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FIREPLACES®

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HOMEOWNERS GUIDE FOR YOUR WOOD BURNING FIREPLACE

Read this manual carefully before using your wood burning fireplace. Understand and observe all guidelines included in this manual for safe operation of your wood burning fireplace inside your home.

TABLE OF CONTENTS

KEEP THIS MANUAL. IT CONTAINS IMPORTANT HOMEOWNER INFORMATION ABOUT YOUR WOOD BURNING FIREPLACE.

IMPORTANT SAFETY PRECAUTIONS

The INNOVATIVE HEARTH PRODUCTS, LLC (IHP) limited warranty will be voided by, and IHP will disclaim any responsibility for the following:

1. Improper installation of your IHP fireplace and IHP component parts. Consult your installation instructions.
2. Any alteration of IHP fireplace and/or components.
3. Use of an insert in an IHP fireplace. IHP does not recommend or authorize the use of any insert in our fireplaces and will assume no responsibility for any damages caused by an insert.

The safety precautions and operating instructions in this homeowner's guide cannot cover all possible situations that may arise during use. Caution and care must always be used when operating fireplace.

1. Never start a fire with a liquid fire starter such as gasoline, kerosene, or liquid barbecue starters.
2. Never burn trash or trees (such as Christmas trees) as they can create extremely hot fires and cause sparks that may be hazardous.
3. Never use wood products with synthetic binders. They create creosote in flue system and termination which can be hazardous.
4. Keep children and pets away from hot surfaces to avoid burns. Carefully supervise children when they are in the room with the fireplace. Exposed metal parts and glass doors become very hot.

UNDERSTANDING YOUR FIREPLACE

This firebox has been tested to U.L. 127 test standards and is well insulated for clearances to combustible construction materials used in building a home. Proper clearances are outlined on a label on each component for use by installers and building inspectors to insure compliance.

Firebox: The firebox is the portion of your fireplace where the fire is built. It is made of heavy gauge steel lined with brick patterned refractory material (firebrick) on back, sides and bottom (hearth). This is surrounded by another metal enclosure on top, back and bottom. Air space between firebox and outer enclosure provides a circulating feature that has been engineered for a safe and efficient design.

Chimney System: The chimney is also made of metal extending from top of fireplace through the roof and capped with a screened termination. Inner liner (flue) of chimney is made of stainless steel and provides for exhaust of gases (carbon monoxide) from the fire. Outer liner is made of galvanized steel and provides passage for cooling air to keep chimney safe at labeled clearance to combustible building materials.

Damper: The damper is the metal disk found at base of chimney (flue) and has 2 positions, open and closed. Flue gas damper is located inside firebox, similar to a conventional masonry fireplace. See fireplace owner's manual for operation.

Outside Air Kit Operation: The outside air damper is located on inside of fireplace. See fireplace owner's manual for operation.

Note: Automatic barometric style dampers are installed on some models.

Fan/Blower: The fan system is designed to enhance the convection principal of your fireplace and is not designed to be a blowing system. The switch located on

lower front face of fireplace operates fan.

Fireplace Grate: This unit has been equipped with a grate designed to keep operation of fireplace efficient and safe. Do not alter grate. Size and position of grate were engineered to give ideal combustion characteristics for the fire. By keeping logs within grate and not on hearth, you will prevent chance of having a log "spill" or roll out of fireplace. DO NOT OVERLOAD FIREPLACE. Piling excessive wood on grate will not increase efficiency and could possibly cause smoke to enter your room. When replacing grate, only replace with an IHP replacement grate for your fireplace model.

Fireplace Screen: The fireplace screen prevents sparks and embers from escaping fireplace. Screen should always be closed when a fire is burning.

⚠ CAUTION: Screen handles will become hot.

Fireplace Glass Doors (If Installed): Glass doors must be fully opened or fully closed during operation of your fireplace. Grate and/or wood should not touch doors.

AIR CIRCULATION

During operation of fireplace, cool air enters the firebox through lower grills. Heat rises and is expelled into the room through top grill. This is called convection heat.

During periods of extremely cold weather, when fireplace is not being used, the exact opposite may happen. Warm room air will enter upper grill due to extreme cold air near outside of metal firebox. Air cools, drops and re-enters room through lower grill.

This may be an indication the cold climate installation procedure was not used.

⚠ WARNING: Never block a vent or grill of the fireplace. This is important to the cooling of the fireplace and assures a safe and proper operation as designed.

