FILED
Department of Business and Professional Regulation
Deputy Agency Clerk
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Date 5/7/2013
File #

REQUEST FOR DECLARATORY STATEMENT
BEFORE THE FLORIDA BUILDING COMMISSION

Name: Jack O. Glenn
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DS 2013-036

Applicant: Dream Custom Homes, Inc.
14109 Angle Rd.
Hudson, F 34699

I am applying for the Declaratory Statement on behalf of Dream Custom Homes, Inc., a member of the Florida Home Builders Association, as the Director of Technical Services of said Association.

Code Sections on which the request is being made:

Florida Building Code – Mechanical Section 903 Factory-Built Fireplaces
Florida Building Code- Energy Conservation Section 402.4.3 Fireplaces

Background: Compliance with FBC-EC will create a violation of the UL127 listing as prescribed in FBC-M Section 903. According to information provided by Underwriters Laboratories the installation of "gaskets" on factory built fireplaces that are listed in UL127 (Factory Built Fireplaces) with negate the approval shown by the listing.
Discussions with the International Code Council and an interpretations issued by same indicates the intention of section 402.4.3 of the 2009 IECC which made the requirement for "gasketed" fireplace doors was intended to be applied to site built masonry fireplaces only. With the development of the 2012 IECC the Code Committee agreed adding gaskets to "Factory Built Fireplaces" created a safety hazard and changed the code to require tight fitting doors

Referenced code sections:

2010 FBC-M

903.1 General.
Factory-built fireplaces shall be ***listed*** **and** ***labeled*** and shall be installed in accordance with the conditions of the listing. Factory-built fireplaces shall be tested in accordance with UL 127. (According to UL this matter of fire safety.)

2010 FBC-EC

402.4.3 Fireplaces.
New wood-burning fireplaces shall have gasketed doors and outdoor combustion air.
2012 IECC.
(Gaskets are required to reduce leakage at times the fireplace is not being used, an energy saving feature.)

2012 IECC

R402.4 Fireplaces.
New wood-burning fireplaces shall have tight-fitting flue dampers and outdoor combustion air.

Note: all questions are related to "Factory-built" wood burning fireplaces and not intended to address site built masonry fireplaces.

Question:

If the installation of gaskets as required in the FBC-EC has the effect of invaliding the listing of the factory-built fireplaces should the requirement of FBC-M for tight fitting doors be the correct action during inspection?

If the answer is **YES**, then should the requirement for gasketed doors be removed from the code?

If the answer is **NO**, how can factory-built fireplaces with gasketed doors be installed when they violate the UL127 listing?

Respectfully submitted

Jack O. Glenn
Director of Technical Services
Florida Home Builders Association
201 E. Park Ave.
Tallahassee, FL 32301

From: Bob Borscha [mailto:bborscha@atomatic.com]
Sent: Monday, May 03, 2010 2:50 PM
To: Darren Meyers
Cc: Bob Fraser
Subject: Fireplaces

Are pre-fabricated fireplaces required to meet the same requirement as masonry fireplaces?

I have been in contact with our fireplace supplier; he seems to think that this code was intended to tighten up the very leaky masonry fireplaces not pre fabricated metal units that which have a very tight flue damper.
Also according to him, UL will not allow for gasketed glass doors to be fitted to a listed unit that passed their tests.
Please share your interpretation of this as is pertains to this type of fireplace.
Thank you in advance.
Please visit our NEW web site at www.atomatic.com to learn more about Atomatic, our capabilities and the HVAC industry.
Bob Borscha
Atomatic Mechanical Services, Inc.
3733 N. Ventura Drive
Arlington Heights, IL 60004
847.818.4300(o) 847.812.7741(c) 847.818.4302(f)

>>> "Darren Meyers" <dmeyers@iccsafe.org> 5/4/2010 10:43 AM >>>

Greetings Bob,

This is in reply to your inquiry below, during which you posed a question regarding the interpretation of the 2009 IECC relative to Section 402.4.3 and the phraseology, "new wood-burning fireplaces" having "gasketed doors". Please note that our interpretation of this provision has been conveyed to the Hearth Patio and Barbecue Association (HPBA), relative to their involvement in the IgCC draft development process, as well as a number of building officials and stakeholders throughout Illinois.
My answer follows:

The provisions of Section 402.4.3 are derived from International Energy Conservation Code (IECC) Change EC64-07/08, Part I (AM). In the supporting reason to this proposal, the conditions for adding language for better performing fireplaces, including gasketed doors and outside combustion air, were produced to address concerns for energy savings derived from the mitigation of air leakage during periods of non-use, as well as indoor air quality concerns.

