



## TherMix® CHIMNEY INSULATION SINCE 1984

### TherMix® AT A GLANCE:

TherMix® is a ready-mix, Vermiculite-based masonry material. After dampening with water, TherMix® is filled between a liner and masonry shell.

TherMix® cures into a lightweight, semi-hard mass that supports a liner within the chimney and forms a thermal barrier that keeps flue gases warm and exterior chimney surface temperatures within safe limits.

TherMix® fills voids and cracks in the masonry and thus strengthens the chimney structure. Airflow and moisture build-up between the liner and chimney is eliminated.

TherMix® is listed by Underwriters Laboratories, Inc. in combination with several brands and types of lining materials for use in applications where chimneys are in direct contact with framing or other combustible materials (**Zero Clearance**).

### HERE IS A QUICK LOOK AT THE BENEFITS OF TherMix®:

- **NO HEALTH RISKS** — to the installer and homeowner...today or in the future. TherMix® is non-fibrous, non-toxic, inert, and manufactured under stringent quality controls.
- **ADDS SAFETY** — in TherMix® insulated chimneys, creosote build-up is minimized. The chance of a chimney fire is reduced and its danger decreased.
- **INSULATES** — featuring high "R" values, TherMix® balances the need to keep flue gases warm and outside temperatures within safe limits.
- **TIMESAVER** — all ingredients but water are prepackaged in correct proportions. Proper consistency to hand pour or pump TherMix® into place are achieved in minutes.

- **ADDS PERFORMANCE** — flue surface temperatures are balanced and react quickly to firing cycles of heating units. Their performance is more reliable and consistent.
- **TIME TESTED** — TherMix® has been serving Chimney Professionals and their customers since 1984!
- **DURABLE** — When properly installed, TherMix® does not leak, separate, or deteriorate.
- **REINFORCES** — TherMix® masonry insulation provides the mass that bonds a liner and the existing chimney into a stronger unit.
- **COST EFFECTIVE** — no waste, good shelf life, consistent volume yield, and no shrinkage all mean lower overall installation costs.



VENTINOX®  
Registered Dealer,  
John Pilger of Chief  
Chimney in Long  
Island NY, knows the  
benefits of TherMix®

## TherMix®, THE "THERMAL BRIDGE" BETWEEN CHIMNEY LINERS AND MASONRY.

- 1) **TherMix® lowers temperatures on liners during over firing or chimney fires.** Unlike ceramic blankets, TherMix® allows heat to be slowly absorbed into the entire mass of a chimney, where it is safely dissipated over a large surface area.

To pass the 2100 degrees F test under the UL 1777 standard, foil-faced ceramic blankets rely on aluminum foil to reflect heat back to its source. Liners could be exposed to temperatures exceeding the limits of their respective stainless steel alloys.

- 2) **TherMix® maintains higher temperatures on liners when flue gas temperatures are low.** Maintaining flue gas temperatures above dew point (ca.128 degrees F) is essential to avoid condensation. The insulating mass of TherMix® retains the maximum available heat close to the liner: the flue stays warm for a longer period of time after the appliance shuts down. With oil and gas appliances, keeping the flue warmer between firing cycles greatly reduces the possibility of momentary flue gas spillage that can occur at the start of the next on-cycle. With wood burning applications, warmer flues help eliminate back puffing and other draft related problems.

**TherMix®** minimizes fluctuations of liner surface temperatures during heating cycles. This is critical when draft must be established quickly each time an appliance fires up and when minimizing condensation within the entire height of the flue is important.

- 3) **No change in consistency of TherMix® over time.** Even after exposing TherMix® to many high temperature tests at UL, the structural integrity, chemical composition and insulating qualities of this material remained consistent over time, every time. With TherMix®, there is no aluminum foil to tear or melt, no binders and fibers that could change with exposure to high temperatures.
- 4) **Listed to UL 1777 with several stainless steel liners.** Originally designed in conjunction with the **VENTINOX® Chimney Lining System**, TherMix® now performs as an insulator for other systems as well.