IMPORTANT: See appendix A, page 10 for additional information regarding draft requirements, smoking causes and troubleshooting.

OPERATING YOUR FIREPLACE

1. Keep grate in brackets provided.
2. Open flue damper. During operation damper must be in FULLY OPENED POSITION. In cold weather, to assure proper draw, preheat flue by burning a crumpled newspaper in damper area after damper has been fully opened.
3. Open combustion air damper (automatic on some models).
4. Build a fire using the following method:
   - Use seasoned dry wood (should be seasoned at least 1 year)
   - Crisscross small pieces of wood and place crumpled newspaper under it
   - Place 3 logs on grate. DO NOT OVERLOAD FIREPLACE. Piling excessive wood on the grate will not increase efficiency and could cause smoke spillage.
   - Light newspaper
5. Fireplace glass doors, if installed, must be in fully opened or fully closed position during operation of fireplace.

⚠ CAUTION: Close screen before closing glass doors.

⚠ WARNING: Fireplaces equipped with glass doors should be operated only with doors fully opened or doors fully closed. Doors, if left partly open, may draw gas and flame out of the fireplace opening creating risks of both fire and smoke. Doors should warm gradually to prevent breakage.

6. After fire has burned out, do not close damper until embers and ashes have had a chance to completely cool and you are certain there are no warm embers.
7. Dispose of ashes by using a metal container with a tight lid. Do not remove ashes until you are certain they are burned out and have cooled completely.

This fireplace is not intended to be used as a substitute for a furnace to heat an entire home. Use for supplementary heat only.

WOOD SELECTION

Selecting the right wood depends on your preference for comfort, aroma and visual image. If you want a constant heat output, a short flame with a glowing coals type of fire, select a hardwood. If you want a short hot fire for damp and chilly mornings, select a softer wood. The following chart is a guide to aide in wood selection. Woods at the top of chart are harder woods and those at bottom of chart are softer. Aromatic woods are best from nut and fruit trees such as hickory, apple, cherry, beech, etc. Heat value from harder woods is better than from softer. It is important to burn wood that has been seasoned. Seasoning reduces moisture content for a good steady fire and less creosote output. The recommended length of time for proper seasoning is about 1 year.

Never burn trash, plastics, gasoline, rubber, industrial solvents, flammable liquids, naptha, household garbage, material treated with petroleum products, leaves, paper products, cardboard or salt driftwood.

Wood Type	Density
Dogwood	0.70 - 0.79
Hickory	0.70 - 0.74
Oak	0.60 - 0.73
Beech	0.64 - 0.66
Hard Maple	0.58 - 0.65
Birch	0.55 - 0.64
Mulberry	0.59 - 0.63
Apple	0.58 - 0.62
Ash	0.57 - 0.61
Southern Pine	0.51 - 0.60
Elm	0.50 - 0.59
Walnut	0.52 - 0.55
Soft Maple	0.47 - 0.54
Cherry	0.50 - 0.52
Sycamore	0.49 - 0.52
Douglas Fur	0.45 - 0.51
Chestnut	0.42 - 0.44
Spruce	0.41 - 0.44
Hemlock	0.40 - 0.42
Redwood	0.33 - 0.40
Aspen	0.37 - 0.39
White Pine	0.35 - 0.37

CLEANING AND MAINTENANCE

CREOSOTE

When wood burns slowly, it produces tar and other organic vapors which, when combined with expelled moisture, forms creosote. Creosote vapors condense in relatively cool chimney flue of a slow burning fire.

As a result, creosote residue accumulates on flue lining. When ignited, this creosote makes an extremely hot fire. Chimney should be inspected at least twice a year during heating season to determine if creosote build-up has occurred. If creosote has accumulated, it should be removed to reduce risk of chimney fire. It is recommended that you use a professional chimney sweep.

Removing Creosote

In order to remove creosote from flue, termination cap must be removed.

1. Close damper before cleaning flue as fine soot can become airborne in the home.
2. If termination is round top (3 feet of exposed pipe with round cap) remove 3 sheet metal screws that secure termination to last section of pipe and lift off cap.
3. For square chase termination with pyramid cap, remove screws that secure top at four corners.
4. Place termination top aside.
5. After cleaning is completed open damper and collect debris in trash container. A professional chimney sweep has all tools and experience necessary to complete this job.
6. Be certain to clean all loose debris from termination before replacing.
7. Before installing a vented or vent-free gas log set in a solid fuel burning fireplace, chimney flue and firebox must be cleaned of soot, creosote, ashes and loose paint by a qualified chimney cleaner. Creosote will ignite if highly heated. Inspect chimney flue for damage. If damaged, operate vent-free gas log heater with flue damper closed.
8. Replace termination cap with screws.

