

Installation and Operation Instructions Stone Age Fireplace

Ce manuel est disponible en français à www.stoneagemanufacturing.com.
This manual is available in French at www.stoneagemanufacturing.com.

1.0 Introduction

Congratulations on becoming the owner of a Stone Age Fireplace, manufactured by Stone Age Manufacturing, Collinsville, Oklahoma.

Three generations of fireplace knowledge and experience have gone into the design and construction of the SA 24, 36 and 48 fireplaces. Originally designed for a patio or back yard installation, customer demand has brought this fireplace into the house. An SA fireplace assembly is shown in Figure 1.



Figure 1. SA Fireplace Assembly

It is recommended that this fireplace be installed by a professional installer in an existing home because of structural changes required, or by a builder in new construction. Installation by a non-qualified person may negate the warranty.

Keep these instructions for future use.

2.0 Description

The fireplace is delivered as a kit with all components necessary to complete the installation. Component arrangement, some of which is optional, is shown in Figure 2. Dimensions of the various components are shown in Table 1. Specifications and installation dimensions are shown in Table 2.

- A. Fireplace items shown in Figure 1 and listed in Table 1.
- B. Lyemance™ Energy Saving Damper (sold separately) (shown in Figure 5).
- C. HomeSaver Pro™ Chimney Cap (sold separately) (shown in Figure 8).
- D. Stone Age Fireplace Grate (sold separately) (shown in Figure 9).
- E. Smithfield Medium Duty firebrick. (sold separately) (shown in Figure 1).
- F. Stone Age All Purpose Ready Mix Cement (sold separately)

The Stone Age Fireplace has been tested and listed in accordance with UL 127 and ULC S610 standards and is listed by OMNI-Test Laboratories, Inc. for installation and operation in the United States and Canada as described in this manual.

This fireplace is designed to supplement your current heating system. It is not designed to be used a primary heat source.

Make sure that appropriate building permits required by local codes are obtained before installation in an existing home.

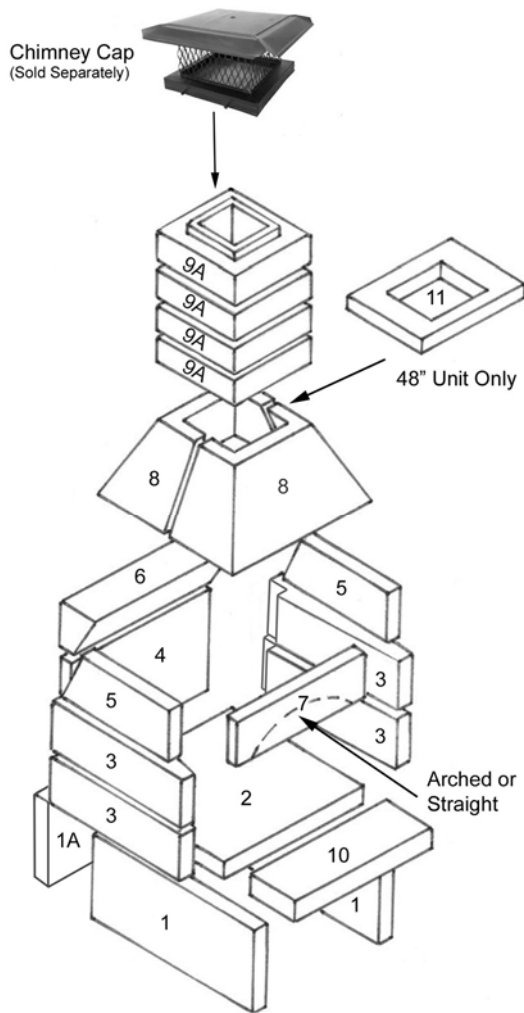


Figure 2. Fireplace Components

Table 1. Component Dimensions (In.)

Item	Description	24"	36"	48"
1	Legs	18x40	18x40	18x40
2	Baseplate	33X34	33X46	33X58
3	Sidewall	11X33	11X33	11X33
4	Backplate	22.5X27	22.5X40	22.5X52
5	Slanted Side	11X26	11X26	11X26
6	Back Header	11X34	11X46	11X58
7	Front Header	11X34	11x46	11X58
8	Throat	19 sq. at top	23 sq. at top	31 sq. at top
9	Flue (Note 2)	19 sq.	22 sq	22 sq
10	Hearth	11x5x40	11x5x52	11x5x64
11	Throat to Flue Adapter	---	---	27.5x30
Note 1: Item numbers refer to component numbers in Figure 1.				
Note 2: Flue sections are available but not provided in sufficient quantity to reach a height of 16 feet. Flue sections must be purchased separately.				