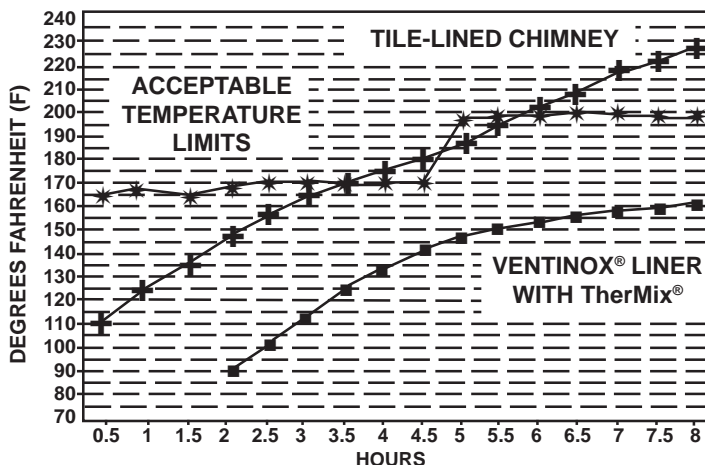
Please note that TherMix® by itself is not a chimney liner. Installation instructions provided by the lining manufacturers must be followed.

- 5) **TherMix® insulated chimneys can be used right after the installation is complete, as long as flue gas temperatures do not exceed 1000 degrees F during the first 48 hours of actual use.** Please note that drying and curing TherMix® are two separate processes:

Curing or hardening of TherMix® takes place over a 28-day period, with 65% to 75% of this process occurring during the first week.

Drying time depends on the thickness of TherMix®, the permeability of the chimney, and weather conditions. The drying process is enhanced and completed over time by using the heating appliance.

### THERMIX® INSULATION REDUCES THE RISK OF HOUSE FIRES



The graph shows how **TherMix®** reduces heat transfer to combustible material surrounding a masonry chimney. The data is from an actual UL test where chimney flue gases were maintained at 1000 degrees F for an eight-hour period.

The (+) line shows temperatures on a plywood enclosure located at one inch from a code approved, tile-lined chimney. The (■) line shows temperatures with a **VENTINOX®** liner, which have been insulated with **TherMix®** insulation at the same thermocouple location. The (\*) line shows acceptable temperature limits specified by the UL standard (90 degrees F plus ambient for the first 4.5 hours, and 117 degrees F plus ambient for the remainder of the test.)

## TherMix® HAS BENEFITS NOT FOUND WITH ANY OTHER LINER INSULATION

	TherMix®	Ceramic Blankets		TherMix®	Ceramic Blankets
Listed for zero-clearance to combustible materials	YES	YES	Accepted by building code officials	YES	YES
Easy to install	YES	YES	Can be removed	YES	YES
Seals dangerous cracks and voids in chimneys	YES	NO	Avoids reliance on respirator during installation	YES	NO
Eliminates air leakage into chimney	YES	NO	Eliminates the need for reflective surfaces to reduce heat transfer	YES	NO
Eliminates moisture buildup between liner and chimney structure	YES	NO	“Poured” method means “one-size-fits-all” insulation	YES	NO
Shipped by UPS	YES	YES	Holds liner in place	YES	NO

### TherMix®: THE SAFE, PRACTICAL, AND CONVENIENT CHIMNEY INSULATION

**GOOD SENSE:** Carrying a “bare” liner up to the roof and sending it down a narrow flue without additional bulk or weight simply makes good sense.

**OFFSETS? NO PROBLEM:** After the liner is in place, TherMix® readily flows down between the steel and masonry, providing complete insulation coverage, even in offsets. The installer handles the insulation once, not over and over again.

**ADDITIONAL BENEFITS:** With TherMix®, there’s no need to purchase spray adhesives, tapes, wire, mesh, and sheet metal parts which just add to the cost and time necessary to complete a job.



### MORE ABOUT THERMIX®

- **TherMix®** can be used to insulate modular masonry fireplaces.
- To comply with the specifications of a UL Listed, zero clearance solid fuel installation, a minimum thickness of 1" of **TherMix®** must be installed between a listed stainless steel liner and a 4" masonry chimney wall. In verifiably code-complying, clay-tile-lined chimneys no minimum thickness of **TherMix®** is required.
- **TherMix®** stays in place when installed, but can be removed. Dry weight per cubic foot installed is approximately 20 lbs.
- **TherMix®** is available in 40 lb. bags, sold per bag or palletized (40 bags to a pallet). It is also available in 42 lb. boxes that can be shipped via UPS or 24 per pallet.