REFRACTORY

The brick refractory on the interior of your fireplace (sides, back and bottom) is manufactured with a high quality cement mixture and reinforced with a wire mesh.

In a new fireplace or one with new refractory, allow refractory to cure for 24 hours. When building a fire, build a small one for the first 3 or 4 fires. The refractory is subjected to expansion and contraction from the heating and cooling of firebox during operation. It is acceptable to operate the fireplace with cracks of 1/64" wide.

If a crack should develop that is larger than the hairline crack described, take the following corrective measures:

1. Patch crack with a refractory patching cement available at fireplace shops or hardware stores. The refractory must still be in one piece to patch.
2. Replace refractory panel (see fireplace owner's manual). DO NOT continue to use your fireplace if your refractory has a crack that exceeds 1/64".

Refractories are available through your service dealer.

CLEANING AND MAINTENANCE *Continued*

GRATE

If grate deteriorates or is distorted, replace with an IHP grate designed for your fireplace (see fireplace owner's manual).

GLASS DOORS

Clean glass with any commercial glass cleaner or soap and water. Do not use any abrasive material to clean glass. Do not clean glass with cool water if glass is still hot from use. Let doors dry completely before building the next fire.

TROUBLESHOOTING

SMOKE

This fireplace has been designed to operate without smoke spillage into the room when installed and operated properly. In the event a smoking problem does occur, check for one of the following conditions:

1. Outside environmental conditions adversely affecting draft.
2. Lack of ventilation due to a tightly insulated house could prevent the fireplace from drawing properly. If this happens, open a window a small amount while operating fireplace.
3. Other appliances competing for available air in a tightly sealed home. These could be heating appliances, kitchen exhaust fans and bathroom exhaust fans.
4. Relationship of your house to hills, trees and nearby taller buildings can affect wind conditions which can have a direct effect on your fireplace operation.
5, Chimney termination not installed to proper height.
6. Blockage of flue or termination cap.
7. Flue and termination caked with creosote buildup.
8. Grate too close to front of fireplace, not positioned behind smoke shelf. Position grate in designated area on brackets.
9. Damper not in fully opened position.
10. Outside air damper not in opened position.
11. Operating fireplace with partially opened doors.
12. Additional chimney pipe(s) may be necessary under certain conditions. (Additional chimney pipe available as accessory item.)

IMPORTANT: For see-through and peninsula models, air currents in the room can cause some smoke spillage.

COLD AIR DRAFTS

In cold areas you must take special precautions and follow COLD CLIMATE installation instructions in your owner's manual.

If cold air drafts are present when your fireplace is not in operation check the following:

1. Air coming out of fireplace opening. Close damper.
2. Air near sides of firebox interior. Close outside combustion air damper.
3. Air coming in around sides of fireplace, between fireplace and wall. Make sure fireplace frame has been caulked to enclosure of frame.

4. Air from bottom grill (circulating units only). Make sure fireplace enclosure and base have been insulated according to cold climate installation instructions in owner's manual.

Note: After all measures to avoid cold air drafts have been taken, there may still be a slight cold air draft coming through the louver and other areas. This may be due to circumstances beyond the manufacturer's control, such as airflow around the structure and tightness of the home (creating negative pressure), etc.

ASH DISPOSAL

Ashes should be placed in a metal container with a tight fitting lid. Closed container of ashes should be placed on a noncombustible floor or on the ground. The container should be kept well away from all combustible materials pending final disposal. If ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in closed container until cinders have thoroughly cooled.

GLASS DOORS

Glass doors used by IHP are tempered (safety) glass and have been tested to national standards. When glass breaks during use it could be for the following reasons:

1. Fire is too large
2. Logs are too close to glass. Logs and any burning material should not touch glass. This may cause glass to break.
3. Heat has built up too fast.

Continued operation at excessively high temperatures may cause glass to partially lose it's temper and break.

FIREPLACE ACCESSORIES

GLASS DOORS

Bifold glass doors are optional with IHP fireplace. For replacement, refer to fireplace installation instructions in your owner's manual.