2.1 Specifications

Table 2: Specifications
SA 24, 36 and 48 Fireplace

Size	SA 24, 36, 48"
Sidewall to Opening	18"
Top Trim to Opening	17"
Side Trim to Opening	3"
Mantle to Opening	25"
Floor to Opening	7"
Front Hearth Extension	24"
Side Hearth Extension	12"
Opening to Combustibles	48"
Minimum Ceiling Height	7'6"
Clearance around Chimney flue	2"
Chimney Height from floor	16'
Note 1: This Fireplace is intended for use with solid wood fuel or vented gas logs	
Note 2: This fireplace has not been tested for use with glass doors. To reduce the risk of fire or injury, do not install glass doors.	
Note 3: Do not use fireplace insert or other products not specified for use with this model. Use a fireplace grate when burning wood.	
Note 4: This fireplace has not been tested with an unvented gas log. Do not install an unvented gas log set into this fireplace.	
Note 5: Clay flue liners installed in flue section (item 9, Figure 1) meet the specifications of ASTM Section C315-02.	
Note 6: Make sure installation complies with local building codes.	
Note 7: Thermal Floor Protection of 1/2" of k=0.84 thermal protection	
Note 8: Floor under unit must be non-combustible to earth	

3.0 Installation of the Fireplace

Do not install this fireplace in a mobile home.

3.1 Preparations

Select wall location where all the minimum distances, as shown in Table 2 can be met. Proceed as follows. Numbers in () are item numbers from Table 1 and Figure 1.

Determine the height you want the firebox floor off the finished grade. The legs (1) provided with the kit are 18 inches tall and place the firebox about 24 inches above the finished grade. If this height is not desirable, discard the legs and construct base from concrete blocks.

If the unit is to be installed indoors, do not use the legs (Item 1, Figure 1 and Table 1). Rather, install the fireplace on a solid block base such as concrete blocks or a cement pad.

WARNING: DO NOT USE LEGS FOR AN INDOOR INSTALLATION. IN THIS INSTALLATION, THE VOID BELOW THE FIREBOX COULD INADVERTANTLY BE USED FOR STORAGE OF COMBUSTIBLE MATERIALS, WHICH COULD CREATE A FIRE HAZARD.

Select a high temperature fire clay or refractory cement and mix according to manufacturer's instructions. Several companies in the U.S. and Canada sell refractory cement or fire clay including Stone Age Manufacturing.

Once the fireplace is constructed you must wait at least 28 days before building a fire to give the cement adequate time to cure. This will provide ample time for any water residue to evaporate, eliminating the adverse reaction of the combination of water and fire.

3.2 Assembly of Components

- A. When the base is level and square, set the baseplate (2). Level it from side to side and front to back.
- B. As shown in Figure 1, install the four sidewall pieces (3) and the back header (6). Use one-half inch of mortar between each section. Smooth out mortar and make sure sections remain level.
- C. After installation of the back header (6), install the firebrick inside the firebox. Line the floor, then the back and then the sides. Apply approximately ¼ to ½ -inch thick layer cement to the back of the brick, and approximately 1/4 -inch mortar joint around the brick.
- D. Continue with the installation with front header, throat and flue (7, 8 and 9). The front header (7) can be arched or straight. Add as many flue sections (9) to reach desired chimney height.
- E. If installing the SA 48-inch fireplace, install the throat-to-flue adapter, item 11, shown in Figure 2 and listed as item 11 in Table 2. It is installed between items 8 and 9.
- F. If installing a mantel and side trim, especially if it is wood or other combustible materials,

make sure the minimum distances shown in Table 2 are met.

- G. Install the hearth (10). You are now ready to install the exterior.

3.3 Installation of Additional Equipment

A decorative gas appliance (gas log) may be installed in this fireplace if it meets the following requirements.

- A. A hole may be cut or drilled in the side, floor or back wall to install piping for a gas supply.
- B. The gas log must have an automatic shutoff device.
- C. Installation must comply with the Standard for Decorative Gas Appliances for Installation in Vented Fireplaces, ANSI Z21.60 (1991) or American Gas Association draft requirements for Gas-Fired Log Lighters for Wood Burning Fireplaces, Draft No. 4 dated August, 1993.
- D. It must also be installed in accordance with the National Gas Fire Code, ANSI Z223.1.

