

## Why Dome Living?

Yes, you might want to know why you would want to live in a geodesic dome home?

I'm sure I would have asked the same question more than 15 years ago before I started to study with my teacher, Marshal Thurber, creator of Money & You, the Berklin School of Entrepreneurship (one of his students went on to create Celestial Seasonings) and where I spend two years with Marshal – Mastery in Manifesting. You see Marshal had also spent nine years with the legendary Buckminster Fuller, futurist and creator of the geodesic dome.

I became fascinated with the dome concept and I would like to share several reasons that you should also consider dome living in our 7<sup>th</sup> Haven dome homes. One, the dome has been considered for centuries as the strongest structure on Planet Earth. Witness the number of domes that you have seen in the art and history books and note that most are still in good repair.

This would be due to the shape. Here 's an experiment you can do. Get yourself a nice uncooked egg. Now take the palm of your hand and push down on the dome shape end of the egg. It is very unlikely that you will be able to break the egg. Now this is what happens when you put pressure on top of a monolithic dome like the ones designed and built by Dave South of Monolithic Dome Institute of Italy, Texas. A monolithic dome is constructed using the following procedure.

First, you will need to determine the size of covering you will need for the dome. That is measured as the diameter of the dome. Monolithic then custom designs a dome covering. This covering is attached to the concrete base that you have laid out. Then you take **TWO HUGE** blowers and put them inside and turn them on. Why two? Well you certainly don't want that dome covering falling while you are working with it! The other blower is your backup one but also it helps to inflate quicker with two.

After you have inflated the dome like a balloon you then begin to spray 1-3 inches of polyurethane directly onto the inside of the covering. This will be for your insulation. Next you are going to place Number 5 rebar every 6 inches directly into the polyurethane. Finally you will spray 3-5 inches of Shotcrete over the polyurethane and the rebar.

Let me assure you this dome will be so strong that you would be hard pressed to drive a tank through it! Dave shared with me several stories that I will share with you.

First, a tornado went through Italy one afternoon uprooting trees and telephone poles. Evidently one of the poles hit the side of the Institute like it had been an arrow out of a bow. They heard the thud and later went out to see what had happened. Sure you could see where the pole had slammed into the side of the dome but there was no damage! What if that had slammed into a regular stick frame or even brick home. The stick home would have been demolished.

Here's another story. A construction crew was building a stick frame home on top of a hill below a monolithic dome home. Evidently a concrete mixer truck had come to the site. The driver thought he had secured the truck on the hill. Wrong! The truck began to back down the driveway gathering speed as it went. It careened into the dome home like a bowling ball. The only damage done to the home was a small dent in the side that was easily repaired. Again what if it had been the stick frame home being constructed? Demolished most likely.

Needless to say I was very impressed by the stories and the videos Dave sent me. However I was even more impressed when I went to visit one that had been built by my friend Joe Gora in Atlanta after he attended the Monolithic Dome school. Joe built his own home and just as I expected it was as solid as a rock.

That was my first experience with a dome home concept but far from my last. I then discovered Pacific Domes in Oregon where they built a semi-permanent geodesic dome that was constructed of  $\frac{3}{4}$  or 1 inch steel and covered with canvas. There were numerous people living in these homes on a permanent basis. I was very impressed when the owner of the company told me that one of her domes had been one of the only structures still intact after the devastating Hurricane Andrew that slammed into the south Florida area. This dome had been on a floating dock and it was untouched! Every boat around the floating Pacific Dome were literally in pieces.

Going back to the Monolithic Dome you may have seen the one that is called The Eye of the Storm on the South Carolina coast that has been featured in numerous TV specials and magazines. This 5000 plus square foot dome home sits on the Atlantic Ocean. The dome has been constructed so that it sits up quite high with open spaces for the garage underneath it. This was one of the few structures that survived another hurricane. The rising waves literally flowed through the open space, around the sides and over the top! Again **NO** damage occurred to the dome! In fact, ABC News had a contract with the owner of the dome that said they could move into the dome before a hurricane was predicted to head into the area. They wanted to be able to get TV footage never before obtained when the waves would be heading straight towards the home. They thought they were going to get their footage in Hurricane Hugo but it turned away from the area at the last minute.

