



# ICBO Evaluation Service, Inc.

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5360 SOUTH WORKMAN MILL ROAD

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## ACCEPTANCE CRITERIA FOR SOLID-FUEL-BURNING HEATING APPLIANCES

April, 1989

### PREFACE

Evaluation reports issued by the ICBO Evaluation Service, Inc. (ICBO ES), are based upon performance features of the Uniform Building Code, Uniform Mechanical Code, Uniform Plumbing Code and related codes. Section 105 of the Uniform Building Code is the primary charging section upon which evaluation reports are issued. Section 105 reads as follows:

The provisions of this code are not intended to prevent the use of any material or method of construction not specifically prescribed by this code, provided any alternate has been approved and its use authorized by the building official.

The building official may approve any such alternate, provided he finds that the proposed design is satisfactory and complies with the provisions of this code and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation.

The building official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

The attached acceptance criteria for the general code sections noted have been issued to provide all interested parties with guidelines on implementing performance features of the codes. The attached acceptance criteria were developed and adopted following public hearings conducted by the Evaluation Committee. These criteria may be revised from time to time as the need dictates.

ICBO ES may consider alternate criteria, provided the proponent submits valid data demonstrating that the alternate criteria are at least equivalent to the attached criteria and otherwise meet the applicable performance requirements of the codes. Notwithstanding that a material, type or method of construction, or equipment, meets the attached acceptance criteria, or it can be demonstrated that valid alternate criteria are equivalent and otherwise meet the applicable performance requirements of the codes, if the material, product, system or equipment is such that either unusual care with its installation or use must be exercised for satisfactory performance, or malfunctioning is apt to cause unreasonable property damage or personal injury or sickness relative to the benefits to be achieved by the use thereof, ICBO ES retains the right to refuse to issue or renew an evaluation report.

Published by the

### International Conference of Building Officials

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(213) 699-0541

PRINTED IN U.S.A.

# ACCEPTANCE CRITERIA FOR SOLID-FUEL-BURNING HEATING APPLIANCES

## I. INTRODUCTION

The purpose of these criteria is to establish requirements for ICBO Evaluation Service, Inc. (ICBO ES), recognition of solid-fuel-burning heating appliances under Chapter 37 of the Uniform Building Code and Chapters 5, 6 and 9 of the Uniform Mechanical Code.

## II. DEFINITIONS

**Factory-built Fireplaces** are fireplaces composed entirely of listed factory-built components installed in accordance with the terms of listing to form the completed fireplace.

**Fireplace Heat Exchangers** are listed metal heat circulators or accessories designed for installation within a masonry fireplace built in accordance with the Uniform Building Code.

**Fireplace Inserts** are listed fire chamber assemblies designed for field insertion into the firebox of a complying masonry fireplace.

**Fireplace Stoves** are listed freestanding assemblies having fire chambers intended to be operated open to the room or, if equipped with doors, to be operated with doors either open or closed.

**Fireplaces, Supplementary Central Heating** are listed assemblies consisting of a metal heat circulator or a factory-built fireplace designed for operation in conjunction with a central heating furnace. The warm air outlets of the supplementary furnace are typically connected by ducts to a plenum serving a central heating system.

**Furnaces, Solid-fuel-burning Central** are listed self-contained indirect fired appliances supplying heated air through ducts to the space to be heated. Air is circulated either by natural convection (gravity furnace) or by a power-driven fan (forced air furnace).

**Furnaces, Supplementary Central** are listed solid-fuel-burning appliances intended to be interconnected with a listed gas or oil-fired forced-air central furnace by a common warm-air supply plenum.

**Listed** refers to equipment and materials which are shown in a list published by an approved testing agency, qualified and equipped for experimental testing and maintaining an adequate periodic inspection of current production and whose listing states that the equipment complies with recognized safety standards.

