x 25	A, D & E	A, D & E	A, D & E
33	52 1/8 x 37 3/8	A, D & E	A, D & E	A, D & E
34	52 1/8 x 49 5/8	A, D & E	A, D & E	A, D & E
35	52 1/8 x 62	A, D & E	A, C, D & E	A, C, D & E
36	52 1/8 x 71	A, D & E	A, C, D & E	A, B, C, D & E
37	52 1/8 x 83	A, D & E	A, C, D & E	A, B, C, D & E
2040	23 3/8 x 47 5/8	A, D & E	A, D & E	A, D & E
2050	23 3/8 x 59 5/8	A, D & E	A, D & E	A, D & E
2060	23 3/8 x 71 5/8	A, D & E	A, D & E	A, D & E
2070	23 3/8 x 83 5/8	A, D & E	A, D & E	A, D & E
3040	35 3/8 x 47 5/8	A, D & E	A, D & E	A, D & E
3050	35 3/8 x 59 5/8	A, D & E	A, D & E	A, D & E
3060	35 3/8 x 71 5/8	A, D & E	A, D & E	A, C, D & E
3070	35 3/8 x 83 5/8	A, D & E	A, C, D & E	A, C, D & E
4040	47 3/8 x 47 5/8	A, D & E	A, D & E	A, D & E
4050	47 3/8 x 59 5/8	A, D & E	A, D & E	A, C, D & E
4060	47 3/8 x 71 5/8	A, D & E	A, C, D & E	A, C, D & E
4070	47 3/8 x 83 5/8	A, D & E	A, C, D & E	A, B, C, D & E
4450	51 3/8 x 59 5/8	A, D & E	A, D & E	A, C, D & E
4460	51 3/8 x 71 5/8	A, D & E	A, C, D & E	A, B, C, D & E
4470	51 3/8 x 83 5/8	A, D & E	A, C, D & E	A, B, C, D & E

SYM	REVISION	DATE	BY
A	REMOVED SILL INSTALLATION ANCHOR SCREWS	7/14/04	BB

Product Technology Corporation
Phone 407.522.6334 Fax 407.522.6336

MI HOME PRODUCTS
GRATZ, PA

185/3185 SINGLE HUNG FLANGE FRAME
INSTALLATION DETAILS & FASTENER SCHEDULE

DRAWN BY	DRL
DATE	06/15/04
SCALE	N.T.S.
DWG. NO.	MIHP0059
REV. LETTER	A
SHEET	1 OF 1

FLORIDA DEPARTMENT OF Community Affairs

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Community Affairs

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- HOUSING & COMMUNITY DEVELOPMENT
- EMERGENCY MANAGEMENT
- OFFICE OF THE SECRETARY

Product Approval
USER: Public User

Product Approval Menu > Product or Application Search > Application List > **Application Detail**

FL #	FL1956-R1
Application Type	Revision
Code Version	2004
Application Status	Approved
Comments	
Archived	
Product Manufacturer	TAMKO Building Products, Inc.
Address/Phone/Email	PO Box 1404 Joplin, MO 64802 (800) 641-4691 ext 2394 fred_oconnor@tamko.com
Authorized Signature	Frederick O'Connor fred_oconnor@tamko.com
Technical Representative	Frederick J. O'Connor
Address/Phone/Email	PO Box 1404 Joplin, MO 64802 (800) 641-4691 fred_oconnor@tamko.com

Quality Assurance Representative Address/Phone/Email	
Category	Roofing
Subcategory	Asphalt Shingles
Compliance Method	Certification Mark or Listing
Certification Agency	Underwriters Laboratories Inc.

Referenced Standard and Year (of Standard)	**Standard**	**Year**
	ASTM D 3462	2001

Equivalence of Product Standards Certified By	
Product Approval Method	Method 1 Option A
Date Submitted	06/09/2005
Date Validated	06/20/2005
Date Pending FBC Approval	06/25/2005
Date Approved	06/29/2005

Summary of Products

FL #	Model, Number or Name	Description

slopes of 2:12 or greater. Not approved for use in HVHZ.	

Back Next

DCA Administration
Department of Community Affairs
Florida Building Code Online
Codes and Standards
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100
(850) 487-1824, Suncom 277-1824, Fax (850) 414-8436

Product Approval Accepts:

4

Underwriters Laboratories Inc.®

Northbrook Division
333 Pfingsten Road
Northbrook, IL 60062-2096 USA
www.ul.com
tel 1 847 272 8800

June 17, 2005

Tamko Roofing Products
Ms. Kerri Eden
P.O. Box 1404
220 W. 4th Street
Joplin, MO 64802-1404

Our Reference: R2919

This is to confirm that "Elite Glass-Seal AR", "Heritage 30 AR", "Heritage 50 AR", "Glass-Seal AR" manufactured at Tuscaloosa, AL and "Elite Glass-Seal AR", "Heritage 30 AR", "Heritage XL AR", "Heritage 50 AR" manufactured at Frederick, MD and "Heritage 30 AR", "Heritage XL AR", and "Heritage 50 AR" manufactured in Dallas, TX are UL Listed asphalt glass mat shingles and have been evaluated in accordance with ANSI/UL 790, Class A (ASTM E108), ASTM D3462, ASTM D3161 or UL 997 modified to 110 mph when secured with four nails.

Let me know if you have any further questions.

Very truly yours,

Alpesh Patel (Ext. 42522)
Engineer Project
Fire Protection Division

Reviewed by,

R. K. Laymon

Randall K. Laymon (Ext. 42687)
Engineer Sr Staff
Fire Protection Division

4

TAMKO BUILDING PRODUCTS

Application Instructions for

• HERITAGE® VINTAGE™ AR – Phillipsburg, KS
LAMINATED ASPHALT SHINGLES

THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR THE ROOFING CONDITIONS DESCRIBED. TAMKO BUILDING PRODUCTS, INC. ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER ROOFING DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS.

THIS PRODUCT IS COVERED BY A LIMITED WARRANTY, THE TERMS OF WHICH ARE PRINTED ON THE WRAPPER.

IN COLD WEATHER (BELOW 40°F), CARE MUST BE TAKEN TO AVOID DAMAGE TO THE EDGES AND CORNERS OF THE SHINGLES.

IMPORTANT: It is not necessary to remove the plastic strip from the back of the shingles.

I. ROOF DECK

These shingles are for application to roof decks capable of receiving and retaining fasteners, and to inclines of not less than 2 in. per foot. For roofs having pitches 2 in. per foot to less than 4 in. per foot, refer to special instructions titled "Low Slope Application". Shingles must be applied properly. TAMKO assumes no responsibility for leaks or defects resulting from improper application, or failure to properly prepare the surface to be roofed over.

NEW ROOF DECK CONSTRUCTION: Roof deck must be smooth, dry and free from warped surfaces. It is recommended that metal drip edges be installed at eaves and rakes.

