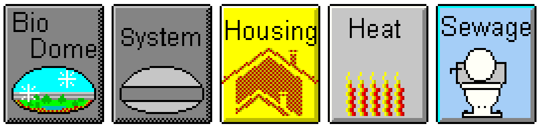
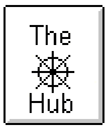
Troubled Times

Shelter

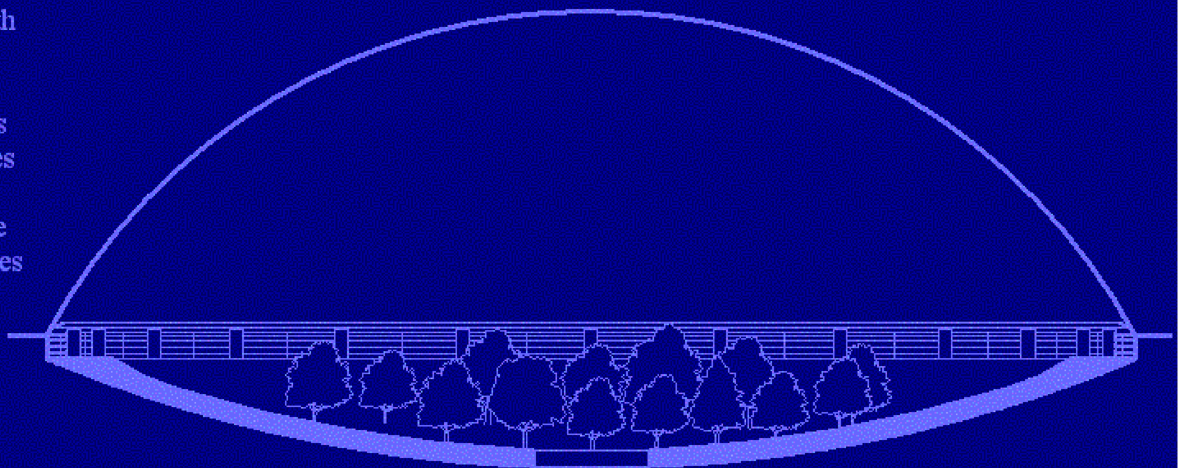


Click on the icons above to go to your area of interest.



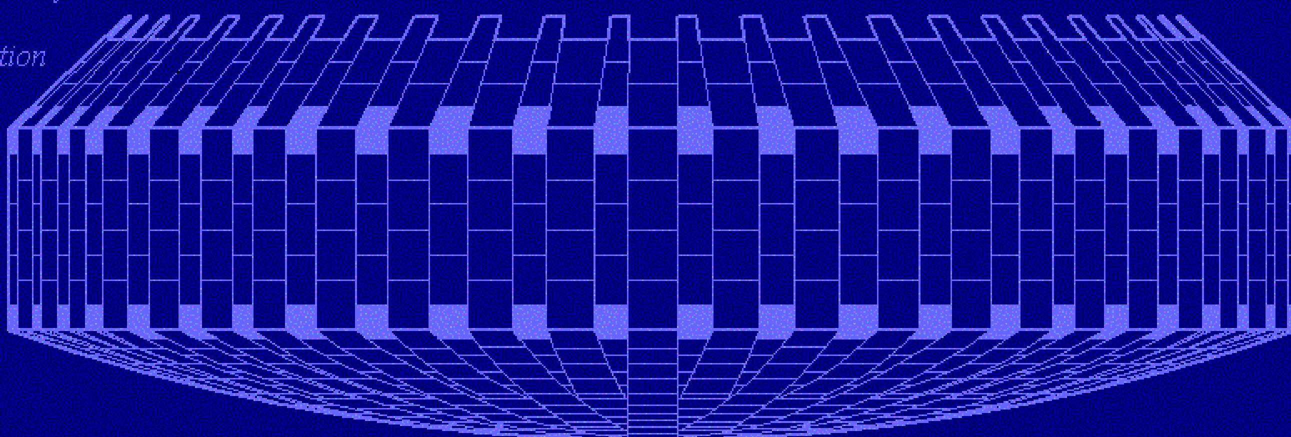
Space Age Biospheres

A New Approach to the Future of Living



The Interlocking Panel System

The Durable Alloy Building System That Can Make You Safer Than Ever Before!