**Metal Heat Circulators** are listed fire chamber assemblies for installation wholly within a new masonry enclosure built in accordance with the manufacturer's instructions and the code. They consist of a fire chamber with at least one circulating warm-air chamber and warm-air outlets to discharge heated air within the room where the circulators are located. Air circulation may be by natural convection or mechanically induced. These appliances are also known as fireplace chambers, masonry enclosed.

**Room Heaters** are listed freestanding fire chamber assemblies designed to be operated with the fire chamber closed except for fueling.

**Uniform Building Code**, 1988 Edition, published by International Conference of Building Officials, hereinafter referred to as the Building Code.

**Uniform Mechanical Code**, 1988 Edition, published by International Conference of Building Officials, hereinafter referred to as the Mechanical Code.

## III. QUESTIONS AND ANSWERS

**1. Question:** What test standards must be used to evaluate solid-fuel-burning fireplaces, fireplace stoves, room heaters, heat exchangers, metal heat circulators, inserts, fireplace accessories, furnaces and factory-built chimneys?

**Answer:** The following are the applicable standards:

- A. Sixth edition, dated September 28, 1988, Underwriters Laboratories Inc. (UL) Standard No. 127 for factory-built fireplaces.
- B. Sixth edition, dated September 16, 1988, revised September 19, 1988, UL Standard No. 737 for fireplace stoves.
- C. Third edition, dated September 12, 1988, UL Standard No. 1482 for room heaters.
- D. Criteria delineated in this document for heat exchangers, metal heat circulators, inserts and fireplaces, supplementary central heating.
- E. First edition, second impression, dated September 10, 1984, UL Standard No. 391 for solid-fuel-burning central and supplementary central furnaces.
- F. Seventh edition, dated February 22, 1989, and revised on February 23, 1989, UL Standard No. 103 for factory-built chimneys.

The ICBO ES may waive any specified test in the above-noted standards and criteria if the performance of the product or system is predictable based on accepted engineering principles and existing test data.

**2. Question:** Must appliances qualified under earlier editions of the standard (or criteria) comply with current requirements?

**Answer:** Compliance with current standards is necessary, which could require additional tests.

**3. Question:** Is factory inspection by a quality control agency required as a condition of recognition?

**Answer:** Yes. Proponents must furnish evidence of contractual agreement with a recognized quality control agency having its own ICBO ES or NES evaluation report indicating compliance with this requirement. The inspections are to be conducted in accordance with the procedures outlined in the quality control manual.

**4. Question:** What are the requirements for a quality control manual?

**Answer:** Quality control manual must comply with ICBO ES Acceptance Criteria for Quality Control Manuals.

**5. Question:** For solid-fuel-burning heating appliances, is it necessary for the quality control (listing) agency to also be the testing agency, as specified in the "Definition" section?

**Answer:** No. However, it is important that a complete description of the unit is provided to the inspection agency along with fabrication drawings, component specifications and installation instructions, certified by the testing laboratory to assure proper inspections.

**6. Question:** Are glass doors and other accessories permitted on solid-fuel-burning appliances if not tested with the appliance?

**Answer:** Only components tested with the unit are recognized. Recognition of untested doors, gas-burning devices such as log lighters, etc., or other modifications of the test unit would be contrary to the terms of the listing and would void the ICBO ES report.

**7. Question:** If a manufacturer intends to produce appliances of identical construction, except for size, must all sizes be tested?

**Answer:** The smallest and largest units must be tested. If they comply, intermediate sizes can be considered without testing, provided the ratios of hearth area to flue area and firebox opening area to flue area are comparable and, provided the intermediate size units are installed under the most restrictive conditions indicated by the tests.

**8. Question:** Are visible warnings on an appliance permitted in lieu of testing and operation with a grate or with the doors open?

