

THUNDER RIDGE DOMES

BROCHURE

www.ThunderRidgeDomes.com

Contact: **info@ThunderRidgeDomes.Com** or call (866) 577-3488



THUNDER RIDGE DOMES

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THUNDER RIDGE INDUSTRIES, INC.

Building the future now !

20 E. White Mountain Blvd., Suite A5, #208, Lakeside, AZ 85929 USA

Tel: (866) 577-3488 *** E-Mail: tricorp@ca.rr.com

Web: www.ThunderRidgeDomes.Com

AVAILABLE PRODUCTS AND SERVICES



Custom "Dome of a Home", Pensacola, FL

Thunder Ridge Industries, Inc. wishes to thank you for your interest in our Dome products and services. Our Company is dedicated to providing quality "rock solid" dome homes and disaster shelters. The advanced technological design of the thin shell, super insulated, concrete and steel enforced domes allow artistic freedom to design an array of custom shapes and sizes while retaining the structural integrity these domes are known for. TRI manufactures a full line of "build your own" rock solid dome module systems and custom dome homes. .

DOMES PRODUCTS

- Dome Home Module Systems
- Storm Dome Module Systems
- Custom Dome Homes
- Interior Module Systems (kitchen, bath, partitions, furniture) available soon
- Dome related building materials, supplies, appliances, fixtures & furnishings
- Resident Inn Dome Village Rental Investment Packages

DOMES CONSULTING SERVICE

- Dome Financing Referrals
- Conceptual Design & Planning
- Architectural Feasibility Studies
- Technical Consulting
- Commercial & Residential Project Management Consulting
- Investment Opportunities

Beauty and endurance is the reward of owning a Dome Home that offers a wonderful sense of space, peace and harmony. We invite you to explore the reality of this ultimate experience.

THUNDER RIDGE INDUSTRIES, INC.

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ABOUT THUNDER RIDGE DOMES

Thunder Ridge Domes are virtually indestructible and resistant to tornadoes, earthquakes, hurricanes, floods, fire, mold and pests. They are technically super insulated, thin shell, free span, concrete and steel enforced monolith structures. They exceed FEMA and International Building Code standards. The compound curve of the dome makes it stronger than virtually any other structure and requires 50% less materials than traditionally built rectangular buildings. Our dome module system kits, when assembled, are of the same appearance and structural integrity as our custom dome homes. For information on our Custom Dome Homes please visit our website at ThunderRidgeDomes.com

Cement, sand, gravel and rebar are the state of the art building materials in our world today. Since these same materials have been commonly used since ancient times, we can safely say that concrete is a common building material familiar to civilizations for centuries. The only remaining knowledge required is how to form it. Self assembly of the dome module system kits are so simple that people can be trained in a matter of hours.

Thunder Ridge Industries, Inc., has successfully designed and fabricated the dome module systems for shipment world wide. They were designed for fast and easy assembly with minimal tools or experience. By manufacturing the important segment of the dome system at the factory, TRI has eliminated the most difficult and expensive process of assembly in the field. The initial construction phase of a custom, thin shell concrete and steel dome requires sophisticated equipment such as inflation blowers, poly foam and spraying equipment, airlocks, generators, compressors and an experienced crew. With the dome module systems this portion of the process is done at the plant before they are shipped. The units are then quickly assembled and finished by the owner or their builder on site.

A toll free technical hot line is available within the continental US to buyers and/or their contractors to answer questions and inspire confidence throughout the entire assembly process. E-mail contact is available globally.

ThunderRidgeDomes.Com is updated frequently with new dome images, models and products so please visit us often.

www.ThunderRidgeDomes.com

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COMBO DOME MODULES

The Combo Dome Models are multiple domes connected in attractive configurations to achieve custom living spaces. They provide an economic advantage as multiple domes can be ordered and assembled individually or many at once.