PLYWOOD: All plywood shall be exterior grade as defined by the American Plywood Association. Plywood shall be a minimum of 3/8 in. thickness and applied in accordance with the recommendations of the American Plywood Association.

SHEATHING BOARDS: Boards shall be well-seasoned tongue-and-groove boards and not over 6 in. nominal width. Boards shall be a 1 in. nominal minimum thickness. Boards shall be properly spaced and nailed.

TAMKO does not recommend re-roofing over existing roof.

2. VENTILATION

Inadequate ventilation of attic spaces can cause accumulation of moisture in winter months and a build up of heat in the summer. These conditions can lead to:

1. Vapor Condensation
2. Buckling of shingles due to deck movement.
3. Rotting of wood members.
4. Premature failure of roof.

To insure adequate ventilation and circulation of air, place louvers of sufficient size high in the gable ends and/or install continuous ridge and soffit vents. FHA minimum property standards require one square foot of net free ventilation area to each 150 square feet of space to be vented, or one square foot per 300 square feet if a vapor barrier is installed on the warm side of the ceiling or if at least one half of the ventilation is provided near the ridge. If the ventilation openings are screened, the total area should be doubled.

IT IS PARTICULARLY IMPORTANT TO PROVIDE ADEQUATE VENTILATION.

3. FASTENERS

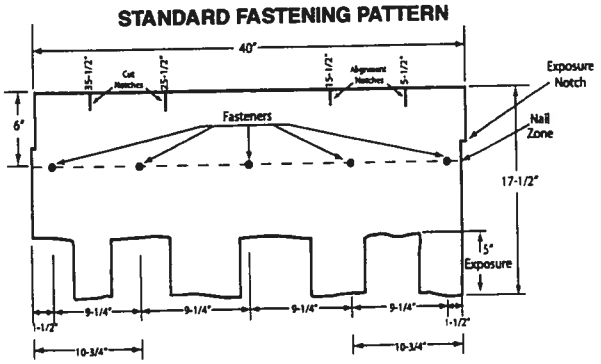
WIND CAUTION: Extreme wind velocities can damage these shingles after application when proper sealing of the shingles does not occur. This can especially be a problem if the shingles are applied in cooler months or in areas on the roof that do not receive direct sunlight. These conditions may impede the sealing of the adhesive strips on the shingles. The inability to seal down may be compounded by prolonged cold weather conditions and/or blowing dust. In these situations, hand sealing of the shingles is recommended. Shingles must also be fastened according to the fastening instructions described below.

Correct placement of the fasteners is critical to the performance of the shingle. If the fasteners are not placed as shown in the diagram and described below, this will result in the termination of TAMKO's liabilities under the limited warranty. TAMKO will not be responsible for damage to shingles caused by winds in excess of the applicable miles per hour as stated in the limited warranty. See limited warranty for details.

FASTENING PATTERNS: Fasteners must be placed 6 in. from the top edge of the shingle located horizontally as follows:

1) Standard Fastening Pattern. (For use on decks with slopes 2 in. per foot to 21 in. per foot.) One fastener 1-1/2 in. back from each end, one 10-3/4 in. back from each end and one 20 in. from one end of the shingle for a total of 5 fasteners. (See standard fastening pattern illustrated below).

STANDARD FASTENING PATTERN



2) Mansard or Steep Slope Fastening Pattern. (For use on decks with slopes greater than 21 in. per foot.) Use standard nailing instructions with four additional nails placed 6 in. from the butt edge of the shingle making certain nails are covered by the next (successive) course of shingles.

(Continued)

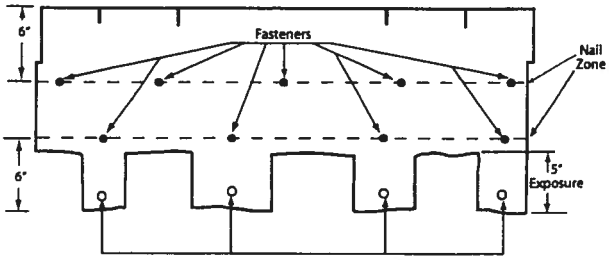
(CONTINUED from Pg. 1)

TAMKO BUILDING PRODUCTS

• HERITAGE® VINTAGE™ AR – Phillipsburg, KS
LAMINATED ASPHALT SHINGLES

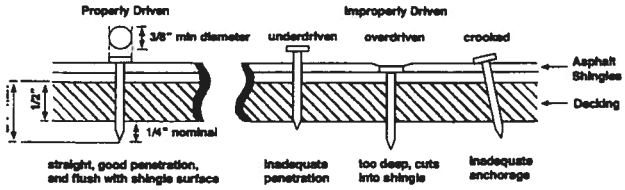
Each shingle tab must be sealed underneath with quick setting asphalt adhesive cement immediately upon installation. Spots of cement must be equivalent in size to a $.25 piece and applied to shingles with a 5 in. exposure, use 9 fasteners per shingle.

MANSARD FASTENING PATTERN



Apply under each tab 1" diameter asphalt adhesive cement.

NAILS: TAMKO recommends the use of nails as the preferred method of application. Standard type roofing nails should be used. Nail shanks should be made of minimum 12 gauge wire, and a minimum head diameter of 3/8 in. Nails should be long enough to penetrate 3/4 in. into the roof deck. Where the deck is less than 3/4 in. thick, the nails should be long enough to penetrate completely through plywood decking and extend at least 1/8 in. through the roof deck. Drive nail head flush with the shingle surface.



4. UNDERLAYMENT

UNDERLAYMENT: An underlayment consisting of asphalt saturated felt must be applied over the entire deck before the installation of TAMKO shingles. Failure to add underlayment can cause premature failure of the shingles and leaks which are not covered by TAMKO's limited warranty. Apply the felt when the deck is dry. On roof decks 4 in. per foot and greater apply the felt parallel to the eaves lapping each course of the felt over the lower course at least 2 in. Where ends join, lap the felt 4 in. If left exposed, the underlayment felt may be adversely affected by moisture and weathering. Laying of the underlayment and the shingle application must be done together.