**Answer:** The specified tests are to be conducted in all possible operating modes, regardless of the manufacturer's instructions and warning labels. An example would be evaluating room heaters with the fueling door and ash drawer open to determine whether a critical condition exists. This permits a full evaluation of performance. Upon review of data, a determination will be made if a permanent warning label is sufficient. When permitted, the permanent label on the appliance must specify the potential hazards when operating in the abnormal mode. The label must be visible after installation of the appliance.

**9. Question:** ICBO ES reports on solid-fuel-burning appliances specify the minimum clearance between a combustible wall and the appliance. What is the definition of the term "combustible," and what type of protection is required on combustible walls to reduce the specified clearance?

**Answer:** A noncombustible wall is one whose structural components and coverings are materials such as masonry, concrete and steel. A wood stud wall is considered combustible regardless of the wall covering. As an example, wood studs in a wall faced with brick veneer, gypsum wallboard, plaster or metal would be combustible with the required clearances measured from the face of the studs. Reduction of listed clearances is not permitted unless the appliance and wall protection have been tested together in accordance with the applicable standard.

**10. Question:** Can room heaters and fireplace stoves recognized by the ICBO ES be installed in accordance with Tables Nos. 5-A and 5-B of the Mechanical Code?

**Answer:** Clearances noted in Tables Nos. 5-A and 5-B may not be used for listed appliances covered by ICBO ES reports. Based on test data submitted on such products, required clearances sometimes exceed those in the referenced tables. Since recognized national test standards exist, clearances to combustibles should be established by the prescribed tests for uniformity.

**11. Question:** What form of identification is required on solid-fuel-burning appliances recognized by ICBO ES?

**Answer:** Appliances must be identified with a steel or aluminum plate embossed label, or equivalent, permanently attached at a conspicuous location bearing the manufacturer's name and address, model number, serial number, clearance to combustibles, type of fuel, details on hearth extension and chimney, evaluation report number, electrical rating, the name of the inspection agency, the reminder that chimney connector must be installed per the Mechanical Code, that installation of the appliance must be in accordance with the manufacturer's instructions and the evaluation report and that the local building official should be contacted prior to installation. The need for additional information concerning installation and operation of the unit is determined on an individual basis. Labels must withstand, without deterioration, the temperatures and physical abuse expected during normal use of the appliance. Different model numbers must be used for listed and unlisted appliances where a manufacturer produces both types.

**12. Question:** What are the requirements for recognition of room heaters and fireplace stoves as “hearth stoves” that vent into an existing complying masonry fireplace?

**Answer:** Room heaters and fireplace stoves covered by ICBO ES reports can be recognized, without additional testing, for installations as “hearth stoves” and vented into an existing complying masonry or concrete fireplace, under the following conditions:

- A. Positive (sealed) venting arrangement between the appliance and masonry or concrete chimney. This may require chimney connectors and filler plates for the chimney throat, masonry firebox opening, etc.
- B. Removable filler plate to provide access for cleaning chimney and masonry firebox area.
- C. Inspection and approval of the existing masonry chimney and fireplace by the local building official prior to installation of the appliance to determine compliance with current building requirements.
- D. Specifying the required minimum cross-sectional chimney area on the appliance identification label.
- E. Evaluation of an actual installation by a recognized testing laboratory to determine adequacy and completeness of installation instructions. Results of the laboratory inspection must be submitted and must include minimum required clearances between the unit and combustibles and minimum hearth extension requirements.

**13. Question:** ICBO ES reports on solid-fuel-burning appliances specify clearances between the appliance and combustible construction. What clearances are required between such appliances and completely noncombustible construction such as masonry or concrete?

**Answer:** Clearances to noncombustible construction must be identical to those required for combustible construction as determined by the qualifying tests unless additional tests are conducted to establish different clearances. Tests may be waived if analytical data based on accepted engineering principles and past tests are submitted.

**14. Question:** What is the heat input of a wood-burning appliance in determining combustion air requirements under Section 601 of the Mechanical Code?