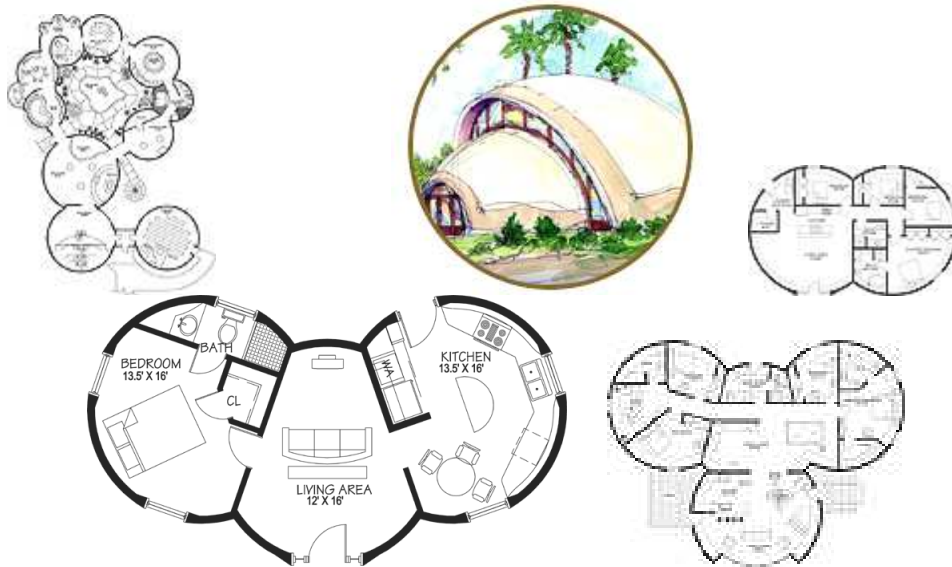
The floor plans illustrate how Combo Dome combinations are limited only to the imagination of the owner. Available in five sizes, the dome systems can be assembled as a single story or on stem walls to create tri and bi levels homes. Sweeping garden walls, planters and lush landscaping are recommended exterior enhancements.

The Combo Dome Systems are designed for on site assembly and interior finish by the owner or a builder of their choice. To speak with a Sales Consultant contact info@ThunderRidgeDomes.com or call toll free (866) 577-3488.

COMBO DOME SPECIFICATIONS, SIZES AND PRICES

Diameter	10 Ft	12 Ft	15 Ft	18 Ft	20 Ft
Footprint	78.5 Sq Ft	113 Sq Ft	176 Sq Ft	254 Sq Ft	314 Sq Ft
Usable Space	63.5 Sq Ft	94.9 Sq Ft	153.8 Sq Ft	226.8 Sq Ft	283.3 Sq Ft
Size	10'Dx8.5'H	12'Dx8.5'H	15'Dx8.5'H	18'Dx9'H	20'Dx10'H
Price Per Unit	\$ 11,000.00	\$14,000.00	\$16,000.00	\$18,000.00	\$20,000.00

- Discounts available for 20 units or more.
- 7.85% Arizona tax is not included in list prices.
- A shipping allowance is included in list prices.



Triton Combo: 615 sf @ 3 18ft dia. Domes



Some floor plans not to scale. Floor plans/ renderings by F. Crandall, Architect, Photos from MDI

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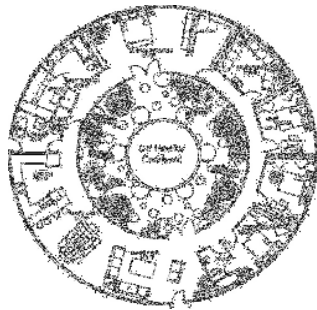
PLAZA DOME MODULES

The Plaza Dome Models are beautifully designed full size Dome Homes. They are unique, cylinder shaped, circular rock solid domes with open air (court yard) centers that provide ultimate privacy and security for patios, gardens and pools. The two models are available in five sizes including sections for future additions. View Plaza (half circle) and smaller sections can be expanded to the full circle Garden Plaza for additional living space. The Plaza Dome Systems are designed for on site assembly and interior finish by the owner or a builder of their choice. Contact info@ThunderRidgeDomes.Com or (866) 577-3488.