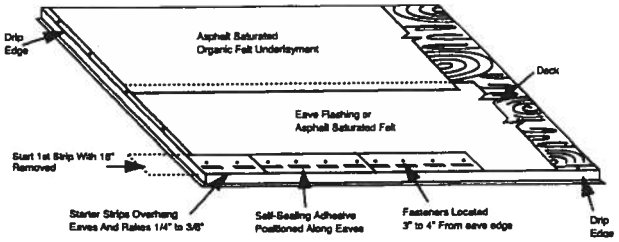
Products which are acceptable for use as underlayment are:

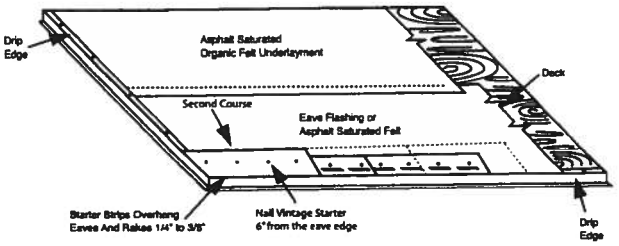
- TAMKO No. 15 Asphalt Saturated Organic Felt
- A non-perforated asphalt saturated organic felt which meets ASTM: D226, Type I or ASTM D4869, Type I
- Any TAMKO non-perforated asphalt saturated organic felt
- TAMKO TW Metal and Tile Underlayment, TW Underlayment and Moisture Guard Plus® (additional ventilation maybe required. Contact TAMKO's technical services department for more information)

In areas where ice builds up along the eaves or a back-up of water from frozen or clogged gutters is a potential problem, TAMKO's Moisture Guard Plus® waterproofing underlayment (or any specialty eaves flashing product) may be applied to eaves, rakes, ridges, valleys, around chimneys, skylights or dormers to help prevent water damage. Contact TAMKO's Technical Services Department for more information.
TAMKO does not recommend the use of any substitute products as shingle underlayment.

5. APPLICATION INSTRUCTIONS

STARTER COURSE: Two starter course layers must be applied prior to application of Heritage Vintage AR Shingles.
The first starter course may consist of TAMKO Shingle Starter, three tab self-sealing type shingles or a 9 inch wide strip of mineral surface roll roofing. If three tab self-sealing shingles are used, remove the exposed tab portion and install with the factory applied adhesive adjacent to the eaves. If using three tab self-sealing shingles or shingle starter, remove 18 in. from first shingle to offset the end joints of the Vintage Starter. Attach the first starter course with approved fasteners along a line parallel to and 3 in. to 4 in. above the eave edge. The starter course should overhang both the eave and rake edge 1/4 in. to 3/8 in. Over the first starter course, install Heritage Vintage Starter AR and begin at the left rake edge with a full size shingle and continue across the roof nailing the Heritage Vintage Starter AR along a line parallel to and 6 in. from the eave edge.





Note: Do not allow Vintage Starter AR joints to be visible between shingle tabs. Cutting of the starter may be required.

HERITAGE VINTAGE STARTER AR
12 1/2" x 36" 20 PIECES PER BUNDLE
60 LINEAL FT. PER BUNDLE

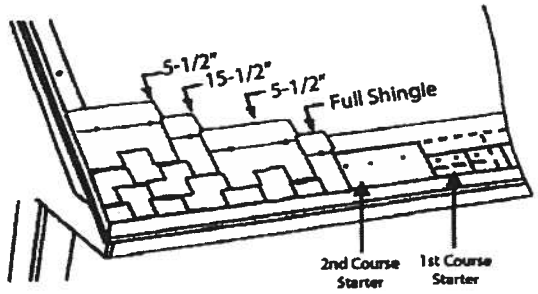
(Continued)

(CONTINUED from Pg. 2)

TAMKO BUILDING PRODUCTS

• HERITAGE® VINTAGE™ AR – Phillipsburg, KS
LAMINATED ASPHALT SHINGLES

SHINGLE APPLICATION: Start the first course at the left rake edge with a full size shingle and overhang the rake edge 1/4 in. to 3/8 in.. To begin the second course, align the right side of the shingle with the 5-1/2 in. alignment notch on the first course shingle making sure to align the exposure notch. (See shingle illustration on next page) Cut the appropriate amount from the rake edge so the overhang is 1/4" to 3/8". For the third course, align the shingle with the 15-1/2 in. alignment notch at the top of the second course shingle, again being sure to align the exposure notch. Cut the appropriate amount from the rake edge. To begin the fourth course, align the shingle with the 5-1/2 in. alignment notch from the third course shingle while aligning the exposure notch. Cut the appropriate amount from the rake edge. Continue up the rake in as many rows as necessary using the same formula as outlined above. Cut pieces may be used to complete courses at the right side. As you work across the roof, install full size shingles taking care to align the exposure notches. Shingle joints should be no closer than 4 in.



6. LOW SLOPE APPLICATION

On pitches 2 in. per foot to 4 in. per foot cover the deck with two layers of underlayment. Begin by applying the underlayment in a 19 in. wide strip along the eaves and overhanging the drip edge by 1/4 to 3/4 in. Place a full 36 in. wide sheet over the 19 in. wide starter piece, completely overlapping it. All succeeding courses will be positioned to overlap the preceding course by 19 in. If winter temperatures average 25°F or less, thoroughly cement the laps of the entire underlayment to each other with plastic cement from eaves and rakes to a point of a least 24 in. inside the interior wall line of the building. As an alternative, TAMKO's Moisture Guard Plus self-adhering waterproofing underlayment may be used in lieu of the cemented felts.

7. VALLEY APPLICATION

TAMKO recommends an open valley construction with Heritage Vintage AR shingles.

To begin, center a sheet of TAMKO Moisture Guard Plus, TW Underlayment or TW Metal & Tile Underlayment in the valley.

After the underlayment has been secured, install the recommended corrosion resistant metal (26 gauge galvanized metal or an equivalent) in the valley. Secure the valley metal to the roof deck. Overlaps should be 12" and cemented.

Following valley metal application; a 9" to 12" wide strip of TAMKO Moisture Guard Plus, TW Underlayment or TW Metal & Tile Underlayment should be applied along the edges of the metal valley flashing (max. 6" onto metal valley flashing) and on top of the valley underlayment. The valley will be completed with shingle application.

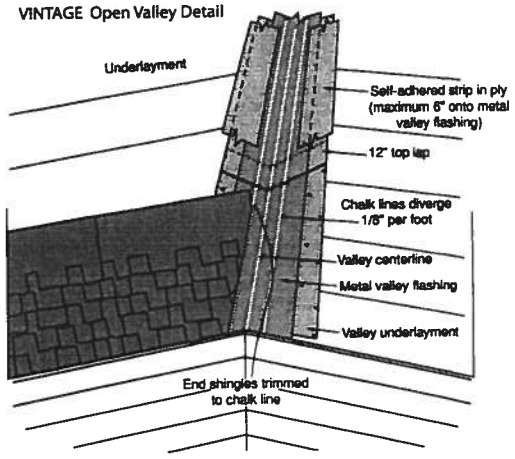
SHINGLE APPLICATION INSTRUCTIONS (OPEN VALLEY)

- Snap two chalk lines, one on each side of the valley centerline over the full length of the valley flashing. Locate the upper ends of the chalk lines 3" to either side of the valley centerline.
- The lower end should diverge from each other by 1/8" per foot. Thus, for an 8' long valley, the chalk lines should be 7" either side of the centerline at the eaves and for a 16' valley 8".

As shingles are applied toward the valley, trim the last shingle in each course to fit on the chalk line. Never use a shingle trimmed to less than 12" in length to finish a course running into a valley. If necessary, trim the adjacent shingle in the course to allow a longer portion to be used.

- Clip 1" from the upper corner of each shingle on a 45° angle to direct water into the valley and prevent it from penetrating between the courses.

