



**THERMAL PERFORMANCE  
COMPUTER SIMULATION REPORT**

**Rendered to:**

**ACCESS MAGNETICS LLC**

**Freedom Pet Pass Energy Efficient Dog Door  
TYPE: Pet Door (Wall Mounted)**

**Report No.: D3599.02-116-45  
Report Date: 06/16/14**

**THERMAL PERFORMANCE  
COMPUTER SIMULATION REPORT**

Rendered to:

ACCESS MAGNETICS LLC  
3104 Old Kawkawlin Road  
Bay City, Michigan 48706

Report No.: D3599.02-116-45  
Simulation Date: 06/13/14  
Report Date: 06/16/14

**Project Summary:** Architectural Testing, Inc. was contracted to conduct a computer model thermal analysis. Architectural Testing, Inc. utilized the THERM 6.3 and WINDOW 6.3 computer software developed by Lawrence Berkeley Laboratory. Simulations were conducted to determine the U-Factor of the pet door when installed in a wall. The products were evaluated in general accordance with NFRC requirements to the standard listed below.

*\*NFRC does not define ratings for pet doors nor provide explicit direction for their modeling. The results of this analysis do not constitute an official NFRC rating.*

**Standards:**

*NFRC 100-2010: Procedure for Determining Fenestration Product U-Factors*

**Simulation Specimen Description:**

**Product:** Freedom Pet Pass Energy Efficient Dog Door  
**Type:** Pet Door (Wall Mounted)

**Modeling Assumptions:**

1. Models were constructed at ideal conditions. Hardware, fasteners, and weep holes were not modeled.
2. All simulations were completed using supplied AutoCAD drawings.
3. The modeling procedure is two-dimensional. It does not take into account three-dimensional heat flow, as might occur at the corners of an assembly.

**Modeling Conditions:**

All conditions specified in NFRC 100 were utilized and are noted below.

- Exterior Air Temperature: -0.4°F
- Exterior Wind Velocity: 12.3 mph (Perpendicular Flow)
- Interior Air Temperature: 69.8°F

**References:**

THERM 6.3 Program: This software was developed by the Lawrence Berkeley Laboratory. The program calculates heat loss through frame and edge-of-glass components using finite difference analysis. The program solves for temperature and heat flow distribution throughout the cross section. The temperature distribution can then be used to determine overall heat loss, total and component U-factors, and local temperatures at points of interest.

WINDOW 6.3 Program: This software was developed by the Lawrence Berkeley Laboratory. The program calculates U-factor and temperatures for the center-of-glazing using a two-dimensional heat flow analysis.

**Procedure:**

The pet door was modeled as a stand-alone product in the wall mount configuration. The modeling followed general NFRC methodologies, however, specific NFRC modeling requirements do not exist for this product. The pet door was modeled in three offered sizes.

**Results:**

Product Description	Product U-Factor
Freedom Pet Pass Dog Door (Wall Mounted Unit)	
Small - 6" x 10" Opening	0.589
Medium - 9" x 13" Opening	0.613
Large - 11" x 17" Opening	0.631

Architectural Testing will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Architectural Testing, Inc. for the entire test record retention period. The test record retention end date for this report is June 13, 2018.

Results obtained are tested values and were secured by using the designated test methods. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.:

SIMULATED BY:

REVIEWED BY:

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Dale C. White  
Simulation Technician  
NFRC Certified Simulator

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Michael J. Thoman  
Director - Simulations & Thermal Testing

DCW:ksl  
D3599.02-116-45

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix A: Project and Cross-Sectional Drawings (13)

### Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
.02 R0	6/13/2014	All	Original Report Issue to Access Magnetics LLC