To be clear, Section 402.4.3 addresses "wood-burning fireplaces." We interpret this to mean "masonry fireplaces" constructed in accordance with the International Building Code - Section 2111, and NOT "factory-built" fireplaces manufactured in accordance with the International Mechanical Code - Section 903. Our rationale is derived from the confusion with respect to requirements for "gasketed doors," since certain "factory-built" fireplaces are listed and labeled to burn wood

(i.e., UL 127). In this regard, the intent of the Section 402.4.3 proviso is to mitigate air leakage during periods of non-use, but not where the conditions of fireplace installation are in violation of the UL 127 listing. Worth noting here, and as occurred during draft development proceedings of the International green Construction Code Draft v4, The HPBA submitted its approach proposing new language in lieu of the language similar to IECC Section 402.4.3 as follows:

605.1.4.4. Fireplaces. ~~New, wood-burning fireplaces shall have gasketed doors and outdoor combustion air~~ Wood-burning fireplaces shall be provided with combustion air directly from the outdoors and shall be provided with a means to tightly close off the chimney flue and combustion air outlets when the fireplace is not in use.

In support, HPBA offered the following "Rationale" as excerpted: Rationale. "These units [factory-built fireplaces] are to be UL 127 [factory-built] fireplaces and there are no gaskets allowed on these products. The addition of gaskets voids the safety testing on these products. The goal here seems to be to not allow any air loss or gain within the structure, which in the original version was accomplished by gasketing the doors. However, there are numerous ways to accomplish that without requiring gasketed doors. For example, there are several low emission units which are a part of the new EPA Cleaner Burning Fireplace Program (http://www.epa.gov/burnwise/fireplacepartners.html) which are "tightly sealed," yet do not have gasketed doors. HPBA understands that this requirement already exists in the 2009 IECC."

Accordingly, and solely for "factory-built fireplaces," I recommend pursuing relief from the proviso for "gasketed doors" administratively vis-à-vis IECC Sections 101.3 (". this code is not intended to abridge safety . requirements contained in other applicable codes or ordinances.") and 102.1 (". provided that such construction [or] design . has been approved by the code official as meeting the intent of this code.").

We hope this electronic-mail response answers your question in full. The above opinion is based solely on the information which you have provided. We have made no independent effort to verify the accuracy of your submitted information nor have we conducted a review beyond the scope of your question. Remember that the code official has the authority to interpret the code, and that the opinions of ICC Staff are only advisory.

Thank you for your inquiry, -Darren

Darren B. Meyers, PE, CEM, GBE | Technical Director - Energy Programs | Architectural & Engineering Services | International Code Council, Inc. | 4051 W. Flossmoor Rd., Country Club Hills, IL 60478 | 1-888-ICC-SAFE

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Differences between 2009 and 2012 IRC

December 17, 2012

heatilator HEAT & GLO QUADRA-FIRE HARMAN heatilator ECO CHOICE FIRESIDE HEARTH & HOME

Fireplaces

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- 2009 IRC
  - **N1102.4.3 Fireplaces**. New wood-burning fireplaces shall have gasketed doors and outdoor combustion air.
- 2012 IRC
  - **N1102.4.2 (R402.4.2) Fireplaces**. New wood-burning fireplaces shall have tight-fitting flue dampers and outdoor combustion air.
- HPBA and industry pushed for the language change due to the fire risk of gasketed doors being put on fireplaces not designed to operate with gasketed doors.

Air Leakage

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- 2009 IRC
  - **N1102.4 Air Leakage**, allows the building envelope air tightness to be validated by either a visual inspection option or a testing option.
    - Tested air leakage is less than 7 ACH at 50 Pascal's via blower door test.
- 2012 IRC
  - **N1102.4 Air Leakage (Mandatory)**, requires that the building/dwelling be tested and verified for leakage rate via a blower door test.
    - 5 ACH at 50 Pascal's in Zones 1 and 2.
    - 3 ACH at 50 Pascal's in Zones 3 through 8.