Note: Use of glass doors other than those manufactured by IHP voids warranty and may create a potentially hazardous condition.

Refer to installation instructions that come with door kit for installation details. Glass door kits can be installed before, during or after fireplace has been installed.

GAS LOGS

A full line of vented and vent-free IHP gas logs is available. See your dealer or distributor for details or visit **Astria.us.com**

FANS/BLOWERS

This accessory is designed to enhance the convection principle (see Air Circulation, page 3). It is not designed as a blowing system.

CUSTOMER SERVICE

You may have further questions about installation, operation, or troubleshooting. Please contact your IHP dealer for any questions or concerns. When calling your dealer please have your model and serial numbers of your fireplace ready. You can also visit our web site at **Astria.us.com**

Note: The serial number and other pertinent information can be found on the rating plate located behind the screen near upper right corner of firebox. In some models it may be located vertically on side panel.

APPENDIX A

Draft Requirements

Your wood-burning appliance is dependent upon a properly functioning chimney for optimum performance. It is important to match the wood-burning appliance to the chimney. The chimney has two functions:

1. It draws combustion air into the appliance (without air, no fuel will burn) and
2. It exhausts combustion by-products. Your new appliance is what is known as a "natural draft" appliance.

The appliance depends solely on the natural draft of the chimney system to draw combustion air into the unit. Draft is the force that moves air from the appliance up into the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other factors. Too much draft may cause excessive temperatures in the appliance (overfiring). Slow or inadequate draft equals poor combustion and possible smoking problems. The following are some conditions that may contribute to poor chimney draft:

1. A chimney too large for your appliance.
2. A chimney with not enough height to produce adequate draft.
3. A chimney with excessive height (this may allow exhaust to cool too much before exiting, which will stall the rate the exhaust exits).
4. Offsets in the venting system are too restrictive *(see Chimney Guidelines*).

Inadequate draft will cause the appliance to leak smoke into the room through the wood-burning appliance and the chimney connector joints.

Excessive draft may cause an uncontrollable burn or a glowing red appliance or chimney part.

Overfiring Damage - If the appliance or chimney connector glows, you are overfiring. Other symptoms may include: Cracking, warping or burning out of components, plated accessories may turn color, appliance glass may develop a haze, which will not come off with cleaning.

Overfiring of a appliance is a condition where excessive temperatures are reached, beyond the design capabilities of the appliance. The damage that occurs from overfiring is not covered under the manufacturer's limited warranty.

Also see Troubleshooting on Page 12.

⚠ WARNING

Neither the manufacturer nor the seller warrants "smoke free" operation nor are we responsible for inadequate system draft caused by mechanical systems, general construction conditions, inadequate chimney heights, adverse wind conditions and/or unusual environmental factors or conditions beyond our control.

Selecting the Proper Venting System

The appliance is merely one component of a larger system. The other equally important component is the venting system. This is necessary for achieving the required flow of combustion air to the fire chamber and for safely removing unwanted combustion by products from the appliance.

If the venting system's design does not promote these ends, the system may not function properly. Poorly functioning venting systems may create performance problems as well as be a safety hazard. **A draft test should read greater than .04' W.C. (inches water column) and less than .08" W.C.** As per NFPA-211 standard, the installer must take into account all variables within the installation and install the appliance in such a manner that satisfies the draft requirements of the appliance.

See Chimney Guidelines to assist you in selecting the proper venting system for your installation.

American National Standards Institute ANSI/NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances - See Draft Section: A chimney or vent shall be so designed and constructed to develop a flow sufficient to completely remove all flue and vent gases to the outside atmosphere. The venting system shall satisfy the draft requirements of the connected appliance in accordance with the manufacturer's instructions.

Chimney Guidelines:

- Most wood-burning appliances requires approximately 12 feet minimum of "effective draw" provided by the venting system. As a rule of thumb, every 90 degree total direction change in the venting will result in a loss of approximately 5 feet of "effective draw." Example: If two 45 degree offsets are used, subtract 5 feet from the actual vertical vent height to determine your "effective draw." In this case if you had 14 feet of vertical vent, the effective draw would only be approximately 9 feet (14 ft. - 5 ft. = 9 ft.), therefore it may be necessary to add additional height to the venting system.
- Do not install an offset within the first two feet above the flue outlet on the appliance.
- In well insulated and weather tight homes, it may be difficult to establish a good draft up your chimney. The poor draft is caused by a shortage of air in the house. In this situation an Outside Air Kit may need to be installed (See Negative Pressure Warning below and Outside Combustion Air in the Installation and Operation manual).

