

Thermalboard™ – Sample Specification
9/3/2009

1) Subfloor Radiant Heating System: As manufactured by Thermalboard. As distributed represented by JTG Muir Co., located in Oakland, CA.

- a) Design:
 - i) The board system shall be grooved to accept 3/8" PEX tubing, and laminated with a top layer of highly conductive aluminum to disperse and transfer heat away from the tubing, and to the surface area of the board.
 - ii) The board system shall be applied directly to the top of a subfloor structure, or concrete slab with plywood and insulation in between, per installation instructions. It shall add only 5/8" to the height of floor base.
 - iii) The board system shall be a rapid response design and can be used with setback thermostats for maximum energy efficiency. This is accomplished because of its medium mass design. The mass is high enough to afford even heating while allowing for quick response and preventing temperature carryover.
 - iv) The board system shall provide a flat surface, over which a variety of floor coverings can be applied. Floor coverings include Hardwood, Engineered Wood, Tile/Stone, Carpet, Vinyl/resilient Flooring, and Laminate. It shall be designed to be glued and screwed, or stapled to the subfloor.

- b) Construction:
 - i) The board material shall be Green Cross certified Medium Density Fiberboard (MDF), which is manufactured with recycled wood products. The wood glue has a zero VOC, and the aluminum layer can be recycled. The MDF used in the board shall be less than the HUD minimum formaldehyde content requirement levels.
 - ii) The board aluminum layer shall act as a positive barrier to hamper out gassing of the formaldehyde, and shall meet the Federal Housing Authority (FHA) out gassing standard of less than 0.3 ppm of formaldehyde.
 - iii) Each board shall be 16" x 48" x 5/8" thick and cover 5.333 sq. ft. per board. The board shall add only 2.5 lbs. per sq.ft., or 13.3 lbs. per board to the overall weight of the floor.

- c) Performance:
 - i) The board system shall have a min. performance value of 47 BTU/sq. ft. based on 120 deg. F. hot water, with R=0 covering resistance. This performance varies depending on the insulating value of the floor covering.