2012 IRC Code Language

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N1102.4 (R402.4) Air leakage (Mandatory). The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of Sections N1102.4.1 through N1102.4.4.

N1102.4.1 (R402.4.1) Building thermal envelope. The *building thermal envelope shall comply with Sections* N1102.4.1.1 and N1102.4.1.2. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.

N1102.4.1.1 (R402.4.1.1) Installation. The components of the *building thermal envelope as listed in* Table N1102.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table N1102.4.1.1, as applicable to the method of construction. Where required by the *building official, an approved third party shall inspect all components and* verify compliance.

N1102.4.1.2 (R402.4.1.2) Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour in Zones 1 and 2, and 3 air changes per hour in Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the *building official, testing shall be* conducted by an *approved third party. A written report* of the results of the test shall be signed by the party conducting the test and provided to the *building official.* Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope.* During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weather stripping or other infiltration control measures;
2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures;
3. Interior doors, if installed at the time of the test, shall be open;
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed;
5. Heating and cooling systems, if installed at the time of the test, shall be turned off; and
6. Supply and return registers, if installed at the time of the test, shall be fully open.

N1102.4.2 (R402.4.2) Fireplaces. New wood-burning fireplaces shall have tight-fitting flue dampers and outdoor combustion air.

ENERGY CONSERVATION CODE

2010 Florida Building Code

Residential Training Document

refer to pg 13 402.4.3

This Document Is Not Intended To Replace The Code – please read the Code

Code Sections Are Provided To Encourage The User To Read The Code.

This Document Is Intended To Assist A New User In Understanding The Basic Requirement Of The Code For Single Family Dwellings - 3 Stories Or Less In Height.

Special Note: Mandatory code sections have been underlined

systems MUST be sealed
- HVAC systems MUST be turned off
- HVAC ducts MUST NOT be sealed, and
- Supply and return registers MUST NOT be sealed

402.4.2.2 **Visual Inspection Option**
- Field Inspection using requirements of Table 402.4.2
- Building Official may require third-party certification

402.4.3 **New Wood-burning Fireplaces Require:**
- Gasketed Doors
- Outdoor Combustion Air

402.4.5 **Recessed Lighting**
- Recessed Lighting installed in the Building Thermal Envelope, MUST BE:
  - IC-rated
  - Labeled ASTM E 283 Compliant
  - Sealed with a gasket or caulk between housing and wall/ceiling

402.5 **Maximum Fenestration SHGC – MANDATORY**
- When using Trade-offs from Section 405, the area-weighted average maximum allowed for fenestration SHGC is 0.50
- **EXCEPTION** – When the window area-weighted average overhang for the entire dwelling unit is 4.0 feet or greater, the area-weighted average maximum SHGC of 0.50 does not have to be met

SECTION 403 **SYSTEMS**

403.1 **Controls – MANDATORY**

403.1.1 **Thermostats**
- At least one thermostat must be provided for each heating / cooling system
- Where the primary heating system is forced-air furnace – a Programmable Thermostat is Required – Capable of a 55 – 85 degrees temporary range
  - Initial Programming settings
    - HEAT – set no higher than 70 degrees
    - COOLING – set no lower than 78 degrees

403.1.2 **Heat Pump – Supplemental Heat - MANDATORY**
- Heat Pumps with supplemental electric-resistance heat, shall:
  - Have controls to prevent supplemental heat from operating when the Heat Pump compressor can handle the heating load
  - **EXCEPTION** – Controls must allow normal defrost cycle

403.1.3 **Humidity Control** – Comfort Dehumidification
- Where used, the humidistat must be capable of being set to prevent the use of electricity or fossil fuel to reduce humidities below 60 percent

Frank Barcellona

From: Frank Baxter [fbaxter@co.hernando.fl.us]
Sent: Monday, March 25, 2013 3:26 PM
To: Frank Barcellona
Subject: RE: RE.. 402.4.3 gasketed fireplace doors.pdf

Frank,
I tried to send this to dan but it would not go.

I have looked at all of the information that my inspector has and have read what has been provided from your end. I must agree with my inspector that there is no option in the code book to not have the doors with seals on them.