**Answer:** Based on the fuel load used in the qualifying tests, heat input of a wood-burning appliance may be assumed at 68,000 Btu per hour per square foot of hearth area.

**15. Question:** What are the follow-up inspection requirements on solid-fuel-burning appliances manufactured overseas?

**Answer:** The same level of quality control and follow-up inspection is required for overseas manufacturers as required of domestic manufacturers. This includes frequency of unannounced follow-up inspections by the recognized quality control agency.

**16. Question:** Must solid-fuel-burning appliances be anchored to prevent lateral movement?

**Answer:** Section 504 of the Mechanical Code specifies that all appliances designed to be fixed in position shall be securely fastened in place. This section of the code is subject to field enforcement by the building official having jurisdiction and is of particular importance in areas subject to earthquakes.

**17. Question:** Is any limitation placed on chimney height for fireplace stoves and room heaters?

**Answer:** Except as specified in Section 3703 (f) of the Building Code, no restrictions are placed on the chimney height. It must, however, be noted that factory-built chimneys must be installed in accordance with their listings.

**18. Question:** What restrictions are imposed on a factory-built fireplace chimney height?

**Answer:** The overall height of a fireplace and chimney must comply with the report. Fireplaces are subjected to the Radiant, Brand and Flash Fire tests specified in the standard using the maximum and minimum chimney height specified by the fireplace manufacturer. Tests are also to be conducted using an intermediate height chimney, if the assembly having an intermediate height chimney could develop higher temperature.

**19. Question:** Can heat exchangers and metal heat circulators be connected to an existing heating system served by a listed central furnace?

**Answer:** Metal heat circulators and heat exchangers may only discharge heated air in the room in which they are located. See Definitions. Also, see Question No. 30.

**20. Question:** What are the requirements for air temperature within ducts connected to solid-fuel-burning appliances?

**Answer:** Section 1004 (b) of the Mechanical Code limits the temperature of air conveyed in factory-made air ducts to 250°F. Although a similar limitation is not placed on ducts fabricated and installed in accordance with Chapter 10 of the Mechanical Code, the 250°F. limit is recognized in national test standards for heating appliances. Unless otherwise specified in the test standard or acceptance criteria, duct air temperature will be limited to a maximum of 250°F. The 250°F. limit may be waived upon submission of

substantiating test data showing specific duct construction and installation details. Minimum clearances to combustibles must be specified for ducts, registers, grilles, etc., including how such clearances are maintained.

**21. Question:** Which laboratories are currently recognized by ICBO ES to perform tests on solid-fuel-burning appliances?

**Answer:** A list of currently recognized laboratories can be found in the Building Standards Part II listing index. Other laboratories may be accepted upon submission of data in accordance with Section D of the Rules of Procedure for Testing Agencies and on-site evaluation of the facility conducting tests. A qualified representative of the testing agency, must witness fabrication and installation of the test specimen.

**22. Question:** What type of information is required in test reports on solid-fuel-burning appliances?

**Answer:** Requirements for test reports on solid-fuel-burning appliances are in Appendix A.

**23. Question:** Can a hearth extension recessed into the floor be used with solid-fuel-burning heating appliances?

**Answer:** Supporting test data are necessary for recognition of this type of installation, since higher temperatures could result at the hearth extension-floor covering interface.

**24. Question:** What are the requirements for coal-burning appliances?

**Answer:** Coal-burning appliances must be subjected to the coal-fire tests described in the previously referenced UL Standard No. 1482 using bituminous and anthracite coals.

**25. Question:** What type of fuels can be used in appliances listed as solid-fuel-burning?

**Answer:** Appliances listed as solid-fuel-burning are recognized for burning, wood, charcoal, anthracite coal and bituminous coal. Note that the identification label on the appliance must show the type of fuel permitted based on tests conducted, such as solid fuel, wood only, coal only, etc.

**26. Question:** Do presently listed solid-fuel-burning appliances require retesting if coal is to be a recommended fuel?