Project and Cross-sectional Drawings



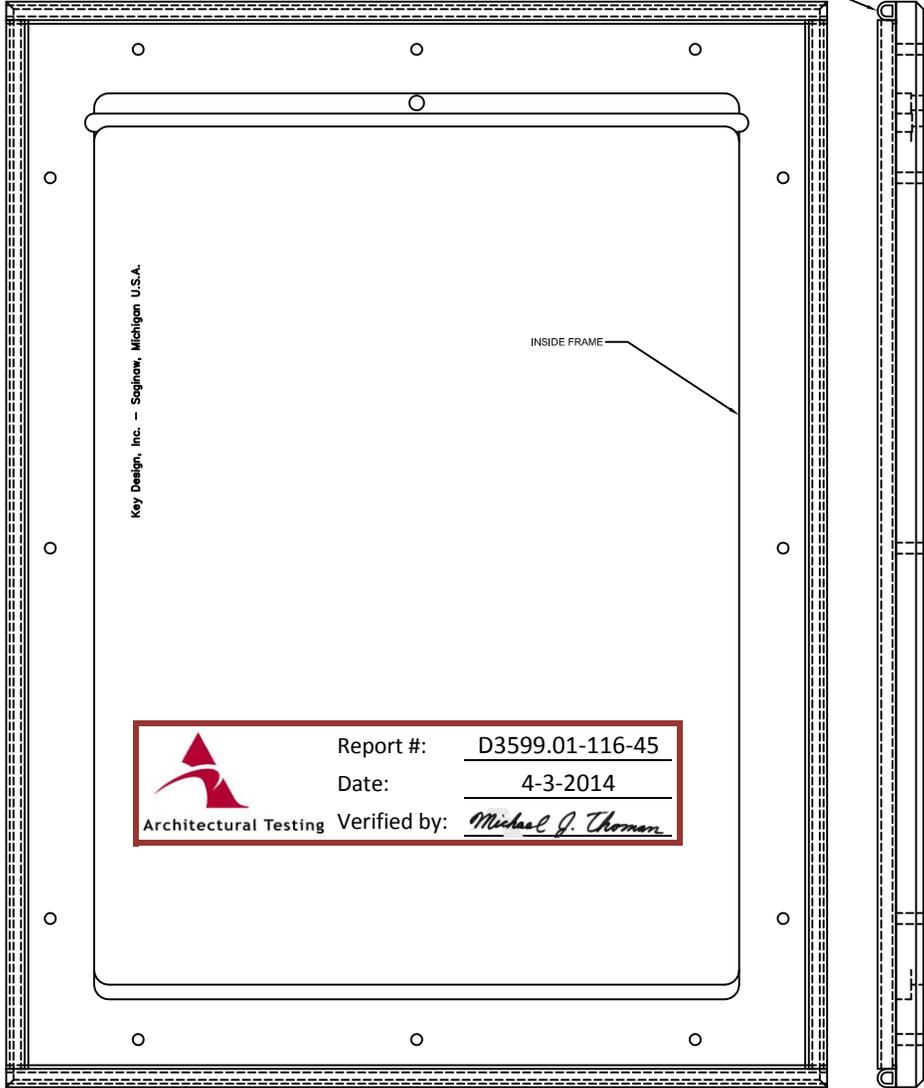




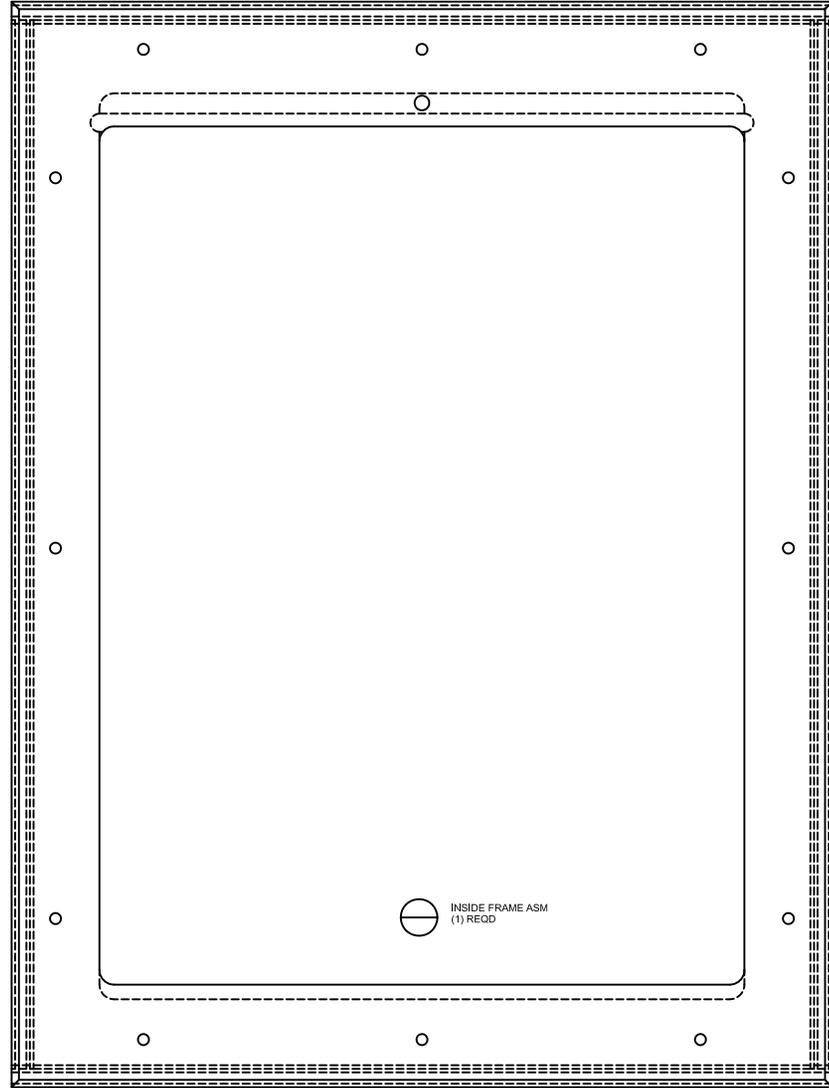




FOAM SEAL .375 X .25




 Report #: D3599.01-116-45  
 Date: 4-3-2014  
 Architectural Testing Verified by: Michael J. Thoman



REVISIONS				
REV	DET	CHANGE	BY	DATE

**STAMP OR ETCH ON ALL PARTS**  
 WITH THE LATEST REVISION  
**DO NOT SCALE DRAWING UNLESS OTHERWISE NOTED**  
 1. PLACE DECIMALS 2.01  
 2. PLACE DECIMALS 0.005  
 3. PLACE DECIMALS 0.0005  
 4. PLACE DECIMALS 0.00005  
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 EMAIL: info@keydesign.com

FREEDOM PET PASS

	SHEET NO. <b>0</b> TOTAL SHEETS	DESIGN APPROVED CHECKED DATE	DRAWN SCALE 1:1 DATE
DRAWING NUMBER		DESIGN APPROVED CHECKED DATE	











**WARNING: TODDLERS AND CHILDREN CAN FIT THROUGH PET DOORS AND MAY ESCAPE OUTSIDE UNATTENDED.**

\*Now you have purchased your pet door and you'll have to decide whether you're going to install it yourself or have someone do it for you. Proper installation is a prerequisite for the weather tight seal. If you're very handy, self-installation is the cheapest way to go. But if you're not, the extra cost of having your dog door professionally installed may be well worth the convenience, as well as peace of mind in knowing it's done properly and securely.

**Freedom Pet Pass Suggested Wall Mount Installation Guidelines and Tips:  
Please read before Installing! (Install video online)**

[www.energyefficientdogdoors.com](http://www.energyefficientdogdoors.com)

*Note:* There are devices available to help verify wall stud location and utilities (wires and plumbing) prior to cutting a hole in your wall in the desired location.

This Freedom Pet Pass does not include a "tunnel kit". The cavity in the wall created when adding additional framing to attach our pet door to the exterior side of the exterior wall will create a box in the wall that can be finished off to complement the other windows or doors in that room.

Creating the rough opening in the wall with a 2"x4", 6" or 8" wall studs is necessary for any wall mounted pet door application. Without the additional framing in many applications the interior dry wall will have no support and would be subject to damage if pressure is applied where framing is absent.

Locating the pet flap opening in the wall for an ergonomically correct or pet friendly access is very important. Dogs and Cats should not have to Crouch or Jump to pass thru the flap system.

For pet doors with a security panel they are easily accessed from the interior side of the wall it is attached too, recessed into the interior wall opening for a discreet look.

The Security Panel is not meant to be used to lock your pet outside with. Your Pets will not see the barrier on the other side of the flap system and attempt to claw or chew their way back into their "den".

If a wider wall thickness begins to become a tunnel or obstacle when the pet door is raised in the wall for the size of pets it is to service, a narrower threshold should be considered. Develop a walk in opening (from floor to top of the pet door rough opening in the wall from the inside of your home to narrow up the threshold leading to the outside.

