

Installation Instructions and Maintenance Instructions for PriorFire Formula 51 Smoke Chamber Restoration System

INTRODUCTION

PriorFire Formula 51 Smoke Chamber Restoration System is the latest innovation of fireplace smoke chamber repair products. It's a high-performance refractory coating for trowel/parge application on to exposed smoke chamber walls. PriorFire Formula 51 is a dry powder that is mixed with water before use. It's designed to insulate, strengthen, smooth corbels, fill gaps and reshape defective smoke chambers.

When properly installed, the product will greatly enhance the safety and efficiency of the smoke chamber to transition smoke and noxious gases from the fire to the chimney. PriorFire Formula 51 meets all major building code (NFPA & IRC) requirements for parging and smoothing of exposed corbelled smoke chamber walls in residential solid-fuel and gas burning fireplaces.

An optimized "open" time allows users to mix full buckets without the product hardening before it can be placed. PriorFire Formula 51 incorporates a dual bonding mechanism. It bonds both mechanically (like Velcro®) and chemically (like glue) to help ensure the material stays in place once it has been applied. Because of PriorFire Formula 51 unique chemistry, shrinkage cracks when cured (from normal drying) are minimized.

SECTION 1- Application and Listing

PriorFire Formula 51 has been tested and listed by Underwriters Laboratory to UL Subject Standard 2505-Cementitious Materials Used for Resurfacing Smoke Chamber of Masonry Fireplaces. It's listed for use where there is minimum clearance of zero-inch air space between combustible materials and smoke chamber exterior. This rigorous testing included Brand Fire test, Flash Fire test, Resistance to Action of Acid test.

PriorFire Formula 51 is compatible with all structurally sound, clean, dry masonry chimney interiors. For PriorFire Formula 51 to be installed in accordance with its Listing (UL 2505) at zero clearance to combustibles, it must be installed at a minimum of 1" thickness onto 4" nominal solid masonry units as defined by NFPA 211, 3.3.124 (201Edition). Furthermore,

it must be installed onto all four (4) walls of the smoke chamber from the bottom edge of the lintel up to the bottom edge of the flue liner.

SECTION 2- Installation Requirements

Do not use any materials that are not specified by these instructions. Installation must be accomplished by a qualified trained person only.

It is the responsibility of the installer to contact local building and fire officials concerning any installation restrictions and/or inspection requirements that may apply in your area.

Air space clearances between the masonry fireplace and combustible materials should be checked to verify that the fireplace is in accordance with clearance specifications contained in:

- 1) NFPA 211
- 2) Other applicable recognized major building codes; or
- 3) The manufacturer's installation instructions

SECTION 3- Materials, Tools & Supplies

The following are the basic materials, tools and supplies needed to repair a smoke chamber interior with the PriorFire Formula 51 Smoke Chamber Restoration System.

- PriorFire Formula 51 (30lb Pails)
- 42" x1"x1" Angled Lintel Anchor
- ¼" x 1-1/4" Masonry Fasteners
- 3/16" masonry drill bit
- Heavy Duty ½" Drill
- Mixing Paddle- "dry wall mud type or equivalent"
- 4- 5 gallon clean plastic pails or equivalent
- Quart Measuring Cup
- Masonry trowels
- Drop lights
- Rags
- Drop cloths
- Dust mask
- Eye protection
- Gloves

SECTION 4- Performing the PriorFire Formula 51 Installation

Please read the following instructions thoroughly prior to installation.

Safety: Use protective gloves, proper eye and respiratory protection. Refer to SDS for this product for more information.

Before to installation of PriorFire Formula 51 into a smoke chamber of a fireplace, the smoke chamber of the fireplace must be thoroughly cleaned to remove all tar glazed creosote and soot from the internal smoke chamber walls. If this cannot be accomplished by conventional sweeping, the use of rotary chimney sweeping equipment is recommended.

Thoroughly check smoke chamber for cracked, loose, missing bricks, mortar, obstructions, or other materials that could inhibit the correct installation of the PriorFire Formula 51 Smoke Chamber Restoration System.

Mixing & Installation

Note: PriorFire Formula 51 powder is a blend of dry ingredients of various particle sizes, packaged in 30lb containers. Because settling occurs during shipment, it is important to mix full containers only or "pre blend" dry ingredients before partial use of a container.