- Form a tight seal by cementing the shingle to the valley lining with a 3" width of asphalt plastic cement (conforming to ASTM D 4586).



• **CAUTION:**
Adhesive must be applied in smooth, thin, even layers.

Excessive use of adhesive will cause blistering to this product.

TAMKO assumes no responsibility for blistering.

(Continued)

(CONTINUED from Pg. 3)

TAMKO BUILDING PRODUCTS

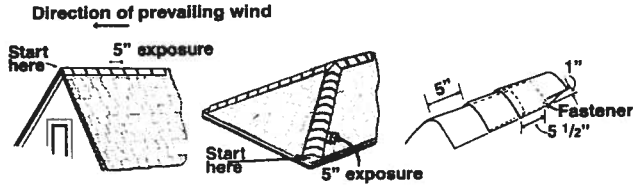
• HERITAGE® VINTAGE™ AR – Phillipsburg, KS
LAMINATED ASPHALT SHINGLES

8. HIP AND RIDGE FASTENING DETAIL

Apply the shingles with a 5 in. exposure beginning at the bottom of the hip or from the end of the ridge opposite the direction of the prevailing winds. Secure each shingle with one fastener on each side, 5-1/2 in. back from the exposed end and 1 in. up from the edge. TAMKO recommends the use of TAMKO Heritage Vintage Hip & Ridge shingle products.

Fasteners should be 1/4 in. longer than the ones used for shingles.

IMPORTANT: PRIOR TO INSTALLATION, CARE NEEDS TO BE TAKEN TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLE IN COLD WEATHER.



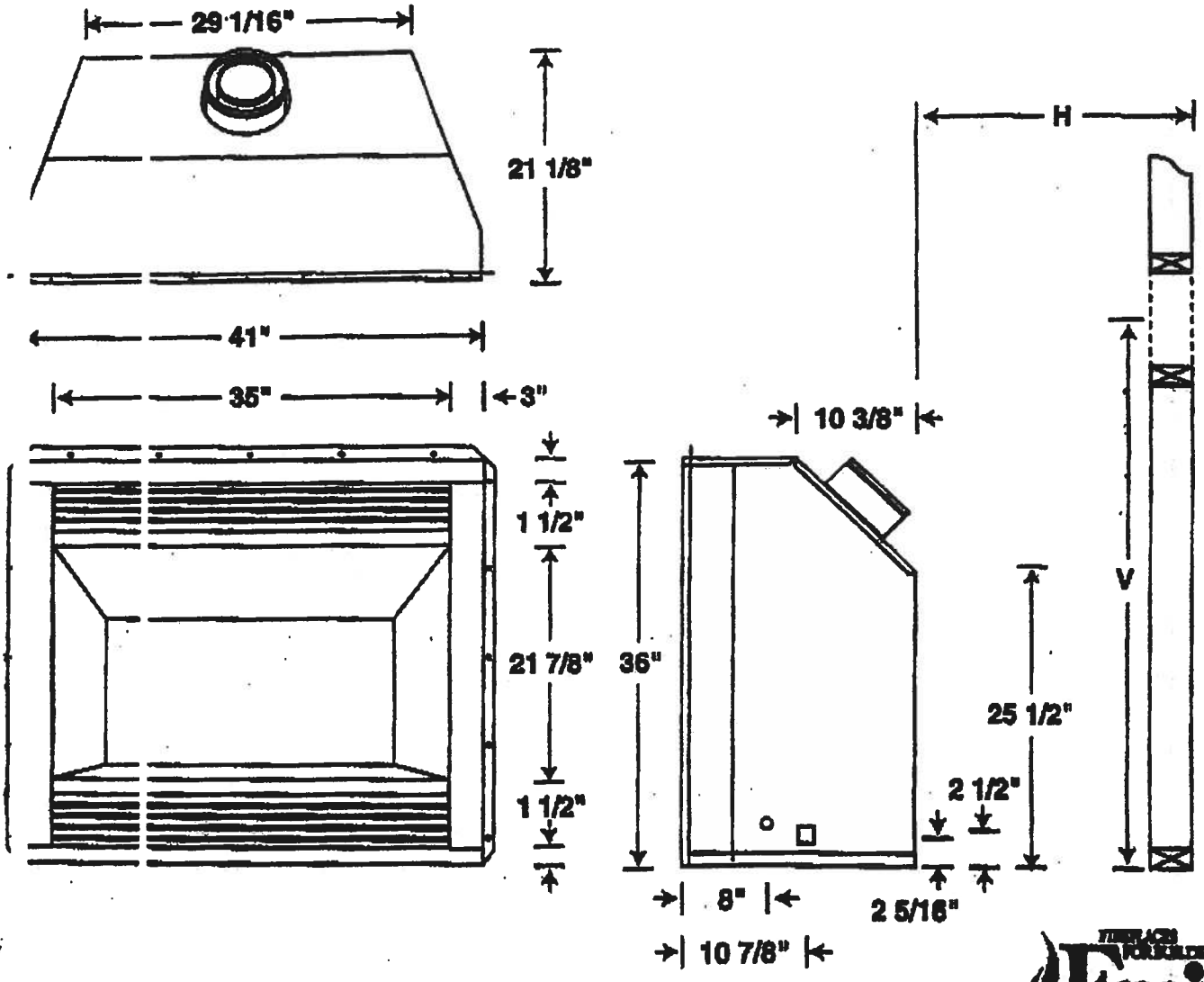
THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR THE ROOFING CONDITIONS DESCRIBED. TAMKO BUILDING PRODUCTS, INC. ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER ROOFING DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS.

Victorian

36" Direct Vent Fireplace
(5" - 8" Vent Pipe)

Typ. Ground Floor Installation (1 - 45° Elbow)		
Horiz. Run (H)	Min. Height (V)	Required Horiz. Pipe
17" max.	36"	12" max.

Installations requiring 2 - 45° and 90° Elbows		
Horiz. Run (H)	Min. Height (V)	Required Add'l. Horiz. Pipe
30" max.	47 1/4"	none
48" max.	57 1/4"	12"
60" max.	69 1/4"	24"
84" max.	81 1/4"	36"
144" max.	93 1/4"	48"



Fmi

THE 'RENAISSANCE SERIER

Victorian

36" AND 42" DIRECT VENT GAS FIREPLACES

Model V36 and V42

Timeles s Beauty— And Th e Latest Techno ogies

MI's Victoria direct vent gas replaces are t ne ideal match for oday's energy efficient homes. The ictorian is th centerpiece of our xciting new I enaissance Series, hich offers a consistent look, sizing, nd construct on across the entire ne ... plus be utiful new features omeowners will love!

Iomeowne Highlights:

Distinctive lo ks—Features random flame pattern nd realistic glowing ember bed bu ner ... plus exquisite new split oak ceramic fiber logs.

Operation an maintenance are a breeze—Ope ates from wall switch or remote cor rol. Hinged glass door swings open f r easy maintenance and never needs a ljustment.

