GUARDIAN

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CORPORATE HEADQUARTERS
114 Lincoln Ave.
Cobleskill, NY 12043
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www.firetesting.com

PRODUCT LISTING

Reference No. NECS-B-16997-Guardian

Status: Current

Manufacturer:
New England Chimney Supply
34 Commerce St.
Williston, VT 05495

Product(s):
Guardian Chimney Liner

Report:
Guardian Test Report # GL 16997, Test Report Date 4/23/1997 – 4/24/1997

Standards Tested To: UL 1777, ULC-S635-M90

The Guardian* Chimney Liner is a poured in place flue liner within a masonry chimney. The mix is manufactured in dry powder form.

It is sold to factory trained, qualified dealers.

It is a cementitious material with lightweight aggregates.

The minimum thickness of the Guardian chimney liner, 3⁄4," permits combustible material to be in direct contact with the exterior surface of the masonry chimney (zero inch clearance).

For casting the liner, the dry mix is mixed at the job site with potable water, approximately 3.5 gallons per 60-pound bag.

*There is no connection between New England Chimney Supply's Guardian Chimney Liner and Guardian Fire Testing Laboratories, Inc.

EVALUATION SCOPE

USES
Guardian Chimney Liner® is used as a chimney flue liner in masonry chimneys for low-heat, residential-type appliances, in all types of construction in accordance with IBC Section 2113.11.1, item 2; IRC Section R1003.11.1, item 2; or IMC Section 801.16.1, item 2.

The lining system is used for the natural draft venting of Category I gas-fired, Type L vented oil-fired, and solid fuel fired appliances in which the maximum continuous flue-gas outlet temperatures do not exceed 1000°F (538°C). The system is used for new and existing masonry chimneys and with chimney connectors complying with IMC Section 803.10.3 that pass through a wall or partition constructed of combustible material to reach a masonry chimney.

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DESCRIPTION

Guardian Chimney Liner® consists of a proprietary formulation (Guardian Formula) of lightweight cementitious material with lightweight aggregates, a rubber form and spacers. The minimum thickness of the Guardian Chimney Liner® is 3/4 inch (19.1 mm). This minimum thickness, 3/4," permits combustible material to be in direct contact with the exterior surface of the masonry chimney (zero inch clearance).

INSTALLATION

The Guardian Chimney Liner® is cast-in-place around a temporary rubber form that is inflated with air to resist the pressure of the cementitious material during curing of the liner system. Prior to installation, the chimney must be inspected from foundation to chimney cap to determine the condition of the stack, presence of any obstructions, adjoining flues, any structural deterioration and required minimum flue size. The entire chimney must be cleaned to remove any loose material. All openings such as cleanouts and thimbles are temporarily closed off. A temporary rubber form is inserted into the chimney with spacers to hold the form at the proper location within the chimney. The spacers are either field-cast from the Guardian Chimney Liner® material to a size of 1 inch by 2 inches (25.4 mm by 51 mm), or field-formed from 14 gauge steel wire. When the form and spacers are properly located and installed within the chimney, the form is inflated to a maximum pressure of 30 psi (206.8 kPa).

The Guardian Formula is prepared by mixing a 60-pound (27.2 kg) bag of formula with approximately 5 gallons (18.9 L) of potable water. The material must be mixed until the consistency of the material is homogeneous.

The temperature of the mix before placement must be a minimum of 40 degrees Fahrenheit. (4°C). Before placement of the Guardian Formula, the interior of the chimney must be moistened for proper adhesion. The material is pumped and/or placed into the void between the chimney and the form to achieve a minimum cured thickness of 3/4 inch (19.1 mm). During the pumping process, the hose is moved around the perimeter of the void to ensure consistent coverage. Once the Guardian Formula is placed, it must be allowed to cure for 24 hours at a temperature of not less than 40°F (4°C). After a minimum of a 12-hour cure period, the form is deflated and removed along with the devices used to temporarily close off openings such as cleanouts and thimbles.

The Guardian Formula must terminate at approximately 1 to 3 inches (25 to 76 mm) below the chimney top. Minimum 3/4-inch-thick (19.1 mm) circular clay tile, with an inside diameter equal to that of the Guardian Chimney Liner®, must be installed using refractory mortar. The circular clay tile must extend at least 2 inches (51 mm) above the mortar on top of the chimney.

The refractory mortar must be used to fill around the circular clay tile and extend 3 to 4 inches (76 to 102 mm) above the chimney top without decreasing the size of the flue opening. A chimney cap, complying with the applicable requirements of the code for the type of appliance being used, must be installed in accordance with the chimney cap manufacturer's published installation instructions and the applicable code.

The chimney liner and the refractory mortar must be cured for not less than 72 hours after the chimney liner is installed, prior to use of the appliance.