3.4 Exterior finishing

The exterior finish may be either fabricated stone, thin veneer or full bed depth natural stone, stain, tile, brick, stucco or any material that is compatible with concrete or masonry.

If exterior finish is going to be stucco, stain, tile or manufactured thin stone, wrap outside of firebox with metal lathe. Attach lathe to fireplace using concrete nails or tapcons. Full bed depth or thin veneer natural stone, full size brick, concrete pavers or CMU block etc. do not require metal lathe.

Make sure same refractory mortar is used.

4.0 Installation of Chimney

The chimney is completed by stacking as many flue sections (9) as necessary to reach chimney height. Chimney plumbing can either be straight through the ceiling and through the roof, or if the fireplace is installed on an outside wall, the chimney can be external to the house.

WARNING: THIS FIREPLACE HAS NOT BEEN TESTED FOR USE WITH GLASS DOORS. TO REDUCE THE RISK OF FIRE

**OR INJURY, DO NOT
INSTALL GLASS DOORS.**

4.1 Maintenance Clearances

When the chimney passes through a ceiling to an upper floor, make sure the 2-inch clearance is maintained with framing where it passes through the ceiling. Exterior veneer attached directly to the chimney measuring 2" or more is acceptable for needed clearance.

**WARNING: DO NOT PACK REQUIRED
AIR SPACES WITH
INSULATION OR OTHER
MATERIALS.**

4.2 Secure Chimney System

As the chimney extends through the attic to the roof, attach securing straps to rafters and joists as required by local building code to provide stability.

4.3 Roof Exit

If roof opening is not present locate the point where the chimney will exit the roof by plumbing down to the center of the chimney. Drive a nail into the roof to mark the center.

A. Measure to all sides of the nail and mark the required opening, then cut a hole in the roof. Remember that the hole is measured on the horizontal, then projected to the roof. The hole may then be larger, depending on the pitch of the roof. See Figure 3.

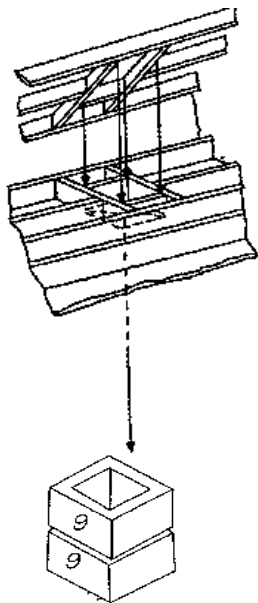


Figure 3. Roof Penetration

- B. Frame the opening, making sure that the minimum 2-inch distance between the roof and the chimney is maintained all the way around if roof structure is constructed from any combustible materials.
- C. Continue to add flue sections (9), extending the chimney through the roof. If the exterior extension of the chimney is adjacent to a combustible wall, make sure the 2-inch minimum clearance is maintained around the chimney. Exterior veneer materials applied directly to the chimney that are a minimum of 2 inches in thickness including mortar are acceptable for clearances.
- D. Install roof flashing appropriate to the roof pitch.

4.4 Height of Chimney

Figure 4 illustrates the proper height of the chimney top. Correct height depends on the chimney's location on the roof and distance from the peak of the roof. Surrounding trees, other buildings and hills may also be a consideration.

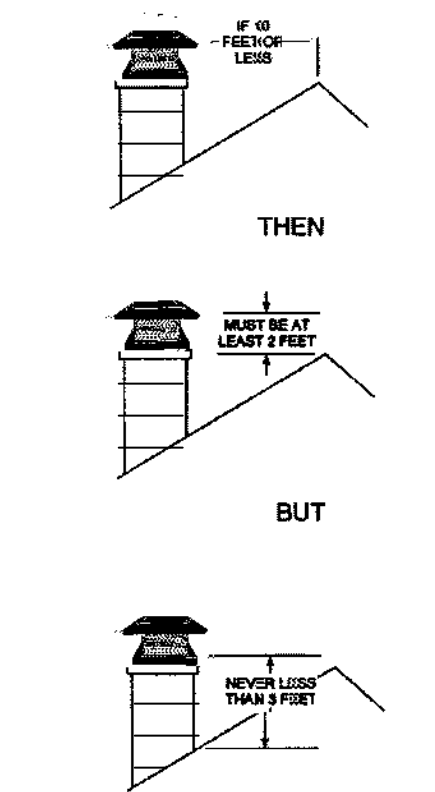


Figure 4. Chimney Height

If the chimney top is not high enough, unusual downdrafts may occur, resulting in undesired smoke. For a more thorough explanation of the figure 4 illustration it is basically the 2/10 rule. Once the center of your chimney is ten feet away from the roof, it should then be extended an additional two feet in height. This means the chimney does not have to extend above the peak of the roof. Once it is ten feet away and extended two feet the height is sufficient but should never be shorter than three feet in height from where it penetrates out of the top side of the roof.