Are you getting the picture of just how safe these dome homes are compared to square or rectangular shaped stick frame homes? What if there had been a neighborhood of these dome homes during the recent tornadoes in Florida, January 2007! Instead of death and destruction people would have been most likely safe and alive. Here's what Dave told me in regard to tornadoes: "In many ways, tornadoes destroy more dramatically and drastically than other natural disasters. They are the most difficult to defend against. A Force 5 tornado pushes with approximately 400 pounds per square foot. We can park cars on 100 pounds per square foot. Consequently to withstand a Force 5 tornado, a building must be able to withstand pressure equal to that of a highway bridge. Most buildings cannot withstand this kind of pressure. Our Monolithic domes can withstand 300 mph winds." With the new 7<sup>th</sup> Haven dome homes we are looking at manufacturing they would have found the F3 tornado winds of 165 mph no match for the dome home!

Here's another plus for dome homes – they are highly energy efficient! With a monolithic dome and a 7<sup>th</sup> Haven dome you have what is called a natural "heat sink" where the dome will be warm in the winter and cool in the summer. Dave South told me that during Italy, Texas summers that they can air condition the 3500 square foot dome with a RV air conditioner. Try air conditioning a regular home with an RV air conditioner! They evidently heat the facility with the equivalent two 1,250-watt heaters. The R factor for the monolithic dome is 60 or better.

The fire rating of the dome (Type II) is the same as any other concrete structure because concrete and Grancrete is considered noncombustible. Also the polyurethane foam is fire-retardant. One homeowner reported his homeowners insurance annual premium was \$174!

It is rot-proof since it is made of mostly concrete just like Grancrete. The wooden windows and door frames are sealed and moisture-proofed.

It is termite-proof since concrete is not on the menu of termites just like Grancrete.

One of your questions might be: what are the costs per square foot?

Like any other structure it can vary due to: geographical location and how much of the work you are able to do yourself. One owner reported that he was able to build his 42-foot diameter dome for \$55 per square foot, which included the costs of the land. This 2000 square foot home costs \$110,000 and has a current market value of \$250,000! We believe that with our 7<sup>th</sup> Haven dome home we would be able to get the costs per square foot even below this figure.

One of the problems with both the Monolithic Dome and Pacific Dome is marketing to people who are concerned about how they will place their furnishings in the dome home. Here is another dome company that I have developed a relationship with – American Ingenuity Domes in Florida. Their creator Michael Busick, who is a former Air Force pilot and electrical engineer, had planned to move to Florida to start an electronics business. He told me that he did not want to spend \$400 per month in utility bills and began to look for alternative ways to build his building. That is when he discovered domes. He informed that the dome has less surface area than any other shape and that causes a reduction in heat transfer keeping heat outside in the summer and inside in the winter or the “heat sink” described above.

Michael decided to create his dome out of polystyrene foam triangular panels with beveled edges. These panels are then covered in the with a mesh galvanized-steel reinforcing topped with a thin coat of his own special concrete which improves strength, resiliency and water resistance. These panels he told me then are formed together into the dome shape. Then the beveled seams are slathered with concrete and the finishing touch is painting the exterior. He uses ½ drywall glued to the foam panels. This structure has a R28-36 value depending if you use the 7 inch or 9 inch thickness. The cost was \$32-38 per square foot but as Michael explained the savings was in the cost of heating and air conditioning which was about 1/3 of conventional construction.

Michael was also able to overcome the circular design in his AIDomes. He explained to me because his exterior walls form a polysided structure as opposed to the continuous circular siding of the Monolithic dome this creates more conventional walls in the interior.

So now you have been shown three types of dome homes that I have personally researched over the years. We are hoping that we can create our triangular panels using corrugated cardboard and wood frames covered with Grancrete which should cut the costs considerably.