Troubled Times

TOPIC: Housing

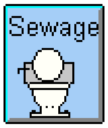
In the DC area, a Fiberglass Radius is popular. Pyramid Homes are sturdy and efficient.

Troubled Times

TOPIC: Heat

A Peltier Junction supplies heat from 12V electricity, but has Limited Use. Those wanting to Experiment can get their own!

Troubled Times

TOPIC: 

Sewage

Ecological Engineering and Living Technologies offer treatment facilities that recycle water into gardens and use natural bacteria.

Contact Information

If you or anyone that you know is interested in building a biosphere of the type presented on this website, regardless of its size, whether it be for experimental purposes or for habitation, or both, contact me, Kurt Haberman, President of Slide Lock Systems of Wisconsin, Inc., and I would gladly be willing to act as a consultant for a project to the fullest extent of my capacity, because what I want most of all is to see a biodome of this type realized for the security of humanity.

In any case, I can be reached by several avenues, but some are better than others. First, then, try my cell phone at 608-434-1667. Second, try reaching me by email at kurtevanhaberman@yahoo.com.

Serious investors are invited to download my Business Plan.

With all sincerity, then, thank you for taking an interest in this website. It is people like you that are the roots of change in our world. Together, let's just hope that our collective efforts towards this change will actually come to fruition in our time.

Sincerely,
Kurt Haberman,
President,
Slide Lock Systems of Wisconsin, Inc.

Recycling and Products

Now, these biodomes would produce no trash at all, because virtually everything that would be produced within them for consumption would be produced based on consumption pattern analysis—which means no waste—and would always be transferred directly to the point of consumption without ever being packaged and unpackaged, and when containers would be produced and used for consumables, the containers would always be reusable or recyclable. Finally, because all food in these biodomes would be served in restaurants, instead of in homes and restaurants both, the whole process of distributing food in the biodomes would be greatly simplified.

Regarding products, then, items such as paper napkins would be completely absent inside these biodomes and would be replaced by cotton napkins, which can be easily cleaned and reused over and over again for a long time. In fact, the presence of paper or wood products of any kind would not be used inside these biodomes for anything, because, regardless of whatever wood product there is for a function, there is always another material that could be used as a substitute that would save the life of a tree and would take less labor to harvest or make. In the case of using paper for writings or graphic communications, then, all visual information inside these biodomes would be communicated with the use of electronic devices instead.

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Cleaning Solutions

Along the lines of biodome environmental issues, then, the only types of cleaning solutions that would ever be used in these biodomes would be citrus-based cleaners, because they can clean just as effectively as other cleaners without harming environments in any way.

Biodome Restaurants

Now, regarding how food would be prepared and served inside a biodome, preparing and serving food entirely within restaurants has several advantages over any other method. For one, building a biodome without any home kitchens and home dining areas would save a great deal of time, labor, and raw material that would go towards the construction of the biodome and all of the components that hundreds of kitchens would require, such as refrigerators and ovens, which, obviously, would save a great deal of money as well. Second, these types of components, in smaller sizes and larger quantities, would use up far more energy over time than fewer and larger components would. Finally, if food were brought to hundreds of homes within a biodome or delivered to hundreds of these homes, the amount of food packaging material that would need to be recycled over and over again would be far greater than the amount of packaging that would need to be continually recycled due to restaurant usage.

Regarding the food preparation areas of these restaurants, then, the only distinct difference between the restaurants of these biodomes and a typical restaurant would be the dishwashing area, because instead of having a labor-intensive rinsing sink and a sanitizing dishwasher to the side of the sink that uses high heat to kill off bacteria, there would only be a specialized sink that could perform the function of the sink laborer and the dishwashing unit. To accomplish this, then, this amazing but simple unit would employ two simple types of energies, those being: ultrasound and ultraviolet light. In this way, then, ultraviolet light would shine into this specialized sink from the sides of the sink to kill off bacteria, and the ultrasonic part of the sink would pass high-frequency sound waves through the water in the sink to vibrate all the food and particulate matter off of the dishes. With this system in place, then, all that would be necessary for a worker to do would be to put dishes into the sink, then flip a switch on for a about ten seconds, and then pull the articles out of the sink and place them on the shelving along the wall. With this type of system installed, then, the total amount of personal energy expenditure required to accomplish this task would be completely minimized, and high heat would be absent from the system, which would eliminate energy that would normally have been required to cool the dishwashing area.