**Answer:** Additional tests must be conducted to evaluate compliance with the criteria. In lieu of retesting, the ICBO ES report must be revised to indicate that only wood and charcoal may be used as fuel. The label, installation instructions, etc., must also be revised.

**27. Question:** What tests are required on furnace cements used on solid-fuel-burning appliances?

**Answer:** The following test must be conducted on furnace cements: Two pieces of 2-inch by 4-inch by 1/8-inch low-carbon steel plates are bonded together using the furnace cement selected by the heating appliance manufacturer. A minimum of three specimens are to be prepared for the initial qualification testing. The specimen steel surface preparation and cement application must be in accordance with the furnace cement manufacturer's instructions and must be described in the test report. The bonded specimens are placed in an oven and the temperature gradually increased to 1400°F and held at this temperature for one hour. The specimens are then removed, exposed to ambient room temperature for 15 minutes and placed back in the oven for another hour at 1400°F. This procedure is repeated five times. After the fifth cycle, the specimens are removed from the oven, allowed to cool to room temperature, and a 16-ounce steel ball is dropped from a minimum 12-inch height on each face and edge. To be considered acceptable, the plates must not delaminate.

**28. Question:** What are the test requirements for fireplace heat exchangers?

**Answer:** The following test procedures apply to factory-built fireplace heat exchangers designed for installation within masonry fireplaces complying with the Building Code. The heat exchanger is installed in accordance with the manufacturer's instructions. A typical heat exchanger consists of a passageway for circulating warm air. Air circulation may be by natural convection or mechanically induced. The masonry fireplace and the test structure must comply with UL Standard No. 907, dated March 6, 1989. Temperatures on combustibles, air ducts, grilles, etc., are to be monitored and must comply with UL Standard No. 127.

The heat exchanger and its related parts and masonry fireplace must be in safe operable condition at the conclusion of the tests.

Radiant, Brand and Flash fire tests are required. The Radiant and Brand Fire tests are to be conducted for a minimum of 12 hours. For test fuels, see Questions Nos. 24, 25 and 26. If the appliance incorporates electrical devices, tests are to be conducted to simulate the condition that would result in maximum temperature rise. Electrical components must be evaluated in accordance with the referenced UL Standard No. 127.

**29. Question:** What are the test requirements for metal heat circulators?

**Answer:** Tests specified in answer to Question No. 28 are applicable. The heat circulator is, however, installed within a masonry enclosure built in accordance with the manufacturer's instructions and complying with the structural requirements of the code.

**30. Question:** What are the test requirements for fireplaces, supplementary central heating?

**Answer:** Tests specified in answer to Question No. 28 for heat exchangers are applicable to fireplaces, supplementary central heating, with the following additional tests in accordance with UL Standard No. 391, dated September 10, 1984:

- A. Operation Test
- B. Limit Control Cutout Test
- C. Continuous Operation Test
- D. Air-Flow Restriction and Disruption Test

These tests are conducted with the maximum size central furnace operating simultaneously with the fireplace.

**31. Question:** Must masonry fireplaces or enclosures built around metal-heat circulators comply with the structural requirements of the Building Code?

**Answer:** Yes. Structural details indicating compliance with code requirements must be submitted to the building official for approval.

**32. Question:** What are the test requirements for fireplace inserts?

**Answer:** Fireplace inserts must be tested in accordance with applicable portions of UL Standard No. 907, dated March 6, 1989, and UL Standard No. 1482, dated September 12, 1988, with the following exceptions:

- A. Radiant and Brand Fire tests must be conducted for a minimum of 12 hours.
- B. The basis of acceptance for temperature rise on combustible materials in Radiant, Brand and Flash Fire tests with the insert will be by comparison of temperatures attained on the test enclosure described in the referenced standard. Controlling temperatures must be established by conducting Radiant and Brand Fire tests (followed by a Flash Fire test) in the masonry fireplace without the insert for a 12-hour period. The amount of solid fuel for each of the control tests without the appliance shall not exceed the load required for tests with the insert. The same tests will then be conducted with the insert installed. Maximum temperature rise on adjoining combustibles, 1 inch or more from the masonry fireplace and chimney when tested with the insert, cannot exceed those generated in the control tests without the appliance. Maximum allowable temperatures for the hearth extension area when testing inserts shall be limited to those prescribed in the standard.