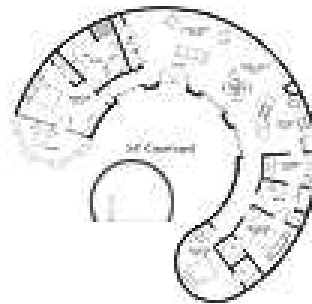
THE GARDEN PLAZA DOME

The Garden Plaza Model is a full circle, uniquely shaped Dome Home with an open air center that provides ultimate security and privacy for patios, gardens and pools. Optional accessories include attachable mosquito netting and rain protection kits.

Garden Plaza Dome Plans
(two available plans)



View Plaza Dome Plans
(two available plans)



Floor plans by Fredrick Crandall, Architect, Photos from MDI

* See website front page for posted floor plans.

THE VIEW PLAZA DOME

The View Plaza Model is a half circular shape with open air center especially designed for view lots, circular driveways, sheltered gardens, patios and pools. The View Plaza Model allows for future expansion to the full circle Garden Plaza Model.

PLAZA DOME MODULE SPECIFICATIONS, SIZES AND PRICES

	Garden Plaza V	Garden Plaza III	View Plaza III	View Plaza I
Sq Footage	2300 Sf	2300 Sf	1700 Sf	1114 Sf
Bed/Ba	5 BR / 3 BA	3 BR / 2 BA	3BR / 2 BA	1-3 BR / 1-2 BA
Diameter	66 Ft	66 Ft	66 Ft	50 Ft
Open Plaza Dia	34 Ft	34 Ft	Open	Open
Footprint				
Interior	16 ft w x 66 Ft	16 ft w x 66 Ft	16 Ft w x 66 Ft	16 Ft w x 50 Ft
Size	66 Ft D 16 Ft H	66' D x 16 'H	66 'D x 16 'H	50 Ft D x 16 Ft H
Price Per Unit	\$172,500	\$172,500	\$127,500	\$83,550

- Dome Accessories & Interior Module Kits available soon.
- 7.85% Arizona tax is not included in list prices.
- Shipped globally and includes a shipping allowance.

Contact: info@ThunderRidgeDomes.com or Tel toll free (866) 577-3488

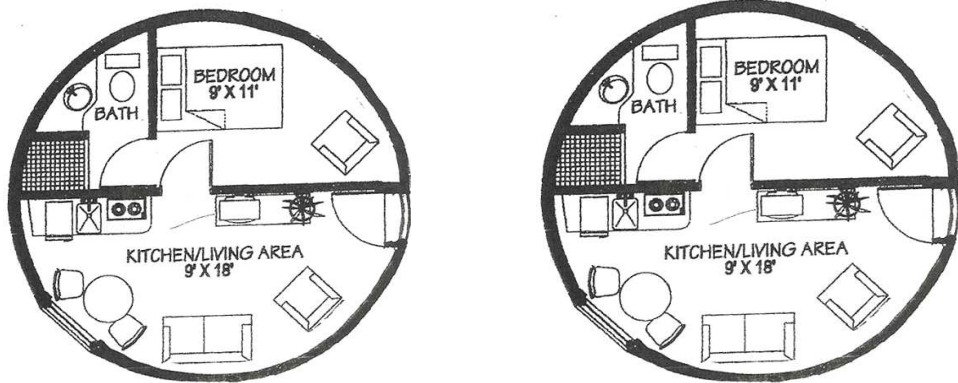
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STUDIO DOME MODULES