The Crop and Farm Biodomes

Finally, in the crop and farm biodomes of these biodome complexes, all crops would be fertilized by nutrients that would be obtained from the composting toilets of the complexes and would be irrigated by a nutrient-rich water supply that would also be continually obtained from these composting toilets as part of a closed-loop nutrient cycle, where nutrients would be returned to the toilets by way of food that would originate from the crop and farm domes, which would then be digested and returned to the composting toilets.

Now, regarding the Methane gas and manure that would be produced inside these crop and farm biodomes by cows, it should be recognized that Methane is lighter than air, so, as a result of this condition, it will always rise to the uppermost regions of these biodomes, where it can then be periodically ignited by a spark, which would then split the Methane into water vapor and Carbon Dioxide—leaving no other elements behind. After this split takes place, then, these elements will both fall to the lowest regions of these biodomes and feed the crops there.

Regarding the manure in these biodomes, then, put simply, it would always be gathered and incorporated into the nutrients that fertilized the crops. And regarding what would be done about the vapor that would be produced by the chickens in these biodomes due to their urine excretions, the living quarters of the chickens would be completely sealed from the atmosphere of these biodomes along the perimeters of the biodomes, and the vapor that they would produce would then be condensed there by dehumidifiers and incorporated into the fertilizer that would be used for the crops of the biodomes. In addition, any crop within these biodomes that could be produced much more readily in a hydroponic system of fertilization, such as feed for cows and vegetables for people, would be produced in that way along the perimeters of these crop and farm biodomes.

The Biodome Nitrogen Cycle

Now, one last cycle that should be mentioned that will occur within these biodomes is the Nitrogen Cycle, which will take place between the atmospheres of these biodomes and their soils. With regard to this cycle, then, put simply, the plant life in these biodomes will use whatever Nitrogen comes into contact with its soils in very small amounts, which will come to it in the form of certain Nitrogen-based compounds, and in some cases in its pure form, but when a given life form dies, it will return that Nitrogen back into the soils around it and the atmosphere above it, so, once again, another natural cycle that will occur within these biodomes will keep itself in balance without any work on the part of the people of the biodomes

Biodome Nutrient Cycles

As stated previously, in a temperate climate, if a biodome is left uninsulated, the inner environment of the biodome will have seasons, but further yet, any temperate deciduous vegetation within a temperate biodome would drop its leaves to the ground every fall and thereby return nutrients to the soil for re-use by any life form in its area the following spring—including itself. Regarding the nutrients of these deciduous ecosystems, then, not only do fallen leaves add nutrients to the soil, but fallen branches and fallen trees will also slowly decay in these ecosystems and return nutrients to the soil. So these ecosystems are allowed to carry on within these biodomes just as they would in their natural environments.

Biodome Atmospheric Cycles

Now, with regard to the atmospheric cycles of this biodome, perhaps the most important process that would occur within it would be the natural exchange of Oxygen and Carbon Dioxide that would constantly take place between the vegetation of the biodome and the people of the biodome. In this exchange, then, in order to manufacture their carbohydrates, the leaves of the vegetation in this biodome would take in the Carbon Dioxide that the people would exhale, and would then emit Oxygen into the biodome as a by-product of this process. As a result of this process, then, almost all free Oxygen within the atmosphere of this biodome would be produced by this process, and the Oxygen produced would then be inhaled by the people of the biodome for use in their biological processes.

Now, the main thing to understand about the atmosphere of this biodome is that all the gases inside any biodome will stratify according to their weight because they will have no wind to stir them around, which would leave Oxygen occupying the lowest 21% of the atmosphere where it is most needed, along with Carbon Dioxide and water vapor, which are also most needed at this level. This, in turn, would leave all the trace gases at the top of the biodome, and Nitrogen occupying the remaining 78% of the atmosphere below that.

Now, in the case of deciduous ecosystems, which produce the highest levels of Oxygen in temperate climates, because the trees in these systems would drop their leaves in the fall and cease to produce Oxygen until the springtime when new leaves would form, certain types of evergreen trees would need to be incorporated into these ecosystems so that a balance of Oxygen could be maintained during these periods. The two types of evergreen trees that would probably cure this problem the best, then, would be Magnolias and Hollies, because they not only produce an adequate level of Oxygen throughout the year, but also because, unlike other evergreens, their root systems are very shallow, just like those of deciduous trees, and this means that virtually all the vegetation of these biodomes could be planted into a relatively shallow layer of earth, and this, in turn, means that less labor and raw material would be required to create these types of biodomes, as compared to biodomes that would require deeper layers of soil.