Negative Pressure Warning

These appliances are not designed to be operated in a negative pressure. In very airtight homes with large kitchen exhaust fans, furnace cold air returns, fresh air exchange systems and any other air system in close proximity to the heating appliance may create a negative pressure in the same room as the heating appliance. This can create dangerous back drafting of the appliance and chimney joints, drawing combustion by-products into the home. Be sure your home has adequate makeup air to eliminate negative pressures caused by the above-mentioned sources. Outside air connected to the appliance probably will not resolve such a problem as the appliance is not the source of negative pressure. IHP accepts no liability for damages resulting from negative pressures described here.

Ventilation Requirements - Provide adequate air for combustion. The fresh air requirements of this appliance must be met within the space where it will be installed. Ventilation is essential when using a solid-fuel-burning appliance. In well insulated and weather tight homes, it may be difficult to establish a good draft up the chimney (caused by a shortage of air in the home). The lack of air is caused by many common household appliances which exhaust air from the home (such as a furnace, heat pump, air conditioner, clothes dryer, exhaust fans, fireplaces, and other fuel burning appliances). Also, the combustion process of this appliance uses oxygen from inside the dwelling. If the available fresh air delivery in the dwelling is insufficient to support the demands of these appliances, problems can result (i.e. excessive negative pressure can develop in the dwelling which will affect the rate at which this appliance can draft thus resulting in performance problems or smoking. To correct this problem it may help to open a window (preferably on the windward side of the house) or install an outside air kit.

Smoking – Causes And Troubleshooting

To reduce the likelihood of smoking when opening the door, open the combustion air control or damper before opening the door. Your appliance has been designed and tested to provide smoke free operation. Occasionally, there may be a small amount of smoking upon lighting the fire, until the chimney heats up but this should not continue. If the appliance continues to smoke it is probably for one of the following reasons:

A. Negative pressure in the house - As the fire burns, air goes up the chimney. This air must be replaced through leakage into the house or through the outside air duct. When operating the appliance, open a nearby window temporarily to check if there is adequate replacement air supply.

B. Blowers operating (e.g.: range hood) - These blowers draw air out of the house and may actually cause a negative pressure in the house. Turn off all blowers and open a nearby window to determine if this is the cause of the problem.

C. Wet wood - Wet or tarred wood will smoulder and smoke instead of burning properly. Your dealer can help you determine if you have properly seasoned wood for burning.

D. Dirty or blocked chimney - Check to make sure the chimney is clear and clean. If dirty call a certified chimney sweep or use a properly sized chimney brush to clean.

E. Chimney not long enough - The minimum chimney height is twelve (12) feet (3.7 m) not including the appliance height. The chimney must extend at least three (3) feet (915 mm) above its point of contact with the roof and at least two (2) feet (610 mm) higher than any roof or wall within ten (10) feet (3 m) of it. When installed with offsets, the minimum chimney height is fifteen (15) feet. Additional height will increase draft and will decrease the tendency to smoke.

F. Poor chimney draft - With no fire, there should be sufficient draft to exhaust cigarette smoke introduced under the baffle or flue baffle. Chimneys installed against an outside wall without protection may generate back draft problems which will cause start-up problems. To prevent this, open a nearby window, roll up a piece of paper and light it. Then, hold it in the upper part of the firebox to warm up the chimney. Wait until the draft is sufficient, then start the fire.

G. Blower for forced air kit operating (some models) - Make sure that the blower is in the "off" position when you open the appliance door for reloading.

Locating The Appliance

The best location to install your appliance is determined by considering the location of windows, doors, and the traffic flow in the room where the appliance is located, allowing space in front of the unit for the hearth extension and the mantel, and taking into consideration the location of the hot air ducts (some models), outside air kit and chimney.

If possible, you should choose a location where the chimney will pass through the house without cutting floor or roof joists.

When selecting the location, the chimney outlet position and the direction of the wind are important factor affecting the chimney performance. To allow a maximum draft and to reduce wind turbulence, the chimney must:

- Penetrate the highest part of the roof.
- Be installed as far as possible of roof offsets, trees or any other obstructions that may cause wind turbulence and back drafts in the chimney.
- The least amount of offsets (elbows) possible. ***NOTE:*** A maximum of 2 offsets is allowed.