4.5 Install Damper

A. If installing the Lyemance damper at the top of the chimney, following instructions contained with the damper. Figure 5 shows the proper orientation of the damper in the chimney.

B. Connect the pull cable at the cable guide of the damper and drop through the chimney.

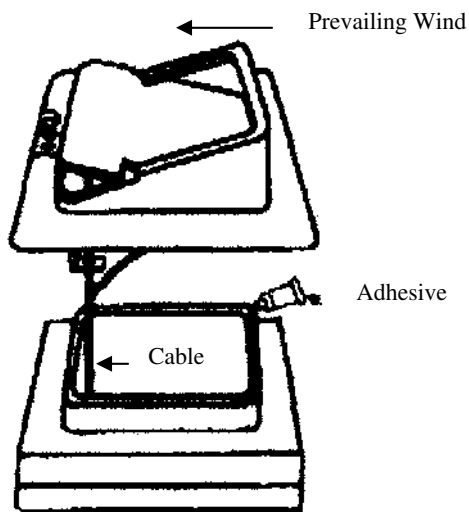


Figure 5. Install Damper

C. Install bracket towards the front of the firebox wall, about 20 inches off the firebox floor. This will contain the damper operating cable. Use a 1/4" masonry bit to avoid cracks in the firebrick. See Figure 6.

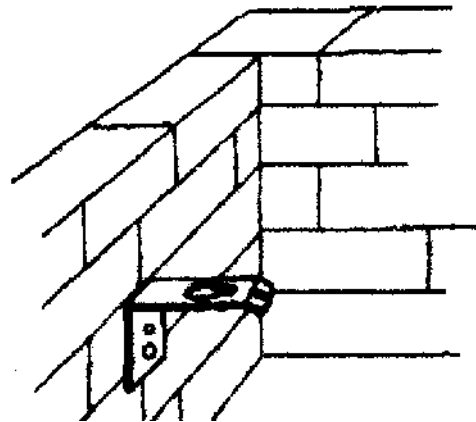


Figure 6. Install Bracket

D. Insert the pull cable through the bracket and adjust the length as shown in Figure 7 in the open and closed positions.

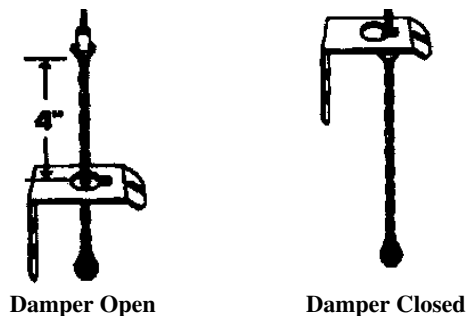


Figure 7. Adjust Damper Cable

Check damper to make sure it opens and closes properly.

4.6 Install Top Cap

Install the top cap over the damper following the instructions provided. This will protect the chimney from rain, birds, animals and leaves.

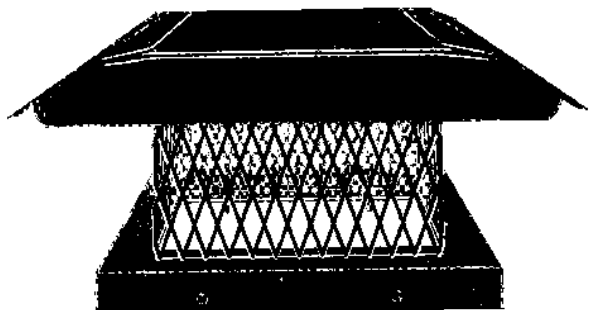


Figure 8. Install Top Cap

5.0 Operating Instructions

5.1 Safety Precautions

Caution: When using the decorative gas appliance (vented gas logs), the fireplace damper must be set in the fully open position.