**33. Question:** Can fireplace inserts be installed in listed factory-built fireplaces without testing?

**Answer:** No. Recognition of inserts in factory-built fireplaces require compliance with the following criteria:

- A. The insert and the fireplace must be tested together in accordance with UL Standard No. 127. The tests must be repeated with each model of fireplace on which recognition is desired.
- B. The insert and fireplace must be produced under a recognized quality control program with follow-up inspections by the same quality control agency. This ensures coordinated evaluation of changes in the fireplace or insert design.

**34. Question:** What type of chimney is required with wood-burning appliances?

**Answer:** A listed high-temperature (H.T.) chimney comply with the seventh edition, dated February 22, 1989, revised on February 23, 1989, Underwriters Laboratories Inc. Standard No. UL 103 is required for wood-burning appliances with closed combustion chambers. Factory-built fireplaces listed under UL Standard No. 127 with or without glass doors should be installed according to the listing using the chimney specified in the manufacturer's instructions. Free-standing open-combustion chamber fireplace stoves listed only under UL Standard No. 737 are exempt from this requirement and may, therefore, be installed with a listed low-heat appliance-type chimney.

**35. Question:** Can vented decorative gas appliances, such as gas logs, be installed in solid-fuel-burning fireplaces and, if so, under what conditions?

**Answer:** Vented decorative gas appliances not exceeding 90,000 Btu per hour input rating, such as gas logs, can be installed in solid-fuel-burning fireplaces under the following conditions:

- 1. The gas appliance must comply with ANSI Standard No. Z21.60-1981, Addenda Z21.60a-1982 and Z21.60b-1984 for decorative gas appliances for installation in vented fireplaces.
- 2. The gas appliance must be manufactured under a quality control program with inspections by an ICBO ES or NES recognized quality control agency, having its own ICBO ES or NES evaluation report.
- 3. The gas appliance and its installation must comply with Sections Nos. 801, 802 and 803 of the Uniform Mechanical Code.
- 4. Gas logs not complying with Section No. 2.3, Carbon Deposit and

Section No. 2.4, Combustion of the ANSI standard, may be recognized, provided the following conditions are satisfied, in addition to Items Nos. 2 and 3 above.

- a. The gas logs must comply with City of Los Angeles Rule of General Application, RGA-72, standard for decorative log sets for installation in wood-burning fireplaces.
- b. The gas logs will be limited for use in wood-burning fireplaces.
- c. Gases other than natural gas can be considered, provided recognition is limited to specific gases tested.
- d. If the gas logs are tested in a fireplace other than the masonry fireplace specifically referenced in the City of Los Angeles Rule of General Application, RGA-72, recognition will be based on recommendations of the testing agency on a case by case basis.

## APPENDIX A

### Test Reports

1. A complete written description of the product along with detailed fabrication drawings certified by the testing laboratory as representative of the specimens tested.

2. Test standard used and publication date.

3. Address of the facility. If tests are conducted at the manufacturer's facilities, complete details of the test enclosure and test equipment, including calibration thereof.

4. Test modes, i.e., doors open, doors closed, combustion air control fully open, combustion air control half open, etc., damper open, damper closed, blower on, blower off.

5. Time-temperature data for each fire test. Test duration to be that required to reach equilibrium, which is defined as three consecutive readings at half-hour intervals with steady or declining temperatures.

