

THERMALBOARD™

MODULAR HYDRONIC RADIANT THERMAL MASS

Thermal Mass Cost Comparison

Assumptions:

50% hardwood / 30% carpet / 20% tile
 Located in SF Bay Area
 All lumber prices Home Depot
 Tubing not included
 80% radiant panel coverage

- Cost Effective
- Superior Performance
- Super Response
- Lightweight
- Low Profile

The Total Estimated Cost of an Installed Thermal Mass System

Cost factors:	Gypsum Concrete (sq.ft.)*			Thermalboard (sq.ft.)*		
	500	1000	2000	500	1000	2000
1) Radiant thermal mass Cost/sq.ft. (includes labor) Subtotal cost - 80% coverage	7.08/sq.ft. \$2,832	4.11/sq.ft. \$3,288	2.63/sq.ft. \$4,208	4.25/sq.ft. \$1,700	4.25/sq.ft. \$3,400	4.25/sq.ft. \$6,800
2) Joist upsizing (\$0.33/sq.ft. no labor)	\$165	\$330	\$700	\$0	\$0	\$0
3) Additional siles - double plating (25% sile to sq.ft. ratio w/labor)	\$50	\$100	\$200	\$0	\$0	\$0
4) Sleeper for hardwood (18" OC pressure treated w/labor)	\$125	\$250	\$500	\$0	\$0	\$0
5) Plywood under hardwood (1 layer 3/4" w/labor)	\$225	\$450	\$900	\$0	\$0	\$0
6) Plywood for carpet (1 layer 3/8" w/labor)	\$0	\$0	\$0	\$125	\$250	\$500
7) Water removal - open door floor warming	\$0-\$1,000			\$0	\$0	\$0
8) Scheduling disruption/curing time	Variable			\$0	\$0	\$0
Total	\$3,397	\$4,418	\$6,508	\$1,825	\$3,650	\$7,300

* Pricing can vary by significant amounts due to the complexity of a given project and flooring goods.

ThermalBoard is customarily installed in raised floor hydronic radiant heating applications. While ThermalBoard is more competitive than any other thin mass system, currently the most common option to builders is pourable gypsum based concrete thermal mass. It is often assumed that ThermalBoard is more expensive than gypsum concrete. This is true only if all the hidden costs to the builder of gypsum concrete are overlooked. Please consider the following:

The Cost of Weight

ThermalBoard weighs 2.5 lbs./sq./ft while gypsum concrete weighs approximately 12.5 lbs./sq./ft dry. In many cases the rafters must be upsized or blocking inserted to carry the weight of gypsum concrete. In seismic Zone IV areas, the extra weight of gypsum concrete will often discourage structural engineers from using radiant heating because the additional weight makes the structure unacceptably expensive.

The Cost of Double Plating

To install 1 ½" of gypsum concrete the contractor must add an additional plate under all walls to provide a nailer plate for sheet rock. This costs approximately \$.18 per square foot of a buildings gross square footage.

The Cost of Moisture

When pumped into a building, gypsum concrete is largely water. This water must be driven out of the gypsum concrete and the effected wood to before flooring goods can be attached. In the case of hardwood, any appreciable moisture below the hardwood is completely unacceptable. On warm summer days, windows can be opened and fans can drive out the moisture in 6 to 14 days. In cold weather, either the radiant system or a portable propane burner/blower can drive the moisture-laden air out the open windows at a cost. (This can be a lot of money). In either scenario, the job is delayed one to three weeks while the gypsum concrete is drying. Time is money.

The Cost for Nailed Hardwood

When using nailed hardwood, the hardwood must be secured either to nailing striped attached to the subfloor or to 2 layers of ½" plywood floated over the gypsum concrete. Both the Radiant Panel Association and the National Wood Flooring association recommend these methods. Either method incurs at least x\$ per square foot of additional materials and labor not required when using ThermalBoard.