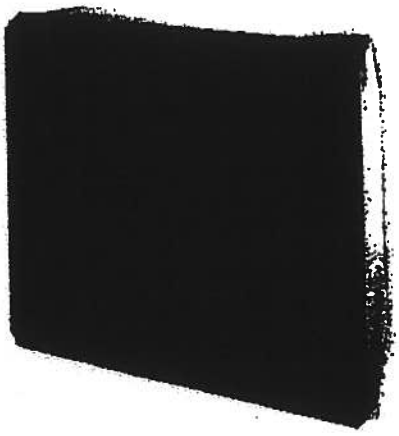
Attractive acc ssories—You have an array of eye-c tching extras, including brass or plati um louvers and trim, realistic textu ed brick liner kits, and much more.

Builder Ber efits:

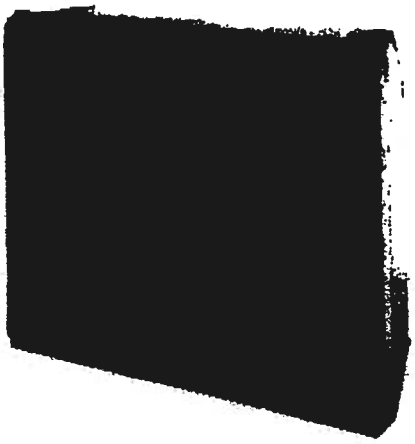
Secure, straig t installation—We've added full-len gth nailing flanges, and drywall stops

Venting optic ns—Our 45° slant back design lets yc u choose between horizontal an l vertical venting for painless insta lation. Your choice of hard or flexible ve: ting.

More standar d features—Flex gas connector, sh t-off valve and pre-wired "J" box are al standard.



V36N features black rolled louvers.



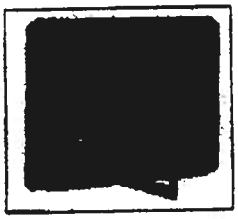
V42NH features black rolled louvers and textured herringbone brick-lined interior.

Victorian Direct Vent Fireplace Product Offering Summary

36" & 42" Direct Vent Fireplace Models Available With The Following:

- Millivolt Or Electronic Ignition
- Natural Or Propane Fuel
- Black, Standard Brick, And Herringbone Pattern Refractory Brick Interiors
- All fireplaces use 3" - 8" pipe. 36" models @ 32,000 Btu/42" models @ 33,000Btu.

Victorian models offer random, tiered flame patterns and gorgeous glowing ember bed burners.

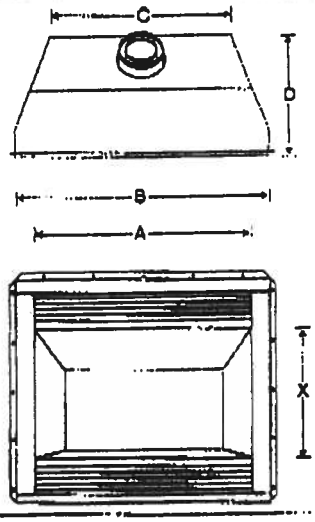


Hinged tool-less entry door swings open for easy maintenance.

Accessory Offering Summary

- Smooth Face, Stamped Steel and Rolled Black Louver Panels
- Louver Trim (Brushed Brass & Platinum)
- Perimeter Trim Kits (Black, Brushed Brass & Platinum)
- Standard & Herringbone Refractory Brick Liners
- Remote Control Kits
- Fan Kits
- Deflection Hoods

Dimensions



	36"	42"
A	36	42
B	41	48
C	29	35
D	21 1/8	23 1/8
E	10 1/2	10 1/2
X	21 3/4	23 3/4
Y	38	40
Z	25 1/2	28 1/2

FIREPLACES FOR BUILDERS Fmi

DESA International
www.desaint.com
For more inform ation, call (800) 888-2050

DESA INTERNATIONAL HPA HEARTH PRODUCTS ASSOCIATION Made in USA

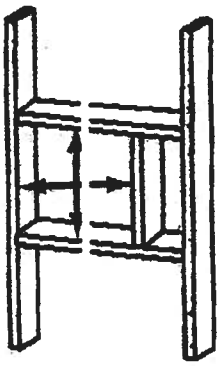
Printed in U S A

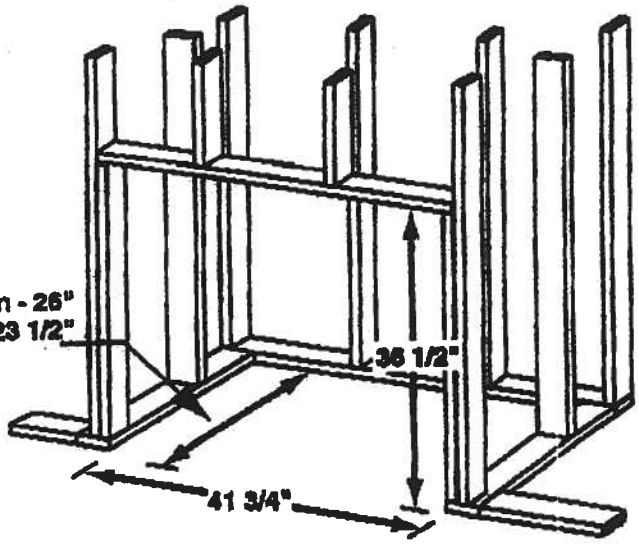
Victorian

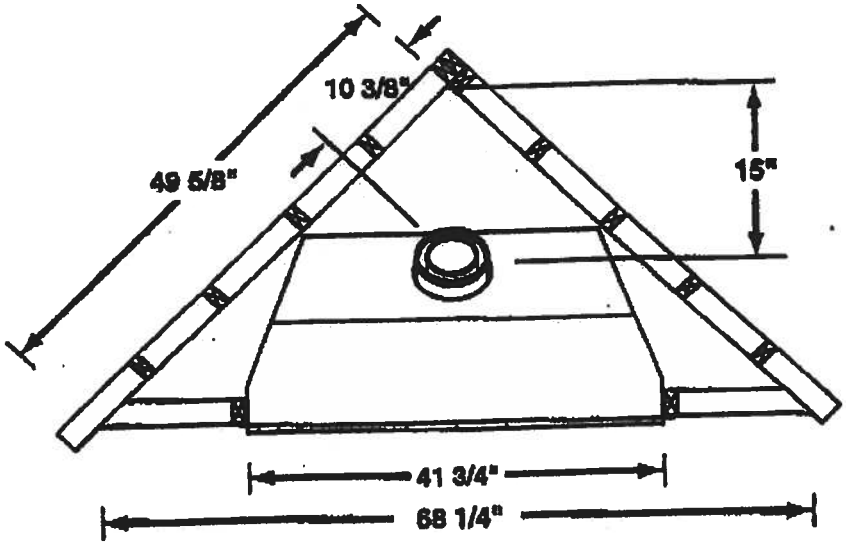
3 6" Direct Vent Fireplace

Framing Dimensions

Vent Opening - 10 3/4" Square (I.D.)