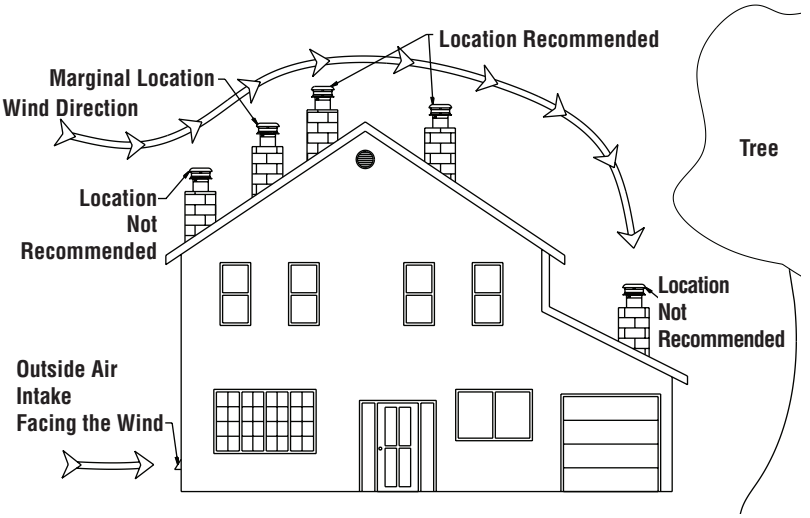

Figure 1

Prohibited Fuels

These appliances are designed to burn natural well-seasoned wood. The wood fuel should be air dried seasoned hardwoods, as compared to softwoods or to green or freshly cut hardwoods. Burning artificial logs, in some model appliances is allowed (see Installation and Operation manual); please read and follow the instructions provided by the manufacturer. DO NOT BURN:

- Garbage;
- Lawn clippings or yard waste;
- Materials containing rubber, including tires;
- Materials containing plastic;
- Waste petroleum products, paints or paint thinners, or asphalt products;
- Materials containing asbestos;
- Construction or demolition debris;
- Railroad ties or pressure-treated wood; woods that have been dipped in tar, pitch, pine tar, creosote, etc.
- Manure or animal remains;
- Salt water driftwood or other previously salt water saturated materials;
- Unseasoned wood;
- Christmas tree branches;
- Paper products, colored paper, cardboard, plywood, or particleboard;
- Gasoline;
- Naphtha;
- Engine Oil;
- Flammable Liquids;
- Solvents;
- Grease; or
- Charcoal or Coal

NOTE: The use of a firewood moisture meter is recommended to ensure the firewood contains less than 20% moisture.

Seasoning Guide

Softwoods - 6 months to 18 months
Hardwoods - 12 months to 24 months

Logs that are 5" diameter across or larger should be split in half, three pieces if over 8 inches, and four pieces when over a foot across. If a tree has been dead for 2 - 4 years it still needs to be cut, split, and seasoned for 6 to 24 months depending on the wood.

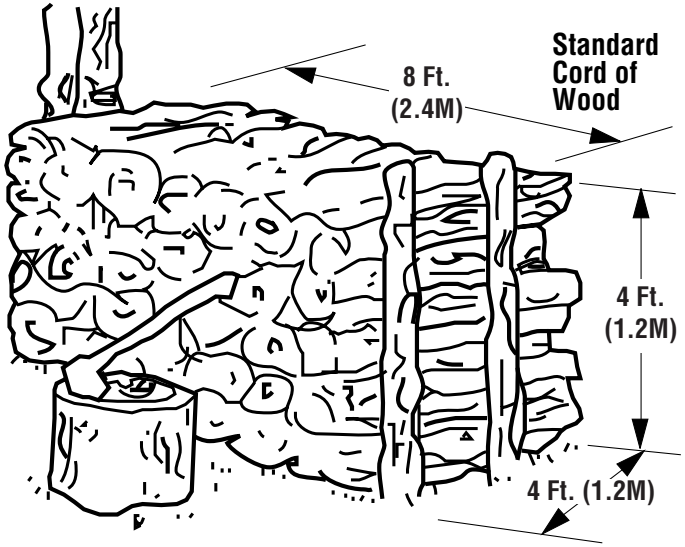

Figure 2

NOTES

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Innovative Hearth Products reserves the right to make changes at any time, without notice, in design, materials, specifications, prices and also to discontinue colors, styles and products. Consult your local distributor for fireplace code information.

INNOVATIVE HEARTH PRODUCTS

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