Biodome Temperature Levels

Regarding the temperature levels of this biodome, the main thing to know is that, in a temperate climate, if the biodome is left uninsulated, the annual temperature fluctuations within the biodome would be the same as those outside the biodome, because the alloy structure of the upper dome would transfer heat in and out of the biodome very readily. But in the summertime, because heat would accumulate in the biodome from its upper regions on downward, it would take time for indoor heat to reach the level of the people, and in the wintertime, cold would occupy the lower level of the biodome immediately and work its way upward through the biodome atmosphere. In any case, if a biodome was located in a cold climate, the biodome would definitely need to be insulated and heated, and in a hot climate, the biodome would need to be insulated and cooled.

Apartment Water Cycles

So, regarding the water cycles of this biodome, all water that would be used by the vegetation of the biodome would always be returned into the groundwater cycle in some way, where high humidity levels produced by vegetation would be condensed and transferred into the groundwater cycle of the biodome by dehumidifiers, and humidity from dead vegetation and natural mulch would be returned in the same way. These dehumidifiers, then, would be raised just above the level of the ground where humidity levels are the greatest inside the biodome, and would drain condensed water directly into the purifying sandstone aquifer that rests on the alloy foundation of the biodome—down beneath the layers of soil and gravel of the biodome. Once this water has entered this sandstone aquifer, then, it would flow through the sandstone towards a clean pool of water located in the lowest part of the biodome at the center of the foundation, where it would establish a new, slightly-raised water table. After that, then, clean water would be periodically pulled from this pool of water into the sprinkler system of the biodome, thereby dropping the level of the central pool of water to the same general level where it rested before it was previously raised. After the watering process, then, water would be returned to the groundwater cycle, and this water cycle would be complete.

Biodome Water Cycles

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Biodome Humidity and Health

Now, as just stated, controlling humidity levels throughout a biodome and all of its apartments is primarily for health reasons. In order to do this, then, it is important to keep the relative humidity of the biodome and all of its apartments within “the optimum zone,” which typically lies between 45% and 55%, according to an article in Popular Science. Keeping relative humidity within this zone, then, would inhibit the survival of various viruses, including cowpox, influenza, measles, polio, and herpes. In addition, keeping relative humidity within this zone would restrict the growth of many bacteria and mites and fungi. Further yet, conditions such as respiratory infections, allergic rhinitis, and asthma would be completely eliminated when this optimum humidity range is maintained. Finally, with this humidity range, certain harmful chemical interactions and the production of ozone would be minimized as well.

Water Cycles

Regarding the water cycles of the biodomes, it is important to prevent the migration of water vapor between the apartments and the vegetated areas of the biodomes, because this way, it is much easier to control humidity levels for overall health purposes, and each area can maintain a consistent water supply as well.

Biodome Lighting

Regarding the lighting of this biodome, a full spectrum of natural light would emanate downward into the biodome from the entire inner surface of the dome from a special "phosphor," which was developed by Sylvania of GTE long ago, which would be stimulated by a ring of ultraviolet lights that would be located around the perimeter of the dome. These ultraviolet lights, then, would be shielded in such a way that the ultraviolet light would shine upward onto the inner surface of the dome without shining onto the people or the vegetation of the biodome for the health of the people and the vegetation. This full spectrum of natural light that would fall onto the biodome would then be used to power photovoltaic cells that would be located on every balcony of every apartment in the biodome, thereby eliminating the need for electrical conduits that would be routed throughout the biodome to power the apartments.

Biodome Accommodations

Regarding the occupancy level and accommodations of this biodome, a biodome of just about any size would suffice experimental purposes for residential purposes, so no one should refrain from building a small biodome if that's what they want to do, but, for example, if a biodome were boldly built to a diameter of 1,000 feet, 50 families of 4 members each could be accommodated per level, which would amount to 200 people per level. So if 4 levels were built around the perimeter of the biodome, the occupancy rate of the biodome would come to 800 people, and the way in which the perimeter of the biodome is designed, each apartment would be afforded 352 square feet of interior space, with 186 square feet of balcony space provided for each apartment, for a total of 538 square feet per apartment. Now as small as this space amounts to, it is important to recognize that each apartment looks over 43-million square feet of biodome vegetation in a private way, so these apartments provide a great deal of enjoyment for every square-foot that they provide. In addition, each bedroom of these apartments would be equipped with its own private computer terminal, where access to an entire biosphere network would be completely afforded.