As well as a superior, disaster resistant structure, the Studio Domes are suited for a multitude of needs. Their exteriors can be finished to blend with existing structures including applications of trims and moldings plus shake, stucco or tile roofs. They can be assembled as stand alone units or as additions to existing structures while still providing storm protection and extra space. Studio Domes are available in five sizes from 10 to 20 ft diameters. The larger units can contain a kitchen, bathroom and combined sleeping/living space. For multiple connected domes see our Combo Dome models. See website for posted

Floor Plans Fredrick Crandall, Architect

Photos not to scale, examples only of optional designs and exterior finishes. (MDI)



STUDIO DOME MODULES (CONTINUED)



Fredrick Crandall, Architect, & MDI

THE MULTI PURPOSE STUDIO DOME....and always disaster resistant.

Room addition	Entry Way	Disaster Center
Cabana	Model Trains	Garage
Art Studio	kennel	Small Animal Shelter
Guest Suite	Cattery	Utility Room
Home Office	Stable Stall	Mud Room
Gourmet Kitchen	Holiday Dome	Bunk House
Swim/Spa Dome	Bath Addition	Sun Room
Green House	Field Clinic	Radio Studio
Storage	Wine Cellar	Library
Play House	Vintage Autos	Tact Room
Dining Dome	Music Room	Pump House
Food Storage	Field Office	Game Room
Study	Party Room	Field Kitchens
Back Yard Shelter	Beach House	Mountain Cabin
Field Office	Clinic	Public Restroom/Shelters
Commercial Shop	School	Sensitive Equip Storage

STUDIO DOME SPECIFICATIONS AND PRICES

Diameter	10 Ft	12 Ft	15 Ft	18 Ft	20 Ft
Footprint	78.5 Sq Ft	113 Sq Ft	176 Sq Ft	254 Sq Ft	314 Sq Ft
Usable Space	63.5 Sq Ft	94.9 Sq Ft	153.8 Sq Ft	226.8 Sq Ft	283.3 Sq Ft
Size	10'Dx8.5H	12'Dz8.5'H	15'Dx8.5'H	18'Dx9'H	20'Dx10'H
Price Per Unit	\$ 11,000.00	\$14,000.00	\$16,000.00	\$18,000.00	\$20,000.00

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- Shipped globally and includes a shipping allowance.

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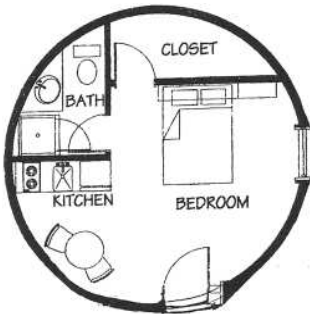
STORM DOME MODULES

The Storm Dome Module is available for those requiring backyard protection from the elements in high risk, disaster areas. While all Thunder Ridge Dome Systems have equal disaster resistant capabilities the Storm Dome features no windows and use of a strong , storm door. The purpose of a Storm Dome is to provide comfortable and sanitary family living space before, during and after severe storms or seismic events. Unlike below ground storm cellars there is less risk of water seepage .

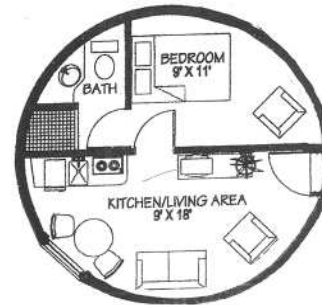
The Storm Domes are available in five sizes from 10 ft to 20 ft diameters and like all our Dome Systems they provide near absolute protection from Tornadoes, Hurricanes, Fire, Low Flooding, Pests, Mold, Earthquakes, Acid Rain, Nuclear Fallout, Terrorism and Extreme Temperatures.