From my experience I have never put in a fireplace without having sealed doors as part of the metal box fire place. This is the first that I have heard of it being a problem and wil have to research the matter. At this point I can not go against the code requirement.

Frank Baxter

From: Frank Barcellona [mailto:Frank@aplusfireplaces.com]
Sent: Friday, March 22, 2013 4:46 PM
To: Frank Baxter
Subject: FW: RE.. 402.4.3 gasketed fireplace doors.pdf

Good afternoon once again. In the event you should not see this before Monday morning, please direct any correspondence to Dan Bologna in our office in Port Richey as I will be out of town the entire week. Dan is another contractor sales representative here, and is aware of the situation regarding the fireplace inspection.. his e-mail is danbologna@aplusfireplaces.com or his number in our office is 800-282-1117 extension 233. Thanks once again!!

From: Frank Barcellona
Sent: Friday, March 22, 2013 3:05 PM
To: 'fbaxter@co.hernando.fl.us'
Cc: Guido Mancini; Dan Bologna
Subject: RE.. 402.4.3 gasketed fireplace doors.pdf

Good afternoon sir. My name is Frank Barcellona, and I am employed by A-Plus Fireplaces in Port Richey. We have served the area since 1980 as a distributor of pre fabricated woodburning and gas fireplaces. We have a particular home, built by Dream custom homes at 14574 Copeland way, in the Springwood estates subdivision, that has failed inspection due to "lack of gasketed doors", which we now see added to an energy code. The requirement appears to have been painted with an extremely wide brush, as no exceptions were noted. This has obviously been a problem all over the country in the year since it was first implemented, and we are just beginning to see it here. I am attaching information from another testing service regarding this ruling, and the problems it has been creating as a result (not just for US, as a retailer and distributor for such products, but also for the end user/homeowner who puts a set of gasketed doors on a fireplace that is not approved and/or intended to use said doors, and creating a potential fire hazard..) Further explanation reveals (but never shown as an "exception" in the code) that the rule basically applies to a man-made, field built masonry (all bricks/blocks/clay tile flue) fireplace, which does have a looser fitting damper system, and no doors (in most cases) where warm room air can

indeed escape up the flue.. In the case of a pre-fabricated, metal firebox with metal chimney pipe (as is the fireplace at 14574 Copeland Way/Marshall res.) these units are tested and listed to U.L 127 standards. These units include outside air as standard. The 4 inch duct connector for the outside air has its own damper flap built right into it and can be closed tight when the fireplace is not in use. Additionally, the flue dampers for the air-cooled flue system are not only fully closeable, but can lock closed. The doors provided as optional, though NOT gasketed, further block heat loss up the flue when the firebox is not being used. These provisions are manufactured right into the fireplace, giving it the UL 127 listing. Adding gasketed doors to these units not only void the manufacturers warranty, but pose a fire risk to the end user..If the damper is simply closed when the fireplace is not in use, any chance of energy (central heat) loss up the flue is eliminated...I appreciate your consideration in this matter....

1 Listing and Code Approvals

A. Appliance Certification

This fireplace system has been tested and listed in accordance with UL 127 and ULC-S610 standards by Underwriters Laboratories Inc. for installation and operation in the United States and Canada.

This fireplace may be installed in sleeping rooms EXCEPT in manufactured homes. If installed with a gas log set, provisions for the National Fuel Gas Code must be met.

This fireplace has been tested and listed for use with the optional components specified in this manual. These optional components may be purchased separately and installed at a later date. Installation of an outside air kit will require significant reconstruction and is best if installed at the time of fireplace installation.

Heatilator is a registered trademark of Hearth & Home Technologies Inc.

WARNING! Risk of Fire! *Hearth & Home Technologies disclaims any responsibility for, and the warranty and agency listing will be voided by the following actions.*

DO NOT:

- *install or operate damaged fireplace*
- *modify fireplace*
- *install other than as instructed by Hearth & Home Technologies*
- *operate the fireplace without fully assembling all components*
- *overfire*
- *install an unvented gas log set*
- *install any component not approved by Hearth & Home Technologies*
- *install parts or components not Listed or approved*

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. For assistance or additional information, consult a qualified installer, service agency or your dealer.