The Biodome Enclosure

The enclosure of this biodome, then, would be shaped as durably as possible, with a dome overhead, an inverted-dome foundation below, and a curved vertical wall connecting the perimeters of the two domes, as shown in (Fig. B), (Fig. C), (Fig. D), and (Fig. E).

When properly constructed, then, the shape of this enclosure is the strongest building shape there is against every type of live load or dead load, including lateral loads, vertical loads, bending forces, and shear forces. This is because this enclosure is entirely non-developable. In other words, the structure cannot be flattened or bent in any direction without ripping or tearing. And considering that the structure would be built entirely of a high-strength steel or alloy that would exhibit high toughness, this is not likely to happen. Furthermore, all walls and floors of the biodome would be completely interlocked with the perimeter wall of the biodome, thereby acting as vertical and horizontal structural ribs that would strengthen the perimeter wall beyond its own capacity as a structural membrane. So, with this type of perimeter structure in place at the base of the dome overhead, all loads that the dome would place on the structure would be resisted readily.

The enclosure of this biodome, then, would be built mostly of curved panels that measure no more than 12”-square, because, at this size, the panels could be cast of a high-strength, noncorrodible steel or alloy that otherwise could not be cast into buildable parts because of their larger size. These panels, then, would interlock in a way that would give maximum structural integrity to this enclosure, enough, in fact, for the enclosure to span distances of 1,000-feet or more. To add, these panels would be interlocked together in a way that would eliminate visible seams, so that all the water and air of the biodome would be prevented from escaping the enclosure, and so that there would be no seams for ice to form in, thereby permanently eliminating freezing and thawing problems.

The Biodome Concept

The concept of the biosphere shown here, which is justifiably named a “biodome” because of its shape, is that, in order to respond to the forces of extreme seismic activity and the darkened skies of extreme volcanic activity, all the processes that would take place within the biodome would be completely self-contained for an indefinite period of time within the most durable enclosure that could possibly be built within the constraints of acceptable efficiency and simplicity. (see Fig. A).

Introduction

As to date, there has not been one, single biosphere that has been built with success on this planet, because, so far, the best definition of a biosphere is essentially a self-sustaining environment where humans could survive for an indefinite period of time on the food, oxygen, and water that would be provided by the environment, as well as the protection that it would provide from serious outdoor conditions such as earthquakes, hurricanes, tornadoes, and floods. And so far, the only attempt at this sort of biosphere required the input of light from our sun and gave no protection from serious outdoor conditions. To add, inside this unsuccessful biosphere, human life was sustained for only a short period of time. In any case, if biospheres are ever going to be useful to humanity, if not all human life on Earth, they should be able to support many human lives—according to all of these requirements.

This presentation, then, proposes a biosphere that could live up to all of these requirements, which would survive all of the outdoor conditions just mentioned, and which would provide all of the sustenance needs of its inhabitants. Of course, any biosphere that could fulfill these requirements would cost a great deal of money to build, especially in high quantities. However, any effort in this direction would be a great step towards the security of humanity. Therefore, it is the goal of this presentation to find funding for the first successful biosphere that would ever be built here on planet Earth.

The biodome shell would be constructed with the Interlocking Panel System.

Contact Information

If you or anyone that you know is interested in building an IPS structure for any type of use, regardless of its size, contact me, Kurt Haberman, President of Slide Lock Systems of Wisconsin, Inc., and I would gladly be willing to act as a consultant for a project to the fullest extent of my capacity, because what I want most of all is to see one of my IPS structural designs realized, especially for the sake of the security of the populace.

In any case, I can be reached by several avenues, but some are better than others. First, then, try my cell phone at 608-434-1667. Second, try reaching me by email at kurtevanhaberman@yahoo.com.

Serious investors are invited to download my Business Plan.