The Storm Dome systems includes a storm door, skylight and vent. They can be assembled in back yards or rural locations and serve as additional living and storage space between storms. One does not have to relocate their families to enjoy peace of mind . Except for high flooding, costly evacuations are mostly eliminated. View floor plans at: www.ThunderRidgeDomes.com

20 ft Storm Dome Plan #1



20 ft Storm Dome Plan #2



Floor Plans by Fredrick Crandall, Architect

STORM DOME SPECIFICATIONS AND PRICES IN FIVE SIZES

Diameter	10 Ft	12 Ft	15 Ft	18 Ft	20 Ft
Footprint	78.5 Sq Ft	113 Sq Ft	176 Sq Ft	254 Sq Ft	314 Sq Ft
Usable Space	63.5 Sq Ft	94.9 Sq Ft	153.8 Sq Ft	226.8 Sq Ft	283.3 Sq Ft
Size	10'Dx8.5'H	12'Dx8.5'H	15'Dx8.5'H	18'Dx9'H	20'Dx10'H
Price Per Unit	\$ 11,000.00	\$14,000.00	\$16,000.00	\$18,000.00	\$20,000.00

- * Discounts available for 20 units or more.
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DOMESTIC ANIMAL SHELTERS

The Storm Dome is highly recommended to shelter animals in sub zero or extreme heat conditions plus hurricane or tornado zones. Thousands of animals perish every year simply because they are not provided sufficient shelter. Those who fail to provide their animals shelter from extreme environments need to understand that while animals have fur coats and can withstand colder temperatures than humans, they will always seek shelter when roaming free. That should tell you something. When an animal is penned up without protection they have no choice but to endure the conditions. When they are free they 1) seek warmer or cooler climates which is called migration, 2) or they seek shelter near cliffs, boulders, structures or trees for wind protection and shade. and 3) the smaller animals burrow into debris or the earth. Their natural instinct is to seek shelter in all extreme conditions and we believe they deserve reliable shelter when contained as well. Storm Domes can shelter poultry, rabbits, cats, dogs, goats, horses and cattle. The Plaza and Combo Domes are also excellent as barns and stables. All models provide ultra protection in extreme conditions.

Contact: info@ThunderRidgeDomes.com or Tel toll free: (866) 577-3488

DOME FINANCING ASSISTANCE

Many traditional financing institutions are slow in embracing the reality that concrete domes have existed for thousands of years. Our lenders understand the advantages of owning an attractive, energy efficient, disaster resistant dome home.

Even though our nation is experiencing record breaking natural disasters and desperately in need of safe housing, many of the traditional lenders are slowing the dome industry by requiring 3 comparative dome appraisals. It appears, they place little or no restrictions on round wood homes or square concrete homes.

If your community has three existing dome structures our lenders are available to start your dome loan application process. **If not, they can still start your loan application process because they offer alternative loan options to potentially circumvent the above mentioned restrictions. These loan options are especially suitable for our Studio and Storm Domes ...both disaster resistant. Please contact TRI for a list of our current dome friendly lenders.**

There are various types of loans which typically have few use restrictions that could potentially provide a hundred percent funding for your dome.

LOAN OPTIONS

- **Line of Credit: Signature or Equity Loans**
- **Home or Land Equity Loans**
- **Home or Land Improvement Loans**
- **Home or Land Refinance Loans**
- **Commercial Construction Loans: rentals or sale of dome units**

A rough, non binding estimate for the purchase and installation of a 20 ft. diameter Studio Dome (with septic, bath and kitchen) is approximately \$25,000. With such equity value in your existing property, obtaining a small loan of \$25,000 is typically not difficult.

Contact: info@ThunderRidgeDomes.com or call toll free: (866) 577-3488

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CUSTOM DOME HOMES

Please contact info@ThunderRidgeDomes.com for information on custom dome homes and other related services. For custom dome images, models, floor plans, technical information and accessories visit our website:

www.ThunderRidgeDomes.com



DOME PLANNING GUIDE

We offer free consulting services to our dome clients who wish additional guidance in dome selections and placement.

