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Thank you for contacting the Energy Efficiency and Renewable Energy Clearinghouse Bulletin Board System. The following is information related to your inquiry.

#### Masonry Heaters

Masonry heaters, or stoves, are known for style, efficiency, clean combustion, safety, and the ability to store heat and release it slowly. They are common in Europe, and are gaining popularity in the United States. "Russian," "Siberian," and "Finnish" fireplaces are examples of masonry heaters.

A wide variety of masonry heater designs and styles are available. Most are designed for burning wood, although gas fired units are now available. Some types look like conventional fireplaces and may replace an entire wall of a home. Others take up no more space than a wood or pellet stove. They can be custom-built or purchased as prefabricated units. All designs have three basic components: a firebox, a masonry mass, and long smoke channels that run through the masonry mass.

These heaters use a short, intense fire lit once or twice a day, depending on heating requirements. Their fireboxes are lined with firebrick, refractory concrete, or similar materials that can handle the extremely high temperatures (over 2,000° F [1,093° C]) produced by the intense fires. The hot gases from the fire pass through a network of smoke channels in the masonry mass. The mass absorbs this heat, which radiates slowly and steadily into the home over 12 to 20 hours.

Masonry heaters are much more efficient than conventional fireplaces. The intense fires usually result in almost 100% combustion of the fuel. This results in very little air pollution and minimal creosote buildup in their chimneys. Masonry heaters do not have to be charged (filled with fuel) as often as other types of wood heating appliances. In addition, if the masonry heater is built where the winter sun shines on it, the heater will absorb the sun's heat and release it slowly into the room.

Although masonry heaters are efficient and clean burning, they have some disadvantages. Unlike conventional wood stoves and fireplaces, they do not provide heat quickly, because the mass heats up and cools down slowly. They can also be expensive; some large designs may cost \$5,000 or more. Plans and kits are available, but they are not easy do-it-yourself projects and require experience in working with masonry.

For more information on masonry heaters, consult with local wood-burning appliance dealers and fireplace contractors, or contact the:

Masonry Heater Association of North America (MHA)  
 11490 Commerce Park Road  
 Reston, VA 22091  
 Phone: (703) 620-3171  
 Internet: (E-mail) mheat@hookup.net; (World Wide Web) <http://mha-net.org/>

The MHA provides basic information on masonry heaters, and will help you locate sources of masonry heaters and installers in specific regions of the country.

#### Bibliography

The following books and articles provide additional information on masonry heaters. This list was updated in June 1996.

## Books

Finnish Fireplace Construction Manual (With Core Kit Update), A. Barden, Maine Wood Heat Company, Inc., 1993. Available from Maine Wood Heat Company, RFD 1, Box 640, Norridgewock, ME 04957, (207) 696-5442. \$20.00 plus 3.60 postage and handling.

Finnish Fireplaces-Heart of the Home, A. Barden and H. Hyytiainen, Finnish Building Center, Ltd., 1993. Available from Maine Wood Heat Company (see above), and Real Goods Hearth Center, 286 Wilson Street, Amherst, WI 54406, (715) 824-5020. 103 pp., \$30.00. Masonry fireplace kits and construction guides are also available from the Real Goods Hearth Center.

The Book of Masonry Stoves, D. Lyle, Brick House Publishing, Inc., 1984. Available from Brick House Publishing, P.O. Box 266, Amherst, NH 03031, (800) 446-8642. 192 pp., \$24.95.

## Articles

"Building a Tiled Masonry Heater," V. Popovac, Fine Homebuilding, (No. 71) pp. 50-54, January 1992.

"Foofproof Fireplace Construction," S. Maviglio, Home Mechanix, (83:714) pp. 52-53, November 1987.

"Gas Opens New Market: Masonry Heaters Start Offering a Gas Switch," D. Johnston, Alternative Energy Retailer, (16:5) pp. 1, 14-15, April 1996.

"Masonry-Heater Emissions and the EPA," N. Senf, Fine Homebuilding, (No. 71) p. 54, January 1992.

"Masonry Stoves," M. Klein, et al., Home Power, (No. 51) pp. 42-47, February/March 1996.

This article contains information on 10 different stoves produced in the United States and Canada.

"Prefab Masonry Fireplaces," G. Menia, Journal of Light Construction, (11:12) p. 38, September 1993.

"Revolutionary New Kit: Heat Storing Fireplace," D. Lyle, Popular Science, (223:4) pp. 134-36, October 1983.

"Small House, Big Heater," A. Barden, Fine Homebuilding, (No. 71) pp. 76-79, September 1992.

"The Siberian Fireplace," Mother Earth News, (No. 84) pp. 134-35, November/December 1983.

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Your interest in energy efficiency and renewable energy is greatly appreciated. If we can be of further assistance, please feel free to contact us again.

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