



warmboard

RADIANT SUBFLOOR

Sustainable Radiant

You might recognize Warmboard by its color...green. Some like to say, "Warmboard was green before green was the trend." However, its green color is not the only green and sustainable part of Warmboard. Warmboard radiant panels have multiple sustainable facets. For example, Warmboard's unique patented design and utility make its panels the most energy efficient in the marketplace, allowing a Warmboard radiant system to comfortably warm any home at the lowest water temperatures.

Energy conservation

Warmboard Radiant Subfloor is designed to allow the radiant system to operate at the lowest water temperatures. These lower water temperatures translate to lower energy consumption of natural gas, propane, or electricity. Moreover, the low water temperatures easily interface with solar thermal and geothermal technologies.

Zoning

Warmboard also has the ability to zone a home to the needs and preferences of the homeowner. When a Warmboard radiant heat system is designed into the home, Warmboard's CAD department designs the system zones so that if a homeowner is only in his/her room at night that is the only time that area receives heat. This makes the system extremely efficient and allows less energy to be used. Thermostats are located in each zone and can be controlled accordingly.

Health

As a radiant heating system, Warmboard provides clean indoor air quality. The heat is radiated from the floor so there are no allergens or dust particles blowing around the room as there are with forced air systems. Improved indoor air quality could reduce allergies, medical bills, and more as the heat is radiated and not blown around.

LEED credits

A complete Warmboard radiant heating system can gain between 7 and 11 LEED points in the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) green building rating.

Solar Decathlon

The Department of Energy's biannual competition in Washington, D.C. showcases and awards, based on distinct criteria, energy efficient homes created and designed by 20 colleges and universities that are selected to enter. Warmboard has been chosen for a majority of these homes because the best engineers at the best universities know that Warmboard is the most energy efficient radiant heating system available.



Phenol formaldehyde

As a structural, APA-approved, radiant panel, Warmboard's Douglas Fir ply layers are bound together using a phenol formaldehyde-containing (phenolic) adhesive. This adhesive is extremely durable, waterproof, and contains as much formaldehyde as one breathes in an urban area.

Second vantage point: this is even less formaldehyde than the amount that naturally forms in apples, onions, and human blood, which contains 0.3 parts per million or ppm of formaldehyde. Even U.S. Government agencies claim "phenolic resin-bonded wood products do not cause significant formaldehyde related problems." Formaldehyde is produced by cigarettes and gasoline and is always present to some degree in the environment. The amount of formaldehyde within Warmboard will not endanger your health any more than the air around you.



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Swanson – Oregon Forest Practices Act

The plywood of a Warmboard Radiant Subfloor panel is harvested in Oregon and complies with the Oregon Forest Practices Act which promotes sustainable forest harvesting, protects wildlife habitats and limits clearcuts.



Wood – strong, renewable, resistant

Plywood was the first type of engineered wood. The seven plies of Warmboard are cross-banded and bonded together with pressurized heat and strong adhesives. Warmboard panels are extremely durable, resistant to warping, shrinking or twisting, and are also the home's structural subfloor. From an environmental viewpoint, wood takes less energy to produce, compared to concrete, steel, or cement. Wood is also renewable and has strong insulation properties.

Recycled aluminum

The top of the Warmboard panels consist of a continuous sheet of aluminum adhered to the plywood. The aluminum also covers the interior of the tubing channels creating a highly conductive surface beneath the finished floor covering. This 1100 alloy aluminum is not only highly conductive, it is also manufactured with 20% recycled aluminum.

Installation Process

As an APA-approved structural subfloor, Warmboard panels are the radiant heating system combined with the structural subfloor. When installed, the 4' x 8' sheets (1-1/8" thick) are placed over the floor joists and nailed down. Afterward, the installer has the subfloor in place along with a highly conductive radiant panel in which to place the tubing. This eliminates labor and materials, reducing the waste a project might produce from their separation.

Little product waste

Warmboard's customized CAD design services fit the panels into each unique home design. Therefore, there is little waste when it comes to product purchase, development, and shipment; the exact amount of panels needed to cover a project are the exact amounts shipped to a particular job site. This customization allows for a large reduction in product and material waste as well as a reduction on the environmental impact in creating and transporting such materials.

Sustainable manufacturing in the USA

Warmboard is proudly manufactured in the United States of America. It also uses a beeswax lubricant that is cleaned in water before it is used in the manufacturing process of Warmboard panels.



Warmboard lives forever...almost!

Often times, building materials are in need of replacement due to use and degradation over time. Warmboard however, is designed to last the life of the house, so there is no need to replace the materials. Therefore, it is less impacting on the environment because fewer materials are needed and they last forever...well, almost.