



SOLAR THERMAL MASS STORAGE HEAT RESERVE

We store energy in batteries for on-demand usage to access when the primary energy source is not available. Solar also uses the concept of batteries to provide thermal energy after the sun goes down. The method of storing the energy from a solar thermal system is simply to store solar heated water in a large tank, called a mass thermal storage tank.



When heat is demanded, we simply access it from the tank. The size of the tank is determined by the application. It can be as small as 40 gallons to provide hot showers in the morning for a family of four. A tank is used in a radiant heat application or radiant heat conversion when the foundation of the home or building has not been built with the extra insulation needed for optimal solar heat storage. (See Thermal Mass Slab Diagram). The addition of the Thermal Mass Storage tank guarantees that the radiant heat can be controlled. For instance, without the control the tank will provide, it might be necessary to open the windows of your home to dissipate heat from the floor on an unseasonably warm winter day.



For one of our first installations, our customer needed a very large capacity thermal mass storage tank but had a very small space to put it in. All of the commercially

available tanks were cylindrical and did not fit the space. We designed a rectangular stainless steel tank and had it built and shipped to us.

We converted the tank for solar usage ourselves. The tank fit perfectly in the small space and worked great. As an added bonus, we found we could have the tanks custom-made for less than the cost of the commercially available tanks. Our customer was thrilled that we saved him over a \$1000.



Mirasol Solar Energy Systems now uses two types of custom-designed tanks. The tanks have been designed by a Professional Engineer. For use in a garage or mechanical room, the tank is reinforced stainless steel. If there is no room in the structure, we can now have a concrete tank fabricated and buried in the yard. The tank is coated internally with epoxy to prevent any leakage that could contaminate the water. The buried tank, surprisingly, is the least expensive option.