With all sincerity, then, thank you for taking an interest in this website. It is people like you that are the roots of change in our world. Together, let's just hope that our collective efforts towards this change will actually come to fruition in our time.

Sincerely,
Kurt Haberman,
President,
Slide Lock Systems of Wisconsin, Inc.

Cost

Because a prototype structure that uses the IPS system has never actually been built as to date, it is very difficult to determine what the cost of any IPS structure would be at this time. To add, prototype costs are misleading, because prototypes are always expensive. However, because of the "bare bones" efficiency of the IPS system, after a prototype has been built, it is quite likely that the system would prove to be the most cost-efficient durable building system on the market. Of course, it is always important to remember that, whatever the cost of this system comes out to be, with regard to any product, people get what they pay for. And in the case of the IPS system, owners could be assured that they've built themselves a building that could be handed down through multiple generations, that would endure the most severe outdoor environmental conditions throughout those generations

The Advantages Of The IPS System

Durability:

Too many buildings have been designed that place efficiency over durability, when the reverse should be taking place. The IPS system, then, is capable of building the most durable buildings available for any function, in any size, and in almost any shape, because IPS panels can be cast and heat-treated of the most durable high-strength alloys and steels, which would undoubtedly remain completely intact through the most severe destructive forces of hurricanes, tornadoes, and extreme seismic activity. For instance, as mentioned, there is one steel that IPS panels could be cast of which is referred to as MAR 350, which is noted for its high toughness and is also the strongest steel in the industry. In fact, this steel has a tensile and compressive strength of 350,000 pounds per square inch, which is 70 times greater than the strength of cast concrete.

Simplicity and Efficiency:

Any building that uses the IPS system can be built of nothing more than the panels themselves and the fine lubricant that would be applied to their joints for sliding purposes. In other words, there would be no need for bricks, concrete, steel-reinforcements, or any other construction system. Further yet, there would be no need for nails, screws, nuts, bolts, welds, rivets, glues, sealants, or adhesives of any kind. To add, buildings of any size that would use the IPS system would be perfectly sturdy without posts, columns, beams, frames, trusses, or foundations because of the rigidity of all the membranes of the building, which would constantly support one another as a collective structural totality. However, large flat walls, flat walls that bear heavy loads, large areas of flat roofing, and large expanses of unsupported floor above the base floor would all need to be rigidified by continuous ribs or grids, but in all these cases, these ribs could easily be formed by the IPS system and would firmly interlock with the wall, floor, or roof concerned.

Fire Resistance:

Most high-strength steels and alloys will not soften until they have reached a temperature of almost 2,000-degrees F, which is the temperature of a high-temperature fire, so, if a fire could be extinguished within a reasonable period of time after it has started, it is unlikely that the fire would soften the steel or alloy at all, because it would take time for the fire to reach 2,000-degrees F.

Corrosion Resistance:

Most steels and alloys that could be incorporated into an IPS panel have excellent resistance to corrosion. The lowest grade of stainless-steel, for instance, would never corrode due to repeated exposure to water, and there are many steels and alloys that have particular resistance to a variety of chemicals as well. In addition, because any given IPS building would be built of only one steel or alloy, there would be no corrosion in that building due to electrogalvanic action between dissimilar metals.

Longevity:

Because all panels of an IPS building would exhibit extreme corrosion resistance, excellent fire resistance, and extreme toughness, any building employing the IPS system would last for an extremely-long indefinite period of time.

Airtightness:

Because the spacing between interlocked IPS panels would not exceed .020", and because panel joints would always be subjected to tension or compression, at least one inner feature of every joint of the IPS system would come into firm contact with another after panels have been placed and loaded, thereby preventing air and water from moving in or out of the joints, making a structure that is completely airtight and watertight and completely free of problems that involve freezing or thawing.

Versatility:

Finally, the IPS system could be used to build domes, inverted domes, cylinders, toroids, curved walls, straight walls, pyramids, conventional rooftop shapes, floors, and structural ribs.