6. Drawings showing location of thermocouples on the test structure and unit.

7. An isometric drawing of the product showing individual component layout (exploded view).

8. Drawings showing the flow of combustion air, products of combustion and warm air.

9. The assembly, installation and operating instructions provided by the manufacturer must be reviewed and certified by the testing laboratory for clarity and completeness to install in accordance with the test standards and applicable code requirements.

10. Facsimile of the identification label. Appliances must be identified with a steel or aluminum plate embossed label, or equivalent, permanently attached in a conspicuous location and bearing the manufacturer's name and address, model number, serial number, clearance to combustibles, type of fuel, details on hearth extension and chimney, evaluation report number, electrical rating, the name of the inspection agency, the reminder that chimney connector must be installed per the Uniform Mechanical Code, that installation of the appliance must be in accordance with the manufacturer's instructions and the evaluation report and that the local building official should be contacted prior to installation. The need for additional information concerning installation and operation of the unit is determined on an individual basis. Labels must withstand, without deterioration, the temperature and physical abuse expected during normal use of the appliance. Different model numbers must be used for listed and unlisted appliances where a manufacturer produces both types.

11. Photographs of the test structure prior to, during, and at the conclusion of tests.

12. A specific statement concerning flame- and smoke-spillage, including time interval, if spillage is noticed.

13. Date and time each portion of test was started and concluded.

14. Hearth size, brand size and brand conditioning details.

15. Types of fuels tested with fuel types, such as wood only, wood, anthracite and bituminous coal or coal only.

16. Drawing showing installation of the unit in the test structure, noting all relevant clearances.

17. Complete substantiating data justifying waiver of any test specified in the standard or the acceptance criteria.

18. Complete description and substantiation of any deviation from the test standard.

19. Complete copy of standard Tables Nos. I and II per attachment.

**TABLE NO. I  
(BUILT-IN FIREPLACES)**

NO.	MODEL	OVERALL SIZE (Inches)			FIREBOX OPENING SIZE (Inches)	HEARTH EXTENSION SIZE <sup>1</sup> (Inches)	CHIMNEY SIZE—I.D. (Inches)	INSTALLED HEIGHT—FIREPLACE AND CHIMNEY (Feet)		REMARKS
		Width	Depth	Height	Width × Height	Width × Depth		Min.	Max.	

<sup>1</sup>Hearth extension shall be of materials specified in Section 3707 (l) of the Uniform Building Code.

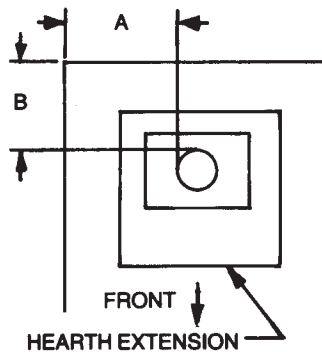
**TABLE NO. I  
(FIREPLACE STOVES)**

NO.	MODEL	CLEARANCES TO COMBUSTIBLES (Minimum in Inches) <sup>1</sup>			HEARTH EXTENSION (Minimum projection beyond unit—inches) <sup>2</sup>			CHIMNEY MINIMUM DIAMETER (Inches) <sup>3</sup>	REMARKS
		Sidewall-backwall Installation		Corner Installation	Front	Sides	Back		
		Side (A)	Back (B)	Dimension (X)					

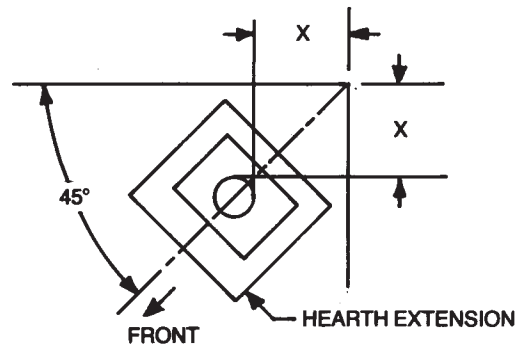
<sup>1</sup>Clearances are from the outside of the chimney connector pipes. See Figures Nos. 1 and 2.