For best results, always start with a clean mixer and tools. Mix outdoors to protect interior finishes from dust. The use of a drop cloth or tarp is recommended to protect surrounding area from inadvertent spills or splatter.

Step 1- Carefully pre-mix the dry contents of a 30lb pail. Split the dry contents equally into two clean 5-gallon pails. Add 3 ½ quarts of clean water to a mixing tub or clean 5-gallon pail. Carefully add contents of one of the split containers to the water. Mix with drill and paddle mixer to a mortar like consistency. If needed, add small amounts of additional water (1/4 to ½ cup) of clean water to the mix to achieve desired consistency. Proper consistency is reached when a "hand full sized" ball of mix is tossed up into the air about 12" and caught with finger held loosely apart and mix forms slight protrusions between fingers.

Step 2- Dampen surfaces to which PriorFire Formula 51 is to be applied just prior to installing material. No standing water should be present.

Step 3- Start at the top of the smoke chamber next to the flue liner and work down, apply in layers by tossing material onto the surface by hand or trowel (good suction bonding is created when material is "slapped" into place). See Figure 1. Apply from 1" to several inches thick to achieve desired results. Apply to all 4 sides of the smoke chamber to create a self-supporting dome when material cures. See Figure 2.

Step 4- Once material has been placed, a masonry trowel can be used to smooth out flat surfaces. A straight sided jar or bottle can be used to radius the corners. Do not "over work" the material, as this may break the suction bond.

Step 5- Install a rain cap per NFPA 211 (standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances), to protect the repaired smoke chamber and chimney interior from excessive moisture.

Curing- Finished repairs should be allowed to stand for 24 hours with natural air flow. Protect repairs from freezing until dry. In extreme cold weather (especially on exterior chimneys) it is advisable to plug the chimney just above the smoke chamber (foam rubber or equivalent works well). Leave damper off or in the open position to allow warm room air to enter the smoke chamber. After the 24-hour initial "air" curing the repair should be "conditioned" by burning a "Duraflame" type log or 3-4 small, (2"-3" diameter) wood logs. After the conditioning fire the repaired smoke chamber is ready for normal use. Advise homeowners to keep fires small for an additional 5 days as a precaution. Excessive temperatures could create steam if any residual moisture is still present in repair. Depending on the application and curing conditions small surface cracks or crazing may occur after curing or use and are of no functional concern.

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Figure 1

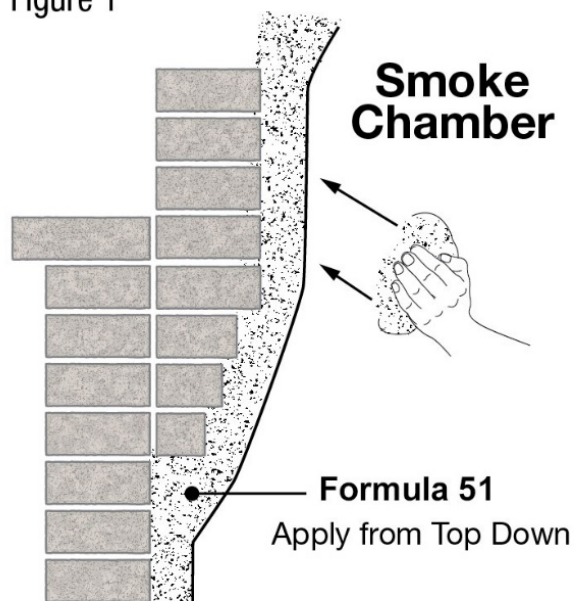
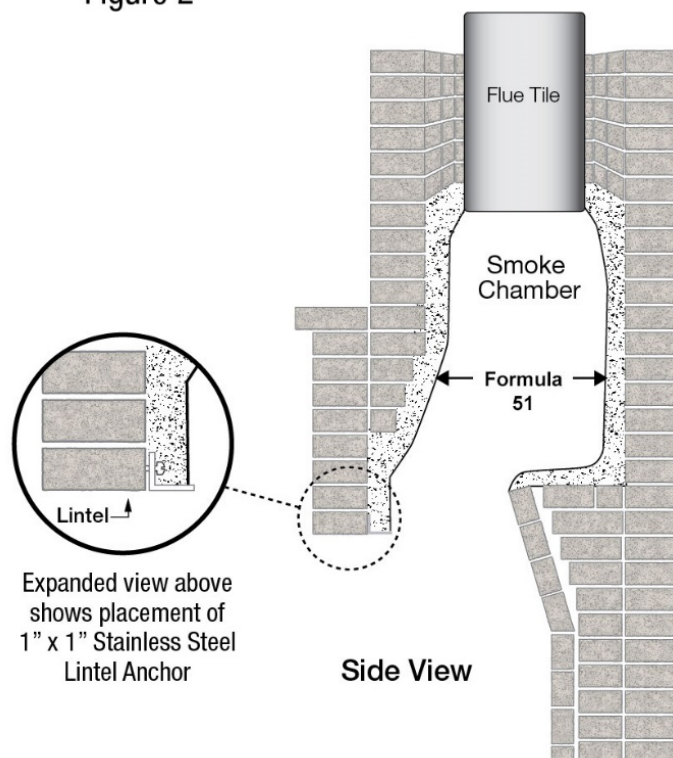