- **Planning Assistance**
- **Designing Your Dome Home**
- **Factors to Consider**
- **First Steps Toward Your Own Dome Home**
- **Dome Variations and Configurations**
- **Exterior Designs**
- **Residential Feasibility Study**
- **Dome Financing Assistance**

MANUFACTURING CAPABILITY

Thunder Ridge Industries, Inc., has the capability to manufacture large quantities of Dome Module Systems at discount rates for commercial projects, government and disaster assistance organizations

SHIPPING AND HANDLING

CONTINENTAL UNITED STATES

TRI provides a shipping allowance included in the price of the dome module systems. Shipping overage fees are determined before an order is processed for payment.

INTERNATIONAL ORDERS

All Dome units are packed and sealed in shipping containers and transported to the Port of Origin. Shipping Quotes do not include sales tax, custom and duty fees or distribution from Port of Destination to client's location.

TECHNICAL ASSEMBLY ASSISTANCE

The manufacturer provides toll free telephone and/or internet Technical and Customer Care assistance within the continental US and internet assistance globally. Training programs are available for small groups sent by the buyer to learn mass assembly and crew management skills for large projects. Please contact our Company for further information at info@ThunderRidgeDomes.com or Tel toll free: (866) 577-3488

**THUNDER RIDGE DOMES
SALES ORDER FORM**

CONSULTANT: _____

MODEL	SIZE	QUANTITY	SUB TOTAL	TOTAL
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

SUB TOTAL _____
AZ Add: 7.85 Sales Tax or ReSale No. _____
Add: Shipping Overage Fee _____

TOTAL AMOUNT OF SALE _____

Shipping Quote: \$ _____ **Date:** _____ **By:** _____

*** Allow up to 90 days delivery from date of processed order.**

BUYER:

Name: _____ **Tel:** _____

Address: _____ **Fax:** _____

City: _____ **State/Prov:** _____ **Zip:** _____

SHIP TO:

Name: _____ **Tel:** _____

Address: _____ **Fax:** _____

City: _____ **State/Prov** _____ **Zip:** _____

Directions/Instructions:

Send Payment to:

THUNDER RIDGE INDUSTRIES, INC.

...Manufacturer of Thunder Ridge Dome Systems

20 E. White Mountain Blvd., Suite A5, #208

Lakeside, Arizona 85929-6891

Tel: (866) 577-3488 *** info@ThunderRidgeDomes.com

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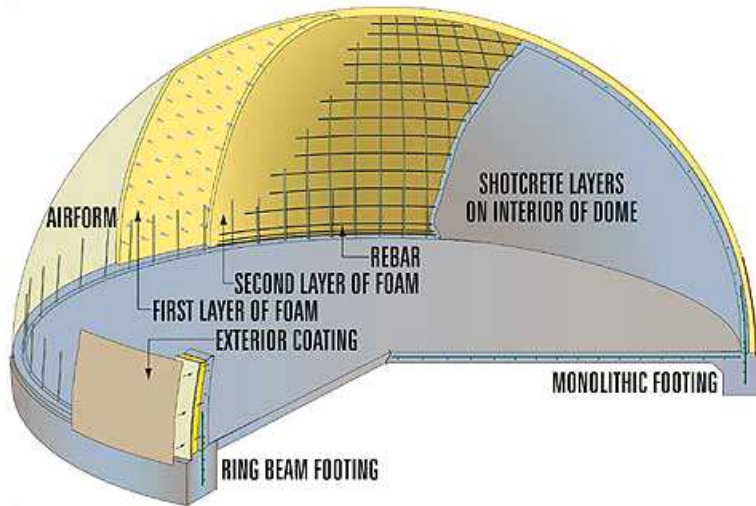


DOMES ASSEMBLY & CONSTRUCTION INFORMATION

CONCRETE DOME STRUCTURAL ILLUSTRATION

Concrete Domes are environmentally “green” and contribute to the preservation of our forests and natural resources.

Illustration by MDI.