A fireplace can bring many hours of enjoyment, comfort and warmth if operated and maintained properly. Certain safety precautions must be observed to eliminate the dangers associated with fire and provide a satisfactory, smoke free fire.

- A. When burning wood use solid, seasoned wood only. Do not use scrap wood or artificial wax based logs, treated, coal or woods dipped in pine tar or pitch.
- B. Never use gasoline or other combustible liquids when starting a fire.
- C. Keep the chimney damper open while burning a fire. Do not interrupt air flow. Make sure sufficient air is present to support combustion. **The manufacturer of this fireplace is not responsible for smoke resulting from lack of combustion air.**
- D. Keep combustible furniture/pillows at least four feet from the opening.
- E. Never leave the fire unattended.
- F. Be extremely careful when adding wood and handling fireplace tools. Never throw, kick or by any other means force wood into the firebox as this could damage the firebrick and fireplace walls, resulting in permanent damage and void the warranty. Stress cracks created from thermal cycling are normal.
- G. Drilling a hole for gas supply or cutting an opening in the back, sidewall or floor of the fireplace for a fresh air vent or ash dump is acceptable. Do not alter the fireplace in a manner that will jeopardize the structural integrity of the fireplace.

5.2 Selection of Wood

Use cured wood logs only. Scrap wood produces sparks. Treated wood, coal, or woods dipped in pine tar should not be used because they may leave a combustible residue in the fireplace and chimney.

Use of seasoned wood is preferred.

The amount of heat available from logs will depend on the type of wood, its dryness, quantity of wood and the size of the logs. Ten pounds of twigs will produce as much heat as a 10 pound log, but will produce it much faster because the air supply is more available.

5.3 Softwood vs. Hardwood

Wood is divided into two classes, hard and soft woods. Each has a use in a fireplace and each has advantages and disadvantages.

The hardwood category includes such woods as oak, walnut, birch, elm and maple. Softwoods include pine, fir, cedar and spruce.

Selection of wood depends on the type of fire you want. Softwoods are good to offset a morning chill because the fire develops faster. Hardwoods are preferable for a slower burning and uniform heat output.

Softwoods contain a highly flammable resin that will leave creosote soot in the chimney flu. This often results in sparking. Burning softwood exclusively will require more frequent inspection and cleaning of the chimney.

Experienced fire builders often use small amounts of softwood kindling and newspaper when starting a split hardwood log fire.

5.4 Seasoned Wood

Most freshly cut "green" wood will not burn well and will smoke. The pressure of moisture and resin inside green wood will build under heat and explode as sparks. Therefore, it is recommended that only seasoned wood be used in your fireplace.

Most wood requires 9 to 12 months of seasoning and drying to reduce the moisture content enough to produce good steady fires. Make sure that you buy only seasoned wood, or if you buy green wood (usually cheaper), store it properly to aid in the seasoning process. The following steps will assist in the seasoning process.

- A. Stack wood loosely to permit maximum air circulation.
- B. Do not stack wood on the ground. Use a wood rack or stack on scrap lumber. Storage on the ground will cause rotting and insect infiltration.

- C. Cover wood stacks with a tarp so that it is not excessively exposed to the elements such as snow and rain.
- D. Do not stack wood against the walls of your home.

5.5 Building a Fire

- A. Use a log grate (sold separately) with your fireplace when burning wood. This will contribute to good air circulation around the wood, and keep the wood out of the ash. A grate is shown in Figure 9.



Figure 9. Log Grate

- B. Close any window located near the fireplace when first lighting the fire to reduce the possibility of smoking. It can be reopened once a draft has been created through the chimney.

WARNING: NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL LIGHTER FLUID OR SIMILAR LIQUIDS TO START OR “FRESHEN UP” A FIRE IN THE FIREPLACE. KEEP ALL SUCH LIQUIDS WELL AWAY FROM THE FIREPLACE WHILE IT IS IN USE.

- C. When lighting a fire in a cold chimney, a downdraft may be created, letting a little smoke into the room. To correct this, hold a wadded newspaper in the firebox and light it. This will create an updraft and clear the flue of cold air.

The following steps are recommended when starting a fire.