## THERMIX® “THE PRACTICAL CHIMNEY INSULATING PRODUCT”

TherMix® is delivered in a strong poly-lined bag, containing all ingredients except water, which must be added to moisten the material.

Proper consistency is achieved when the material feels damp but is still granular, (ca. 7 to 9 gals. of water/bag). TEST: when a handful of properly moistened TherMix® is squeezed hard, little or no water appears between the fingers.

During the installation, correctly prepared TherMix® pours like “loose fill”. TherMix® is distributed within the chimney cavity by vibrating\* the liner and does not have to (and should not) be tamped down.

**\*NOTE: Lining material manufacturers have their product specific instructions for this task.**

### How Much TherMix®?

Use Table 1 to estimate the number of TherMix® bags needed to do the job.

1. Find the flue opening that comes closest to the one to be lined, down the left hand column.
2. Find the size of the liner to be installed across the top line.
3. Where both columns intersect, read the cubic foot volume of TherMix® per foot of chimney height.

4. Multiply this volume by the height (in feet) of the chimney.
5. Divide the cubic feet obtained in step #4 by 3.25 to determine the number of bags of TherMix® needed. (Each bag yields approx. 3.25 cu. Ft.)

**EXAMPLE:** A 28 ft. chimney with a flue opening 8.5" x 8.5" is to be lined with a 6" liner. As you see from Table 1, .30 cu. ft. of TherMix® is needed per foot of chimney height. Multiply .30 by 28 ft. (the height of the chimney) to get 8.4 cu. ft. Now divide 8.4 by 3.25 (the approximate volume yield per bag of TherMix®) to obtain 2.6, which is the number of TherMix® bags needed for this relining job.

**Note:** Masonry chimneys are not uniform structures. Have extra bags available in case you need them. If you have a situation that is not covered by the table, refer to the formula below.

Formula for determining the number of TherMix® bags.

$$\text{Bags of TherMix}^{\circledR} = \frac{(W'' \times D'' \times H'') - (CS \times H'')}{1728 \text{ cu. in.}} : 3.25$$

- W** = Width of flue opening (in inches)
- D** = Depth of flue opening (in inches)
- H** = Height of flue (in inches)
- CS** = Cross section areas of chimney liners (*table 2*)

**TABLE 1.**  
**TherMix® Volume Per One Foot of Chimney Height**

FLUE OPENING	DIAMETER OF LINER					
	5"	6"	7"	8"	10"	12"
7.5" X 7.5"	.25	.20	NA	NA	NA	NA
7.5" X 11.5"	.46	.40	OV.38	OV.32	NA	NA
8.5" X 8.5"	.36	.30	.23	NA	NA	NA
8.5" X 11.5"	.54	.48	.41	OV.36	OV.33	NA
9.5" X 9.5"	.49	.43	.36	.27	NA	NA
11.5" X 11.5"	.78	.72	.65	.60	.37	NA
11.5" X 16.5"	1.18	1.12	1.05	.96	.77	NA
12.5" X 12.5"	.95	.88	.82	.73	.53	NA
14.5" X 14.5"	1.30	1.26	1.20	1.10	.92	.65
14.5" X 18.5"	1.70	1.66	1.60	1.50	1.30	1.04

**TABLE 2.**  
**Cross Section Area of Liners**

LINER SIZE	CS AREAS
Round 5"	19.62 sq. in.
Round 6"	28.46 sq. in.
Round 7"	38.46 sq. in.
Round 8"	50.25 sq. in.
Round 9"	62.50 sq. in.
Round 10"	78.50 sq. in.
Round 12"	113.22 sq. in.
Oval 6" (4.2 x 7.2")	24.60 sq. in.
Oval 7" (4.2 x 9.1")	32.20 sq. in.
Oval 8" (4.2 x 10.3")	37.20 sq. in.
Oval 10" (4.2 x 13.3")	49.50 sq. in.