The outside ground level and inside floor level should be the same on either side of the pet door location.

Install the pet door (raise it up in the wall) so that the top of pet opening in the Vinyl frame is at least 1 1/2" higher than the tallest pet at the shoulders in your pack. This will eliminate your bigger pets from crouching to pass thru the flap system.

A step added to either side of the flap system, one in the cavity of the wall on the inside and one on the outside of the wall, will allow the shorter pets to step up and thru.

The dry wall opening on the inside of the wall cavity should only be opened up to the rough opening for the size pet door to be installed allowing for appropriate trim to be added. Finish the interior and exterior of the (tunnel) opening similar to your existing doors or windows for your finished custom application.

Please view wall mount video for tips on how to add the additional wood frame inside wall cavity without over sizing the dry wall on the inside or siding on the outside.

Build the frame in square and level for best results. Use the rough opening dimensions suggested for the size of pet door that is to be installed. The rough opening suggested for each size will allow 3/4" overlap of our vinyl frame to the exterior face of the wood frame and allow 3/4" overlap of the exterior envelope siding material. The vinyl frame of the pet door should be recessed into the envelope (siding, stucco ect.) of the exterior wall and securely attached to the frame members with appropriate fasteners (screws or nails).

Seal the exterior and interior with caulk or sealant appropriate for your geographical location. Apply a proper water shed (i.e.: J channel for vinyl siding) to the exterior side. This suggested application of the Freedom Pet Pass will prevent the outdoor environment from entering into the wall cavity of your home.

As with all fenestration applications correctly sealing out the elements on the exterior side of your home is very important.

If you do not feel comfortable installing a wall mount dog door including building a box and framing it to your home we suggest asking a handy friend or hiring a licensed contractor to install this custom application for you.

### **Freedom Pet Pass Do's and Do not's**

**Do not use the security panel to lock your pets out. Damage to the flap system may occur from dogs with a strong desire to re-enter their home.**

Do not allow leashed pets to pass through the dog door. The leash can tangle up in the flap system.

Do not force your dog through the pet flap when training it to use the pet door. This will shy them away even more from using it.

Do lift and temporarily tie the outside black U shaped flap seal up out of the way using a string. This will introduce their new access location in a simpler way. To encourage your pet to use the dog door, reward with treats and praise. After they have become familiar with the new passage remove the string and allow the magnetic seal to provide comfort to your home.

Do not rely solely on the chew guard to prevent a mischievous pet from chewing the magnetically lined jam. The chew guard simply reduces the damage a pet may cause.

Do use a powerful anti-chewing product to completely prevent a mischievous pet from chewing. Dried ground Habanera pepper sprinkled sparingly in a smudge of Vaseline and applied to the inside of the black flap seal between the magnets has proven to help. Consult with your veterinarian first before applying.

Do remove debris from magnets with a dry rag once a month for optimal sealing.

Do use a non-detergent cleanser (Woolite) and a soft scrub brush to remove dirt from the canvas coated pet flap.

Do not allow children to use the dog door.

Do expect an energy-efficient seal and a happy pet if you follow these simple instructions.

### **Pet Door Training Tips**

Finally, you have your new pet door installed! However, your pet will not instantly know what it is, or how to use it. You may have to teach them how. Be prepared for it to take some time. Many pets learn to use pet doors within a very short time. But others, especially timid or anxious dogs, might take a little longer. Be patient, don't rush it, don't over train (short sessions two or three times a day at most) and above all don't force your pet to pass thru, This will shy them away even more from using it.

The traditional method of training a pet to use a pet door is really just a matter of showing the pet the door opening, slowly opening the flap when someone else calls the pet from the opposite side of the opening enticing them to pass through it. Of course, when they do come through, reward them with a treat, and spend a few minutes petting and playing with them before repeating the exercise. Many pets will catch on in just a few minutes. Others will take a day or two. For the slower learners, lift and temporarily tie the outside black U shaped flap seal up out of the way using a string. This will introduce their new access location in a simpler way. To encourage your pet to use the dog door, reward with treats and praise. After they have become familiar with the new passage remove the string and allow the magnetic flap seal to provide comfort to your home.