NOTE:
Built-in Features Such as Mantels, Bookshelfs, etc. Made of Combustible Materials Must Maintain Minimum Clearances from the Fireplace. See Installation Instructions for Complete Information

Fmi

Residential System Sizing Calculation

Summary

Bobby & Linda Couchenours

, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

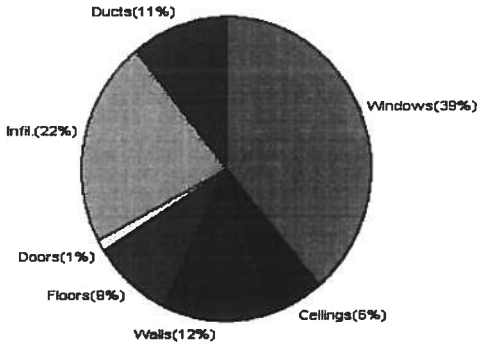
11/8/2007

Location for weather data: Gainesville - Defaults: Latitude(29) Altitude(152 ft.) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)					
Winter design temperature	33	F	Summer design temperature	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
Total heating load calculation	**45616**	**Btuh**	**Total cooling load calculation**	**54697**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	122.8	56000	Sensible (SHR = 0.75)	93.4	42000
Heat Pump + Auxiliary(0.0kW)	122.8	56000	Latent	144.0	14000
			Total (Electric Heat Pump)	102.4	56000

WINTER CALCULATIONS

Winter Heating Load (for 2295 sqft)

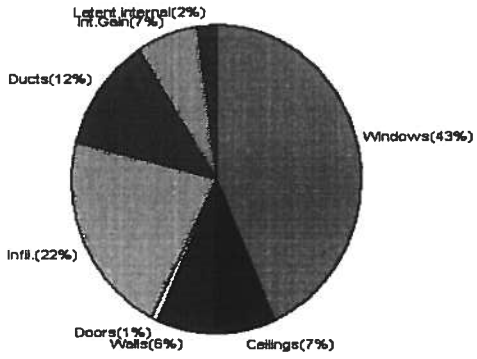
Load component			Load	
Window total	380	sqft	17847	Btuh
Wall total	1686	sqft	5538	Btuh
Door total	38	sqft	492	Btuh
Ceiling total	2400	sqft	2828	Btuh
Floor total	248	sqft	4056	Btuh
Infiltration	245	cfm	9916	Btuh
Duct loss			4939	Btuh
Subtotal			**45616**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**45616**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 2295 sqft)

Load component			Load	
Window total	380	sqft	23620	Btuh
Wall total	1686	sqft	3407	Btuh
Door total	38	sqft	372	Btuh
Ceiling total	2400	sqft	3975	Btuh
Floor total			0	Btuh
Infiltration	214	cfm	3986	Btuh
Internal gain			3780	Btuh
Duct gain			5832	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Total sensible gain			**44973**	**Btuh**
Latent gain(ducts)			696	Btuh
Latent gain(infiltration)			7828	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1200	Btuh
Total latent gain			**9724**	**Btuh**
TOTAL HEAT GAIN			**54697**	**Btuh**



Version 8
For Florida residences only

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 11/8/07

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

11/8/2007

Component Loads for Whole House

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	1, Clear, Metal, 1.27	W	75.0	47.0	3524 Btuh
2	1, Clear, Metal, 1.27	W	2.7	47.0	127 Btuh
3	1, Clear, Metal, 1.27	N	17.8	47.0	836 Btuh
4	1, Clear, Metal, 1.27	W	30.0	47.0	1410 Btuh
5	1, Clear, Metal, 1.27	W	40.0	47.0	1880 Btuh
6	1, Clear, Metal, 1.27	S	30.0	47.0	1410 Btuh
7	1, Clear, Metal, 1.27	SW	10.0	47.0	470 Btuh
8	1, Clear, Metal, 1.27	NW	10.0	47.0	470 Btuh
9	1, Clear, Metal, 1.27	N	20.0	47.0	940 Btuh
10	1, Clear, Metal, 1.27	N	16.0	47.0	752 Btuh
11	1, Clear, Metal, 1.27	N	9.0	47.0	423 Btuh
12	1, Clear, Metal, 1.27	E	30.0	47.0	1410 Btuh
13	1, Clear, Metal, 1.27	E	13.3	47.0	625 Btuh
14	1, Clear, Metal, 1.27	E	30.0	47.0	1410 Btuh
15	1, Clear, Metal, 1.27	S	10.0	47.0	470 Btuh
16	1, Clear, Metal, 1.27	E	6.0	47.0	282 Btuh
17	1, Clear, Metal, 1.27	S	30.0	47.0	1410 Btuh
	Window Total		380(sqft)		17847 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	1496	3.3	4914 Btuh
2	Frame - Wood - Adj(0.09)	13.0	190	3.3	624 Btuh
	Wall Total		1686		5538 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Adjacent		18	12.9	233 Btuh
2	Insulated - Exterior		20	12.9	259 Btuh
	Door Total		38		492Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shin	30.0	2400	1.2	2828 Btuh
	Ceiling Total		2400		2828Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	5	248.0 ft(p)	16.4	4056 Btuh
	Floor Total		248		4056 Btuh
				Envelope Subtotal:	30760 Btuh
Infiltration	Type	ACH X	Volume(cuft)	walls(sqft) CFM=	
	Natural	0.80	18360	1686 244.8	9916 Btuh
Ductload				(DLM of 0.121)	4939 Btuh
All Zones				**Sensible Subtotal All Zones**	**45616 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

11/8/2007

WHOLE HOUSE TOTALS

	Subtotal Sensible	45616 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	45616 Btuh

EQUIPMENT

1. Electric Heat Pump	#	56000 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(Frame types - metal, wood or insulated metal)
(U - Window U-Factor or 'DEF' for default)
(HTM - ManualJ Heat Transfer Multiplier)
Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types)

Version 8
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System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