- A. Remove any excess ash from the fireplace. Excessive ash may reduce airflow. Some owners prefer to leave a small layer to insulate the cold refractory below the grate, helping fire starting.
- B. If installed open and close the damper to make sure it operates properly. Leave it in the full open position.
- C. Center the grate over the bottom hearth of the firebox.
- D. Crumble several newspapers across the fire area underneath the grate. Criss-cross kindling wood on top of the grate, above the newspaper.
- E. Lay three logs on the grate; two side by side and the third in pyramid fashion on top. Split logs will start faster. Make sure there is space between the logs for air circulation. As the air is heated, it is drawn upwards through the space between the logs, creating more combustion.
- F. Light the paper at both sides of the firebox.

Caution : The fireplace requires air for operation. Make sure there is sufficient air so that other fuel burning appliances are not starved of combustion, ventilation, and dilution air.

- G. Make sure the fire remains centered in the firebox. Don't let it move to the front or sides. Move it back with the poker.
- H. Add wood to the fire as necessary.

CAUTION: Be extremely careful when adding wood to the fire. Use proper fireplace tools and wear gloves. If adding an un-split log, it is possible that it may want to roll out.

6.0 Cleaning, Inspection and Maintenance

As is the case with most other equipment, cleanliness is the best maintenance practice and will contribute to many hours of warmth and pleasure.

WARNING: DO NOT CLEAN THE FIRE-PLACE WHEN IT IS HOT.

- A. Creosote – Formation and Removal. When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote makes an extremely hot fire. The chimney shall be inspected at least twice a year during the heating season to determine when a creosote buildup has occurred.
- B. Disposal of ashes - Do not let ash build up in the firebox. Remove it at least after every other fire. Ashes should be placed in a metal container with a tight-fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.
- C. The grate may be removed from the firebox for cleaning. However, make sure it is returned prior to laying the next fire.
- D. Spot check the refractory bricks and mortar for small cracks. It will expand slightly with the heat, then contract as it cools. Replace refractory bricks when the cracks open more than ¼”; or when pits become extensive and deeper than 3/16”; or when any piece of refractory larger than 2 inches in diameter becomes dislodged.

- E. If creosote has accumulated, it should be removed to reduce the risk of a chimney fire. Clean the chimney as outlined below or have the chimney cleaned by a professional chimney sweep.

WARNING: DO NOT USE CHEMICAL CHIMNEY CLEANERS THAT ARE Poured ON A HOT FIRE. THE CHEMICAL CLEANER CAN BE DANGEROUS AND GENERALLY WILL ONLY WORK ON THE FLUE SECTION NEAREST THE FIRE, LEAVING THE REST OF THE FLUE UNAFFECTED.

- F. Inspect the top cap and opening in your chimney top and remove any debris that could clog it. If possible, birds will often nest there, and it must be kept clear of nest material.
- G. Check the metal flashing and seals around the chimney. Seal any cracks or loose nail heads to prevent roof leaks.
- H. Cover the firebox opening with a damp sheet and seal with masking tape to retain soot in the firebox while cleaning.
- I. Inspect the entire flue from the top down for obstructions. Use a flexible handled cleaning brush. If the chimney contains offset/return elbows, clean from the top down to the offset, then from the firebox up to the offset.
- J. Check the flue from inside the fireplace with the damper open for obstructions.
- K. After completion of cleaning, use a vacuum cleaner to remove all soot and residue from the firebox.

LIMITED WARRANTY

The products of Stone Age Manufacturing, Inc. (“Stone Age”) have been carefully manufactured and the components assembled to give the customer a quality product. Stone Age warrants to the original purchaser the materials that it provides to the customer against defects in manufacture for a period of twenty-five (25) years from the date of purchase on UL-127 listed fireplaces, for a period of five (5) years from the date of purchase on all unlisted fireplaces, fire pits, and other masonry components. Other accessory items or components offered, but not produced by Stone Age Manufacturing, Inc., shall be covered by their manufacturer’s warranties. This Limited Warranty covers only actual manufacturing defects in the Stone Age product and does not cover defects or faulty workmanship in the installation of the product or the masonry or other structure in which it is installed. Also this warranty does not cover items that have been damaged due to over-heating, modification, improper storage or maintenance. Stone Age shall repair or replace, at its option, any defective Stone Age product component upon receipt of written notice addressed to Stone Age. This Limited Warranty covers only replacement of any defective components within the product itself occurring during the warranty period and does not cover the cost of installation or removal from a fixed location. **NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE MADE, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES WHICH ARE SPECIFICALLY DISCLAIMED.** Stone Age is not liable for damages or injury to persons or property or other incidental or consequential damages.

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