

## Why build round?

- Simple and forgiving construction. Very few tools required. No framing knowledge needed.
- Limitless flexibility of design, layout and most importantly, orientation to the sun for optimum solar gain and to take advantage of what ever view there is.
- Most efficient space to heat, eliminating cold spots and permitting unrestricted circulation of air.
- Only the round shape can support the concrete roof which gives uncompromised strength and security from any kind of disaster, while providing the most interior space of all construction.
- The roof design is self-supporting which allows unlimited floor plan design, since there are no-load bearing walls.
- A large 4 foot over hang is one of the benefits of the circular roof design, which is essential for allowing full solar gain and light in the winter, while providing shade from the hot summer sun.
- The large over hang allows protection for all windows and doors, even while open.
- The five pitch roof allows perfect orientation of solar panels to the sun.
- The inside of the roof creates a large cathedral ceiling, along with a 6' diameter skylight, dispersing bright light through out the house, even the moon illuminates the house.
- The circular foot print creates aprox. 25% more square footage than a square building, using the same amount materials.
- Aprox. 25% less exterior surface area exposed to the weather and possible heat loss.
- At least 10 times stronger than conventional square construction
- The advantages of building a round structure with cement are many.
- The Insulated concrete forms (ICF's)are made of foam, which are very light to handle and easy to fit in to place and high R value.
- Because the ICF's stay in place after the cement has been poured, they are also the insulation, creating a monolithic wall with zero places for air leakage or heat loss. Walls are R24 plus large thermal mass, which eliminates sudden temperature changes inside the house.

- Concrete is still the most affordable building product, especially in the northeast.
- Structure should last hundreds of years, instead of the expected short life time of the houses being stick built.
- Mold, insects, rodents have no place to inhabit in a solid concrete wall.
- The ICF's, concrete and round, create a building that is at least 60% more energy efficient than stick built square.
- Concrete floors with radiant tubing is the most efficient and pleasing way to heat a building, and is the most suited for heating with solar heated water.
- The concrete floors are 4" thick with two layers steel 6x6 mesh, creating literally a bomb proof barrier, as well as sound, fire, earthquakes, hurricanes and tornadoes.

### **There are some disadvantages to concrete round buildings**

- Making changes to a concrete wall afterwards is troublesome, though can be done. Clear thought out planning and decisions are essential prior to the pouring of the concrete
- There is extra work cutting some of the inside plywood panels to match the curve of the wall, which is only 4" of curve per 8'. Using a "curved edge" instead of a straight edge is all that is needed. All the interior walls are orthogonal so cabinets and fixtures stay the same.

Solar electricity is here and affordable. The expensive part that has been misleading the public is the solar contractors are installing systems to meet the wasteful requirements of existing house connected to the grid. These systems, meeting 4 kilowatts per hour, are huge and expensive. Two kilowatts is a lot. **Being energy conscious first of all is essential!**

- By starting from the ground up, using the most efficient equipment with the least amount of electrical requirement, will reduce the size of the solar arrays needed.

These are just a few of the reasons to build this round house.

Most people have images of complicated framing, bending, gluing and joinery, which was true of older stick framing techniques. But using the Insulated concrete forms that stack on top of one another, makes building round fast and efficient. After fastening a steel track to the top of the footings, the foam insulated forms (or referred to as blocks) are

pressed into the track, one next to the other. Creating a continuous circle of blocks. No corners, nor any required place to start or stop. The blocks are very similar to the familiar children's building blocks called Lego's. the next course of blocks are simply pressed down on to the top of the first course and producing a second, then third, and so on, row of blocks, thus producing a wall. Frames for the window and doors are made before hand in then placed in the desired location. Changing location of the windows and doors is perfectly acceptable, allowing unlimited flexibility in design and layout, without effecting or compromising structural integrity. Very few tools are required, such as a skill- saw for making the window frames, and then a razor knife and snips, and up goes your wall. The luxury of round also is that you're not trying to achieve perfectly flat, square surfaces, thus making it much easier and satisfying results. With the walls assembled to the desired height, the cement trucks are called in. Using a concrete pump with a 3" diameter nozzle allows easy, though some muscling of the filling of the forms. This is actually a fairly fast process, and hectic. But in a matter of hours, a solid, long lasting, and most importantly, pest and disaster resistant wall is completed.