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The Preferred IPS Enclosure

The most durable of these IPS enclosures, then, would be shaped with a dome overhead, an inverted-dome foundation below, and a circular vertical wall connecting the perimeters of the two domes, as shown in (Fig. B), (Fig. C), (Fig. D), and (Fig. E), which show a 1,000-foot diameter structure as an example of what can be built with this system. Of course, much smaller structures could be built by this system as well. When properly constructed, though, the shape of the enclosure shown is the strongest building shape there is against every type of live load or dead load, including lateral loads, vertical loads, bending forces, and shear forces. This is because this enclosure is entirely non-developable. In other words, the structure cannot be flattened or bent in any direction without ripping or tearing. And considering that the structure would be built entirely of a high-strength steel or alloy that would exhibit high toughness, this is not likely to happen. Furthermore, all walls of the structure would be completely interlocked with the perimeter wall of the structure, thereby acting as vertical structural ribs that would strengthen the perimeter wall beyond its own capacity as a structural membrane. So, with this type of perimeter structure in place at the base of the dome overhead, all loads that the dome would place on the structure would be resisted readily.

An Alloy Example

Now, there are many high-grade alloys and steels that could be precision-cast into the shape of an IPS panel, but if resistance to extreme seismic activity is the primary goal of a specific building design, than the steel known as MAR 350 would undoubtedly be the best material for the job, because, with a tensile and compressive yield strength of 350,000 pounds per square inch, it is the strongest of all steels and alloys, and it has a very high toughness rating as well. To add, this steel requires only simple heat treatment to obtain its strength, and it maintains high dimensional stability during casting and heat-treating. Furthermore, if any machining is necessary after these processes which would bring the dimensions of a panel into an acceptable range, this steel can be machined by more than one tool steel. Further yet, this steel maintains high strength in temperatures that would result from a typical building fire.

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Introduction

The Interlocking Panel System (IPS) is a patented, building assembly system that uses ribbed alloy panels that interlock with one another with tongue and groove joints and similar joints to create highly-durable, high-quality, completely-interlocked building structures, including building enclosures, building floors, exterior building walls, and interior building walls. These panels, then, are not lightweight composite panels made of sheet metal that typically measure 4-feet by 8-feet across, which have little resistance to the winds of tornadoes and hurricanes. Rather, they are solid, ¼”-thick, cast panels with dimensions that do not exceed 12 inches in any direction, which weigh as much as 25 pounds each. The reason for the ¼” thickness of these panels, then, is two-fold. For one, panels that measure as much as 12”-square need to be ¼”-thick in order to meet the flow requirements of the precision-casting industry. Second, at a ¼"-thick, these panels could handle almost any destructive force imaginable, man-made or natural, and that is an absolutely true statement.

Now, there are three good reasons for the small size of these cast panels. For one, small-sized panels can be precision-cast, whereas larger parts cannot, and this means that high-strength, noncorrodible alloys can be cast to form these small panels, whereas larger parts cannot be cast with these special alloys. Second, the precision-casting process that would be used to cast these panels would produce joints so tight that it would be highly difficult for water or ice to even enter their seams, which would thereby permanently eliminate structural problems due to freezing and thawing cycles. Furthermore, very little air would have the capacity to pass through these precision-cast joints. Finally, panels that measure no more than 12 inches in any direction can be placed into a building assembly easily without the need for complex rope, cable, or lever assemblies, which only slow the progress of projects when precise results are required.

Now, these panels use only two types of joints, and can be fabricated with three sides or four sides, with their faces having no curvature, a single-curvature, or a double-curvature. When the construction of an IPS structure is complete, then, any type of sprayable insulation can be sprayed upon the interior of the building enclosure for fire-resistance, if necessary, or heat-resistance, if necessary, or both. In addition, whether an IPS structure has been sprayed with insulation or not, if desired, it can always be sprayed with a coating of gypsum for finishing purposes. These panels, then, would interlock in a way that would give maximum structural integrity to an enclosure, enough, in fact, for the enclosure to span distances of 1,000-feet or more.

Fiberglass Radius

If money was no object and you could afford any underground disaster shelter - Radius P10 would be the one. They build them out of structural fiberglass and they sell a lot to the DC area (read politicians). A great feat of engineering. Read through the long list of specifications to learn about things you never would have considered in constructing your own shelter.

Offered by Steve.

Troubled Times

Pyramid Homes

From after all I have read I feel my family has something seriously significant to offer to everyone interested in a cost effective, super strong, super energy efficient Survival Shelter/Home. Capable of withstanding an 8 on the richter scale seismic event and perhaps higher with modifications, Over 250 mph winds, and nearly fireproof with metal, or tile roofing. They are 4 times more energy efficient because of the natural ease to exhaust or recirculate BTU's. We have stand-alone off-the-grid models too utilizing off the shelf P.V. and freeze proof Solar thermo-siphon solar hot water and space heating appliances that don't require pumps or controllers and mount flush to the Pyramid’s ideal solar angle of 52". These pyramid also make awsome greenhouses and garage/shops.