<sup>2</sup>Hearth extension is defined as the noncombustible surfacing applied to the floor area beneath, extending beyond the front, back and sides of the fireplace stove as noted in Figures Nos. 1 and 2. Hearth extension shall be of materials specified in Section 3707 (l) of the Uniform Building Code.

<sup>3</sup>Chimney connectors shall be materials specified in Section 915 (b) of the Uniform Mechanical Code and of the same diameter as the chimneys.



**FIGURE NO. 1**



**FIGURE NO. 2**

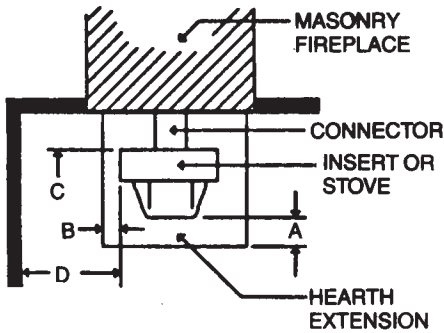
**TABLE NO. I  
FIREPLACE HEAT EXCHANGER/INSERT**

NO.	MODEL	HEARTH EXTENSION <sup>1</sup> (Minimum projection beyond unit-inches) <sup>2</sup>			MINIMUM MASONRY FIREBOX SIZE <sup>2</sup> (Inches) Width × Depth × Height	CLEARANCES TO COMBUSTIBLES (Minimum in inches) INSTALLATION IN EXISTING MASONRY FIREPLACE				MINIMUM CHIMNEY AREA (Square inches)	REMARKS
		Front (A)	Sides (B)	Back (C)		Side (D)	Facing (E) <sup>3</sup>	Facing (F) <sup>3</sup>	Top (G)		

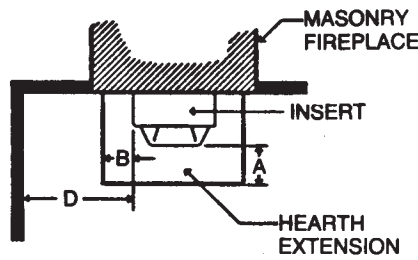
<sup>1</sup>Hearth extension must be minimum 3/8-inch-thick noncombustible material complying with Section 3707 (l) of the Uniform Building Code unless specified otherwise in this report.

<sup>2</sup>Minimum dimensions must be maintained for the entire designated masonry firebox height.

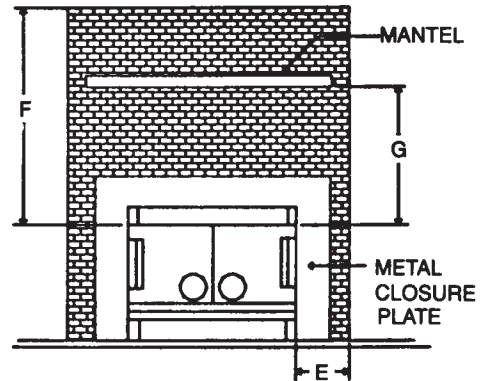
<sup>3</sup>Facing clearance must comply with Sections 3707 (h) of the Uniform Building Code.



TOP VIEW



TOP VIEW



FRONT VIEW

Company Name \_\_\_\_\_

Report No. \_\_\_\_\_

Date \_\_\_\_\_

**TABLE NO. II  
(DESCRIPTIVE INFORMATION)**

NO.	MODEL NO.	GENERAL SHAPE (Plan View) AND MATERIAL	OVERALL SIZE (Inches)			LEGS		DOORS		FIREBOX LINING	EXTERNAL HEAT SHIELDS		
			Width	Depth	Height	Number	Clearance Above Floor (Inches)	Number	Type		Back	Sides	Bottom