11/8/2007

Component Loads for Zone #1: Main

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	1, Clear, Metal, 1.27	W	75.0	47.0	3524 Btuh
2	1, Clear, Metal, 1.27	W	2.7	47.0	127 Btuh
3	1, Clear, Metal, 1.27	N	17.8	47.0	836 Btuh
4	1, Clear, Metal, 1.27	W	30.0	47.0	1410 Btuh
5	1, Clear, Metal, 1.27	W	40.0	47.0	1880 Btuh
6	1, Clear, Metal, 1.27	S	30.0	47.0	1410 Btuh
7	1, Clear, Metal, 1.27	SW	10.0	47.0	470 Btuh
8	1, Clear, Metal, 1.27	NW	10.0	47.0	470 Btuh
9	1, Clear, Metal, 1.27	N	20.0	47.0	940 Btuh
10	1, Clear, Metal, 1.27	N	16.0	47.0	752 Btuh
11	1, Clear, Metal, 1.27	N	9.0	47.0	423 Btuh
12	1, Clear, Metal, 1.27	E	30.0	47.0	1410 Btuh
13	1, Clear, Metal, 1.27	E	13.3	47.0	625 Btuh
14	1, Clear, Metal, 1.27	E	30.0	47.0	1410 Btuh
15	1, Clear, Metal, 1.27	S	10.0	47.0	470 Btuh
16	1, Clear, Metal, 1.27	E	6.0	47.0	282 Btuh
17	1, Clear, Metal, 1.27	S	30.0	47.0	1410 Btuh
	Window Total		380(sqft)		17847 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	1496	3.3	4914 Btuh
2	Frame - Wood - Adj(0.09)	13.0	190	3.3	624 Btuh
	Wall Total		1686		5538 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Adjacent		18	12.9	233 Btuh
2	Insulated - Exterior		20	12.9	259 Btuh
	Door Total		38		492Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shin	30.0	2400	1.2	2828 Btuh
	Ceiling Total		2400		2828Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	5	248.0 ft(p)	16.4	4056 Btuh
	Floor Total		248		4056 Btuh
			Zone Envelope Subtotal:		30760 Btuh
Infiltration	Type	ACH X	Volume(cuft)	walls(sqft)	CFM=
	Natural	0.80	18360	1686	244.8	9916 Btuh
Ductload	Pro. leak free, Supply(R6.0-Attic), Return(R6.0-Attic)			(DLM of 0.121)	4939 Btuh
Zone #1			**Sensible Zone Subtotal**		**45616 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

11/8/2007

WHOLE HOUSE TOTALS

	Subtotal Sensible	45616 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	45616 Btuh

EQUIPMENT

1. Electric Heat Pump	#	56000 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(Frame types - metal, wood or insulated metal)
(U - Window U-Factor or 'DEF' for default)
(HTM - ManualJ Heat Transfer Multiplier)
Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types)

Version 8
For Florida residences only

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F

11/8/2007

Component Loads for Whole House

Window	Type* Pn/SHGC/U/InSh/ExSh/IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	75.0	0.0	75.0	37	94	7053 Btuh
2	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	2.7	0.0	2.7	37	94	254 Btuh
3	1, Clear, 1.27, None,N,N	N	5.5ft	10ft.	17.8	0.0	17.8	37	37	667 Btuh
4	1, Clear, 1.27, None,N,N	W	10.5f	10ft.	30.0	22.3	7.7	37	94	1560 Btuh
5	1, Clear, 1.27, None,N,N	W	10.5f	10ft.	40.0	32.3	7.7	37	94	1934 Btuh
6	1, Clear, 1.27, None,N,N	S	5.5ft	10ft.	30.0	30.0	0.0	37	43	1124 Btuh
7	1, Clear, 1.27, None,N,N	SW	1.5ft	8ft.	10.0	0.0	10.0	37	75	750 Btuh
8	1, Clear, 1.27, None,N,N	NW	1.5ft	8ft.	10.0	0.0	10.0	37	72	722 Btuh
9	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	20.0	0.0	20.0	37	37	749 Btuh
10	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	16.0	0.0	16.0	37	37	599 Btuh
11	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	9.0	0.0	9.0	37	37	337 Btuh
12	1, Clear, 1.27, None,N,N	E	7.5ft	10ft.	30.0	7.3	22.7	37	94	2405 Btuh
13	1, Clear, 1.27, None,N,N	E	11.1	10ft.	13.3	11.8	1.5	37	94	581 Btuh
14	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	30.0	0.0	30.0	37	94	2821 Btuh
15	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	10.0	10.0	0.0	37	43	375 Btuh
16	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	6.0	0.0	6.0	37	94	564 Btuh
17	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	30.0	30.0	0.0	37	43	1124 Btuh
	Window Total				380 (sqft)					23620 Btuh

Walls	Type	R-Value/U-Value	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	13.0/0.09	1496.2	2.1	3121 Btuh
2	Frame - Wood - Adj	13.0/0.09	190.0	1.5	287 Btuh
	Wall Total		1686 (sqft)		3407 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Adjacent	18.0	9.8	176 Btuh
2	Insulated - Exterior	20.0	9.8	196 Btuh
	Door Total	38 (sqft)		372 Btuh

Ceilings	Type/Color/Surface	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/DarkShingle	30.0	2400.0	1.7	3975 Btuh
	Ceiling Total		2400 (sqft)		3975 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	5.0	248 (ft(p))	0.0	0 Btuh
	Floor Total		248.0 (sqft)		0 Btuh

			Envelope Subtotal:		31375 Btuh

Infiltration	Type	ACH	Volume(cuft)	wall area(sqft)	CFM=	Load
	SensibleNatural	0.70	18360	1686	244.8	3986 Btuh

Internal gain	Occupants	Btuh/occupant		Appliance	Load
	6	X 230	+	2400	3780 Btuh
			Sensible Envelope Load:		39141 Btuh
Duct load			(DGM of 0.149)		5832 Btuh
			Sensible Load All Zones		**44973 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

11/8/2007

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**39141 Btuh**
	Sensible Duct Load	5832 Btuh
	Total Sensible Zone Loads	**44973 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**44973 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	7828 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	696 Btuh
	Latent occupant gain (6 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**9724 Btuh**
	TOTAL GAIN	**54697 Btuh**

EQUIPMENT

1. Central Unit	#	56000 Btuh

*Key: Window types (Pn - Number of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(U - Window U-Factor or 'DEF' for default)
(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))
(ExSh - Exterior shading device: none(N) or numerical value)
(BS - Insect screen: none(N), Full(F) or Half(H))
(Ornt - compass orientation)

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System Sizing Calculations - Summer

Residential Load - Room by Room Component Details

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F

11/8/2007

Component Loads for Zone #1: Main

Window	Type* Pn/SHGC/U/InSh/ExSh/IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	75.0	0.0	75.0	37	94	7053 Btuh
2	1, Clear, 1.27, None,N,N	W	1.5ft	8ft.	2.7	0.0	2.7	37	94	254 Btuh
3	1, Clear, 1.27, None,N,N	N	5.5ft	10ft.	17.8	0.0	17.8	37	37	667 Btuh
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6	1, Clear, 1.27, None,N,N	S	5.5ft	10ft.	30.0	30.0	0.0	37	43	1124 Btuh
7	1, Clear, 1.27, None,N,N	SW	1.5ft	8ft.	10.0	0.0	10.0	37	75	750 Btuh
8	1, Clear, 1.27, None,N,N	NW	1.5ft	8ft.	10.0	0.0	10.0	37	72	722 Btuh
9	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	20.0	0.0	20.0	37	37	749 Btuh
10	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	16.0	0.0	16.0	37	37	599 Btuh
11	1, Clear, 1.27, None,N,N	N	1.5ft	8ft.	9.0	0.0	9.0	37	37	337 Btuh
12	1, Clear, 1.27, None,N,N	E	7.5ft	10ft.	30.0	7.3	22.7	37	94	2405 Btuh
13	1, Clear, 1.27, None,N,N	E	11.1	10ft.	13.3	11.8	1.5	37	94	581 Btuh
14	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	30.0	0.0	30.0	37	94	2821 Btuh
15	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	10.0	10.0	0.0	37	43	375 Btuh
16	1, Clear, 1.27, None,N,N	E	1.5ft	8ft.	6.0	0.0	6.0	37	94	564 Btuh
17	1, Clear, 1.27, None,N,N	S	1.5ft	8ft.	30.0	30.0	0.0	37	43	1124 Btuh
	Window Total				380 (sqft)					23620 Btuh