I'm a builder of pyramid homes myself, and was an avoinics/electronics technician for the USMC. My electronics background keeps me keen on the newest alt/energy ideas coming down the pike. My Dad, Architect Ron Hexum, now has a website so all can read and study more about his version of the home of the future. Importantly, I'm not sending this information out as a sales pitch. I'm just trying to share with all something that I know blows away most anything I've read about so far on your hub or anywhere else for that matter. The new models of homes now use Structural Insulating Panels (SIP's), instead of a hand stacked roof. Even then they were quicker to build than a conventional home. But now with the SIP's a fairly large home can be constructed in days. Accomplishing 4 steps in one: Structural, Sheathing, Insulation, Vapor barrier. Plus importantly Shelter. SIP's construction uses a fraction of Timber resources importantly too. Dad figures 8 pyramid homes can be built with the same amount of timber resources as 1 conventional home.

Since the early seventies when I was a kid Dad started designing and building Pyramid Homes in Boise. Now there are over 60 in 6 Western States that he's been directly involved with. He lives in Portland now poised to be able to fill the explosive need for *affordable* Supershelters the world over using Sea Land Containers shipped from the port. He would also be glad to hear from any and all and can explain many aspects better than I. But first read the website info to not swamp him with questions that would be possibly addressed there. It also has pictures too both inside and out of some past homes, as well as a free downloadable 3D software program allowing PC and Mac users ability to virturaly tour inside and out the computer generated 40' Phoenix 2000 model. I would be glad to answer questions too.

Offered by Derek.

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Heat

Peltier Junction

There are small electrical devices called Peltier Junctions which are solid-state heat pumps. A 12 volt one cost me about $35 a couple of years ago, but I never did a whole lot with it. You can build a cooler out of one of these that will probably freeze ice if it is well-insulated. Likewise you could probably build a hot plate to boil water on. Of course you would need electricity but the benefit here is size. The 12v model is only a little over an inch square, and an array of about 4 could probably be the basis for a small refrigerator. They are flat (about 1/8" thick) with ceramic faces and connection wires. The polarity of the voltage determines the direction of the heat flow in the device. You have to use heat sinks so it won't burn up for most uses, I think.

If someone has a reliable power source, someone might be able to heat / cook without a fire. Because of the nature of the device, it might be possible to make a dual refrigerator / oven - a small, dual-compartment metal box - where Peltiers are mounted in the middle and thus one compartment would get cold while the other compartment would get hot. Only drawback is the power supply must be continuous, but perhaps not especially powerful. (12v, 1/2 amp maybe)

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c o l d
-- [+]

-- [-] 12v
h o t
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Or maybe hot / cold, doesn't really matter =)

Offered by Joe.

The Hub

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Limited Use

Peltier Junctions work by the Peltier effect (hence their name) which involves heating or cooling of the junction of two thermoelectric materials by passing a current through the junction. Semiconductor thermoelectric materials have greatly increased the effectiveness of thermo-junction for cooling. The Peltier effect is also the inverse of the Seebeck effect in which a current is produced in a closed circuit of two dissimilar metals if the junction is maintained at different temperatures, as in thermocouples for measuring temperature. The biggest problem is that they are very inefficient in energy conversion. There are a few other companies out there that also make coolers based on this principle, but the ones listed should give you a good starting point.

> Offered by Steve.

There is a professor at Kansas State University that uses Peltier junctions to stabilize the temperatures of his laser electronics. He says that they are very efficient in small applications (low voltage requirements, reasonable current requirements) but wouldn't be practical in a large application such as for cooking or keeping a storage box cold (refrigerator) due to increased current and/or voltage requirements.

> Offered by Roger.

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Experiment

If you want to experiment with peltier junctions, check out:

> Electronic Kits have an experimental kit for $59.95 plus shipping.
> Hi-Z Technologies also sells thermo couples.
> Jade Mountain is in the process of selling a thermoelectric generator with no moving parts.

A couple other sites are Melcor and Tellurex.

> Offered by Steve.