NOTICE: *This fireplace is tested and approved as a decorative fireplace. It should not be factored as a primary heat source in residential heating calculations.*

B. Non-Combustible Materials

- Materials which will not ignite and burn, composed of any combination of the following:
  - Steel
  - Iron
  - Brick
  - Tile
  - Concrete
  - Slate
  - Glass
  - Plasters
- Materials reported as passing **ASTM E 136, Standard Test Method for Behavior of Metals, in a Vertical Tube Furnace at 750° C**

C. Combustible Materials

- Materials made of or surfaced with any of the following materials:
  - Wood
  - Compressed paper
  - Plant fibers
  - Plastic
- Any material that can ignite and burn; flame proofed or not, plastered or un-plastered

H. Glass Doors

- Glass doors are optional.
- Refer to Figure 2.2 for how to properly use them.

WARNING! Risk of Fire! *Install ONLY doors approved by Hearth & Home Technologies, Inc.*

WARNING! Risk of Fire and Smoke! *Fireplaces equipped with doors should be operated only with doors fully open or doors fully closed. If doors are left partly open, gas and flame may be drawn out of the fireplace opening.*

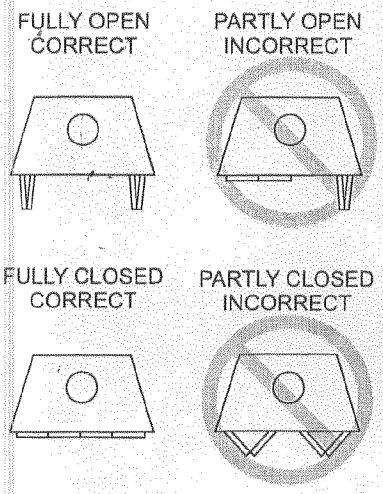


Figure 2.2 Operating Positions of Bi-fold Doors

I. Outside Air (optional)

The outside air kit supplies some combustion air for your fireplace. It may help reduce the effects of negative air pressure. (See Section 5.D.)

- Refer to Figure 2.1 for location of control
- Close the inlet to prevent cold drafts when the fireplace is not being used.

CAUTION! Risk of Burns! *The outside air control handle is HOT when fireplace is in operation. Adjust BEFORE lighting fire.*

J. Vented Gas Log Sets & Gas Log Lighters

- Optional
- Vented gas logs or gas log lighters can be installed in this fireplace. Follow the instructions provided with the accessory for operation.

WARNING! Risk of Fire or Asphyxiation!

- ***DO NOT*** *install unvented gas logs.*
- *Damper must be locked open.*
- *Gas flame may generate fumes.*

K. Optional Components

- Other options may be available
- Consult your dealer/distributor

WARNING! Risk of Fire! DO NOT *install and or use any component not approved by Hearth & Home Technologies Inc.*

L. Clear Space

- Do not place combustible objects within areas indicated in Figure 2.3.

WARNING! DO NOT *place combustible objects in front of the fireplace. High temperatures may ignite clothing, furniture or draperies.*

- Mantel - avoid placing candles and other heat-sensitive objects on mantel or hearth. Heat may damage these objects.

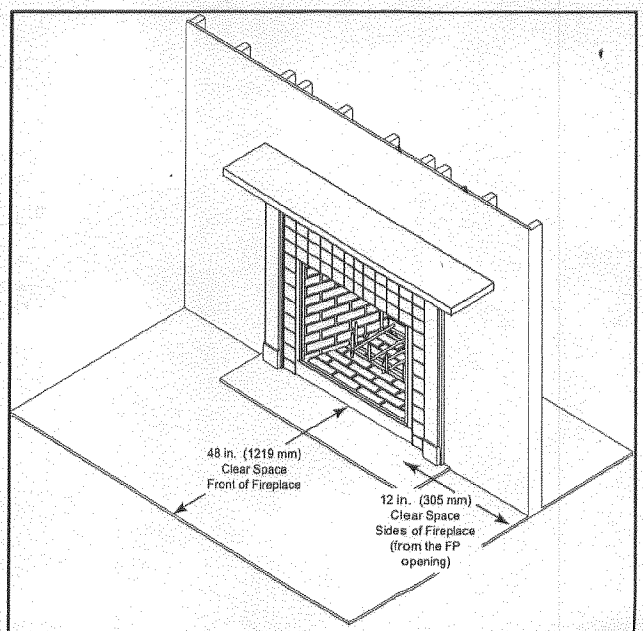
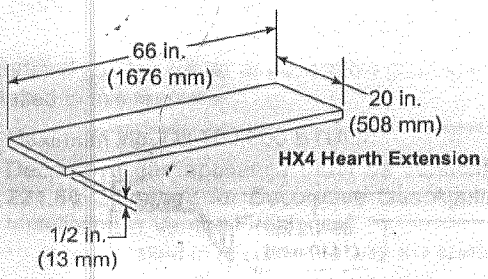