Figure 2



Leave a Copy of the Instructions Below with Homeowner

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SECTION 5- MAINTENANCE INSTRUCTIONS – READ AND SAVE

PriorFire Formula 51 Smoke Chamber Restoration System must be correctly installed with no materials used, other than those specified in these instructions. It must also be properly maintained in order to get the most benefit from this product. Therefore, the following maintenance and usage instructions must be followed.

CURING AND INITIAL USE

Finished repairs should be allowed to stand for 24 hours with natural air flow. Protect repairs from freezing until dry. Leave damper in the open position to allow warm room air to enter the smoke chamber (additional precautions may be recommended by your installer in extreme cold weather). After the 24-hour initial “air” curing the repair should be “conditioned” by burning a “Duraflame” type log or 3-4 small, (2”-3” diameter) wood logs. After the conditioning fire the repaired smoke chamber is ready for normal use. Keep fires small for an additional 5 days as a precaution. Excessive temperatures could create steam if any residual moisture is

still present in the repair. Depending on the application and curing conditions small surface cracks or crazing may occur after curing or use and are of no functional concern.

MAINTENANCE

1. The PriorFire Formula 51 repaired/resurfaced smoke chamber, the chimney and any connector pipes used, must be cleaned annually and the entire installation inspected by a certified chimney sweep or other qualified person following the initial installation.

2. Access to the smoke chamber for proper cleaning and inspection can be gained through the fireplace damper opening. Clean with plastic (or other non-metallic) brush. To aid in mechanical cleaning, the following chemical creosote modifiers have been approved for use with PriorFire Formula 51 repaired/resurfaced smoke chambers: Anti-Creo-Soot (liquid or powder), Cre-Away and Cre-Away Pro. Debris from cleaning should be removed from below.

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USAGE

When wood is burned slowly, it produces tar and other organic vapors which combine with expelled moisture to form creosote. These vapors may condense on the inside of the smoke chamber or chimney liner during slow-burning firing periods. As a result, creosote residue accumulates on the interior smoke chamber and chimney flue walls. When ignited, this creosote makes an extremely hot fire, which may damage your Chamber Coat smoke chamber repair and/or chimney liner.

During the heating season, the PriorFire Formula 51 Smoke Chamber repaired/resurfaced smoke chamber and chimney liner should be inspected at least once every two months to determine if a creosote or soot buildup has occurred. If creosote or soot has accumulated, it should be removed to reduce the risk of a chimney fire.

Should a fire occur, notify the fire department immediately. Before using your fireplace and chimney after a chimney fire, it must be inspected by a qualified person and cleaned or repaired as necessary.

Practice safe burning procedures to help prevent creosote buildup and chimney fires - burn fires hot, not smoldering with a lot of smoke. In fireplaces, keep the top of flames visible below the fireplace damper opening. Never burn trash, papers, garbage, etc. in a fireplace or wood stove. This could cause a fire hazard and damage to your smoke chamber and chimney.

Be sure to check rain cap for icing during periods of low temperatures.

LEAVE A COPY OF THESE INSTRUCTIONS AND THE AND THE PRIORFIRE FORMULA 51 LIMITED WARRANTY CARD WITH THE HOMEOWNER

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