Walls	Type	R-Value/U-Value	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	13.0/0.09	1496.2	2.1	3121 Btuh
2	Frame - Wood - Adj	13.0/0.09	190.0	1.5	287 Btuh
	Wall Total		1686 (sqft)		3407 Btuh

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	Ceiling Total		2400 (sqft)		3975 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	5.0	248 (ft(p))	0.0	0 Btuh
	Floor Total		248.0 (sqft)		0 Btuh
			Zone Envelope Subtotal:		31375 Btuh

Infiltration	Type	ACH	Volume(cuft)	wall area(sqft)	CFM=	Load
	SensibleNatural	0.70	18360	1686	214.2	3986 Btuh

Internal gain	Occupants	Btuh/occupant	Appliance	Load
	6	X 230 +	2400	3780 Btuh
		Sensible Envelope Load:		39141 Btuh

Duct load	Prop. leak free, Supply(R6.0-Attic), Return(R6.0-Attic)	(DGM of 0.149)	5832 Btuh
		Sensible Zone Load	**44973 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

11/8/2007

Manual J Summer Calculations

Residential Load - Component Details (continued)

Bobby & Linda Couchenours
, FL 32025-

Project Title:
Sparks Construction - Couchenours

Code Only
Professional Version
Climate: North

11/8/2007

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**39141 Btuh**
	Sensible Duct Load	5832 Btuh
	Total Sensible Zone Loads	**44973 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**44973 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	7828 Btuh
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	Latent duct gain	696 Btuh
	Latent occupant gain (6 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**9724 Btuh**
	TOTAL GAIN	**54697 Btuh**

EQUIPMENT

1. Central Unit	#	56000 Btuh

*Key: Window types (Pn - Number of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
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(ExSh - Exterior shading device: none(N) or numerical value)
(BS - Insect screen: none(N), Full(F) or Half(H))
(Ornt - compass orientation)

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Residential Window Diversity

MidSummer

Bobby & Linda Couchenours

, FL 32025-

Project Title:
Sparks Construction - Couchenours

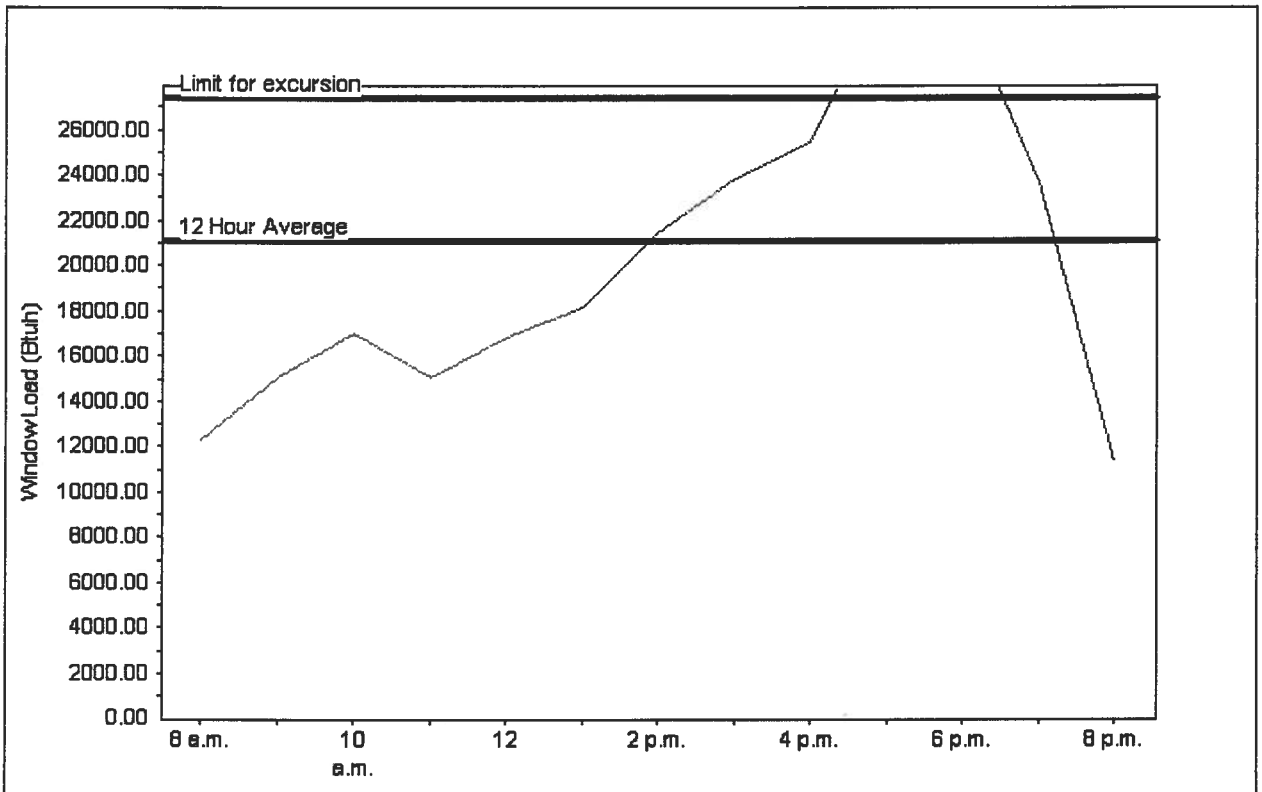
Code Only
Professional Version
Climate: North

11/8/2007

Weather data for: Gainesville - Defaults

Summer design temperature	92 F	Average window load for July	21069 Btu
Summer setpoint	75 F	Peak window load for July	32561 Btu
Summer temperature difference	17 F	Excusion limit(130% of Ave.)	27390 Btu
Latitude	29 North	Window excursion (July)	5171 Btuh

WINDOW Average and Peak Loads



Total July Window Load(Radiation and conduction)

This application has glass areas that produce large heat gains for part of the day. Variable air volume devices are required to overcome spikes in solar gain for one or more rooms. Install a zoned system or provide zone control for problem rooms. Single speed equipment may not be suitable for the application.

EnergyGauge® System Sizing for Florida residences only

PREPARED BY: _____

DATE: _____