



A Better Way to Build

RASTRA is the ultimate building solution for economical and environmentally-friendly construction. RASTRA is the solution for this century to build environmentally conscious, energy efficient buildings that provide a safe and healthy living environment. **Over 9 million units in service worldwide.**

### What is THASTYRON?

RASTRA is produced from recycled expanded polystyrene (Styrofoam), mixed with a cement binder to a very specific density. The trade name for this raw material is THASTYRON (Thermo-Acoustic-Styro-Concrete).

THASTYRON was originally developed in the late 1960's by BASF using virgin polystyrene but found no viable commercial use for the unique material. Several years later, RASTRA's president Mr. Karl Holik and BASF joined forces to create the perfect solution to create energy efficient load bearing walls when the hollow channels are filled with concrete and reinforcing steel support. RASTRA was born.

THASTYRON is ideal for use as a wall material; it provides superior heat/cold insulation, is dimensionally stable, highly resistant against fire, frost and other climate influence and accepts plaster, stucco or any other type of wall covering with ease, and can be cut and milled using common woodworking tools. Owners appreciate the ability to fasten nails and screws into the panel face – a feature not available in traditional ICFs.

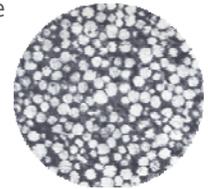
By itself, THASTYRON is not a structural building material. Wall strength is realized when steel reinforced concrete is added to the panels. The interior cavities of RASTRA panels are designed to maximize strength when filled with concrete once they are installed on the job site, forming a rigid skeleton of 6" columns inside the panel. The interior channels provide an extremely strong wall using the lowest possible amount of concrete.

The composition of THASTYRON is 85% cellular material and 15% cement which serves as the binder. This provides just enough porosity to control water-vapor diffusion. The finished product is a porous, honeycomb-like material containing small insulating bodies and tiny air pockets, which are responsible for the low specific heat of the wall-surface material. Therefore, the wall surface maintains a temperature very close to the average comfort level.

THASTYRON allows a slow controlled exchange of air, which in turn allows the building to slowly "breathe" in a controlled manner. The exchange is slow enough that it does not allow heat or cold to escape but helps maintain good air quality, preventing "sick building syndrome." This slow exchange of air reduces condensation that leads to mold growth.

In blower door tests, a RASTRA built home tested at 0.0379 air changes per hour, or once every 26 hours. Because so much unfiltered air leaks into a wood-frame house, the

interior air of a typical new wood house changes completely .5 times per hour, or once every 2 hours. This ideal exchange rate is due in part to the elimination of thermal breaks however the highly engineered composition of THASTYRON is a large contributor.



The ideal solution is to construct a "smart" vapor barrier which works only when you need it. RASTRA is a breathing wall without air flow. THAYSTYRON has an ideal transmission rating of 7.3.

The first THASTYRON homes were built in 1972. After four+ years of observation and refinement, it was determined that the new system, now known as RASTRA, performed extremely well and was ready for market. Today, successful installations exist throughout Europe, Middle East, Far East, North Africa and the Americas, in all types of climates from the Austrian Alps to the Saudi Arabian Desert, to the humid climate of Southeast Asia.

### Environmental Statement

We have a vision: A vision to preserve a world with forests, with clean air and clean water for future generations to come. A vision to take care of our environment by providing sustainable and energy efficient buildings, to meet new standards and to use recycled materials or those, which can be replenished. To support our mission, RASTRA offers a full range of building materials made with 85% recycled-content and produced in a manner that is environmentally-friendly.



*RASTRA is an ecological sound building material, consuming recycled raw materials, taking them permanently out of the waste stream and producing a healthy living environment.*

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