DOMES EXTERIOR FINISH COLOR CHART

Aspen	Mesa Verde	Silverado	Crystal White	Meadowbrook
Eggshell	Oatmeal	Pacific Sand	Sandstone	Alamo
Mirage	San Simeon	Adobe	Viejo	Sierra Tan
Dove Grey	Silver Grey	Blue Grey	Pure Ivory	Chablis
French Vanilla	Hacienda	Fallbrook	Southern Moss	Miami Peach
Saddleback	Santa Fe	Trabuco	Misty	Clay

*Additional colors are available

Contact: info@ThunderRidgeDomes.com or Tel toll free: (866) 577-3488

THUNDER RIDGE DOME MODULE KIT CONTENTS

- **Instruction Manual with easy assembly directions and illustrations.**
- **Architectural Plans and Specifications**
- **Materials include: Panels, Concrete, Rebar, Sealants, Tools, Door/Vent/Skylight**
- **A Toll Free US Technical Assistance Hot Line**
- **On Line Technical Assistance Globally**
- **National Shot Crete Association members list**
- **Selected optional exterior finishes and accessories**
-

THUNDER RIDGE DOME MODULE KIT ASSEMBLY OVERVIEW

- **Install foundation, slab and determined rough electrical or plumbing.**
- **Assemble and secure the prefabricated dome forms on the slab per instructions.**
- **Trace designated openings for doors, vents, skylights & optional windows.**
- **Seal and sand seams per instructions.**
- **Install the flexible steel rebar reinforcement per instructions.**
- **Apply shot crete per instructions.**
- **Cut openings and install doors, vents, skylights & optional windows**
- **Paint exterior with provided color of choice sealant**
- **Finish Interior as desired. No materials are included in the kit for this phase.**

UNDERGROUND DOMES

The thin shell concrete domes are can be placed above and below ground. The super insulation provides protection from excessive condensation especially underground. These concrete and steel enforced structures can therefore be buried as deep as desired. Earth berming and creative landscaping is very popular and attractive. Application of proper drainage and sealants are of course required of any underground structure. A heavily loaded dome, with the weight of earth upon it must have a larger footing as well as additional enforcement determined by a qualified engineer.



TRITON: 3 connected domes underground

MDI

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BUILDING PERMITS

- Requirements for building permits vary from state to state.
- Contact your local Planning Department for an Information Guide.
- In most states the 10, 12 & 15 foot Storm and Studio Domes do not require permits if not plumbed/wired.
- All Dome Systems comply with FEMA and International Building Codes
- Dome Systems can be connected to existing buildings as a room addition.

ASSEMBLY TIME OF A DOME HOME MODULE

A twenty foot diameter Dome System can be assembled within a week on a prepared slab and foundation by two persons. The larger Plaza and Combo Dome models require three to six weeks verses construction of traditional structures of three to six months.

FOUNDATION & SLAB COST ESTIMATES

Thunder Ridge Dome Systems do not include materials for the required foundation or slab (steel, concrete, sand or forms). However, the Instruction Manual does provide general information on this subject. The approximate material cost vary in different locations. Cost breakdowns as of 12/1/06 (void in 30 days) in Arizona are:

One yard Concrete equals: 6 Bags Concrete & 780 pounds of sand

- 10' Footing is 1.16 yards plus Slab .97 yards = 2.13 yards
- 12' Footing is 1.4 yards plus Slab 1.40 yards = 2.80 yards
- 15' Footing is 1.75 yards plus Slab 2.18 yards = 3.93 yards
- 18' Footing is 2.09 yards plus Slab 3.14 yards = 5.23 yards
- 20' Footing is 2.33 yards plus Slab 3.88 yards = 6.21 yards

Contact info@ThunderRidgeDomes.com

- 48' Footing is plus Slab yards = yards
- 66' Footing is plus Slab yards = yards
- 33' Footing is plus Slab yards = yards