Figure 2.3 Clear Space

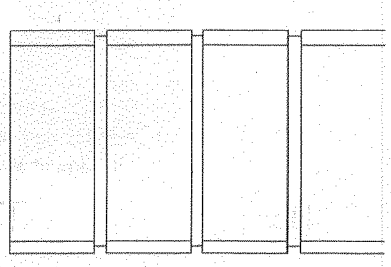
B. Optional Components

I60	I80	Description
DM6036	DM8042	Glass doors - Bi-fold, clear view, black
DM6036B	DM8042B	Glass doors - Bi-fold, clear view, polished brass
DM6036S	DM8042S	Glass doors - Bi-fold, clear view, stainless steel
HX4	HX4	Hearth extension

GLASS DOORS are OPTIONAL



HX4 Hearth Extension


Bi-fold Glass Doors

NO GASKETING.

See your Heatilator dealer for a complete listing of optional components.

attn JIM VESTAL / HERNANDO CTY. Pg 1 of 2
FROM FRANK @ A-PLUS FIREPLACES

JIM - 540-6699 ext 29250

Intertek

8431 Murphy Drive
Middleton, WI 53562

Telephone: 608 836 4400
Facsimile: 608 831 9279
www.intertek-etlsemko.com

18 February 2011

RE: 2009 IECC 402.4.3 and IRC R1001.11 Regarding Gasketed Fireplace Doors

To Whom It May Concern:

The issue with respect to the 2009 IRC section R1001.11, exception # 1 and 2009 IECC 402.4.3 requirement for gasketed doors on fireplaces has been problematic as this requirement runs counter to safety requirements. This provision was added to the code as a means of attempting to reduce potential energy losses associated with air infiltration caused by air leakage through an open fireplace and chimney system. However, it is clear that the impact of this requirement on the safe operation of affected fireplaces was not understood or fully considered. When this issue was brought to the industry's attention, ICC-ES was asked for an interpretation. I am attaching the response from ICC-ES engineer Darren Meyers.

It is my view that the addition of tightly sealed doors to either masonry or factory-built fireplaces presents a significant safety hazard. These products are normally used only on an occasional basis and require a large air flow (dilution air) both to keep flue temperatures low and prevent smoking, flame spillage and overheating. Fitting tightly sealed doors could allow the user to operate a fireplace for much longer periods with significantly higher firebox and flue gas temperatures than occur in normal "open combustion" operation. This could lead to overheating of the outside of the fireplace and chimney and increases the potential for ignition on nearby combustibles. It could also result in less efficient combustion, greater creosote accumulation in chimneys and increased particulate emissions. In experiments with long term burning of masonry fireplaces in the early 1980's it was found that virtually all code compliant masonry fireplaces would exceed safe outer surface temperatures if operated continuously for 12 to 16 hours. One lab conducting these tests even had its test enclosure ignite while conducting this type of test - 4 hours after the firing had been stopped.

There is a UL safety standard that applies to doors for masonry fireplaces. This is UL 907 – Safety Standard for Fireplace Accessories (2010). This standard requires steady continuous firing of a masonry fireplace, built per the current code, until equilibrium temperatures are reached. However, experience has shown that this fireplace design, with or without doors installed, will not reach equilibrium conditions before the maximum allowable temperatures of the combustible surrounding structure are exceeded. Thus, to my knowledge, there are no accessory type fireplace doors for masonry fireplaces that are listed to UL 907.

Almost all factory-built fireplaces I know of have unsealed doors which are necessary to prevent over heating and glass breakage. I believe most all of these units would not meet