DOMES FOUNDATION

Thin shell, concrete domes are resistant to foundation cracking or expansive clay. All our lives we are taught “must have a strong foundation”. In general, we expect a foundation to be large and highly reinforced. It must act as if it were a bridge beam supporting the home above. This all changes with thin shell concrete domes. The rock solid, concrete and steel enforced dome is a beam. It is a giant curved beam that reaches all the way around the dome and is as tall as the dome. It is nearly indestructible. The footing creates the dome’s base. It does not need to be remarkable. It does need to be wide enough to provide the footprint needed for the soil conditions. Expansive soils can lift the entire dome but not part of it. Expansive soils need to be reckoned with but they are not to be feared by the dome builders. The larger part of the problems are with the floors within the building which can easily be replaced without affecting the structural integrity of the dome.

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SUPER INSULATION

Because Thunder Ridge Dome Systems are super insulated, they offer energy efficient, year around comfort and protection from extreme temperatures. A concrete dome without insulation will result in retention of heat in the summer and cold in the winter. Our super insulation protects our concrete domes from unacceptable temperature changes that create unwanted accumulation of moisture on the interior walls, mold and humid living conditions. A non insulated, concrete dome is no bargain.

ELECTRICAL & PLUMBING INSTALLATION

All homes, including thin shell concrete domes, run sewer and water pipes in the interior walls of the home. There is no reason to penetrate the dome wall other than for a garden hose connection. Electrical wiring requires a little more planning and preparation before constructing your dome. During construction of the dome, attach plastic or PVC coated steel conduit to the rebar. Also, fasten the electrical boxes in the appropriate places. After the concrete is applied, wires may be pulled through the embedded conduits to their appropriate boxes.

VENTILATION

Yes, thin shell concrete domes are more airtight than conventional buildings. This has obvious energy efficiency advantages. However, it also creates the need to provide for fresh air into the dome. In every thin shell concrete dome home the vents from the bathroom and the kitchen range must vent outside. This combined with the use of the family cloths dryer, will provide enough pull on fresh air into the home to be more than adequate. There is one exception, if a lot of indoor pollution is brought inside, such as smoking, it is recommended to have an air-exchange for a more consistent exchange of air. It is not advised to use propane in any form in the dome. Alternative energies : electric, solar, wind & wood.

HEATING A DOME HOME

Heating the floor with water is an extremely valid method. It is suggested that the floor be insulated on the dirt with foil-faced urethane or styrofoam, the heat coils placed on the insulation. Only a quarter of normal materials are needed, because the dome will only requires a quarter amount of heat to sustain it. The reinforcing steel is placed on the heating tubes, and then the concrete is placed, embedding the tubes and the rebar. Other survival heating options for domes are mini wood or corn burning stoves vented to the outside, solar electric and hot water baseboard heating systems also an excellent choice. It only takes the power of a hair dryer to heat a small dome so if want a fireplace, make it small and enjoy.

COOLING A DOME HOME

It is not wise to circulate cool water through the floor, as it will cool the floor creating condensation. This will cause dampness and growth of mildew and mold. Cooling must be done in a more traditional way. A 120 v rolling portable, refrigerated air conditioner (vented to the outside) is recommended for disaster areas as opposed to an exterior installed unit to eliminate it being ripped from the dome by high winds.

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NO TOXITY FOUND IN THUNDER RIDGE DOMES

According to MDI : “ toxicity of the finished product...it has been fed to the proverbial rats, in one part and out the other without ill effects”. Do not confuse our foam material with a past competitive product Urea Formaldehyde foam which was removed from the market a number of years ago. It was removed because of an out-gassing problem. Our foam experiences no out-gassing, shrinkage, settling or odor and is not hazardous. Further, it is completely sealed in concrete upon completion of the assembly process.

DOMES HIGH TECH SURVIVABILITY

HIGH WIND SURVIVABILITY

Thin shell, super insulated, concrete and steel domes are the most disaster resistant structures that can be built at a reasonable price without going underground or into a mountain. A wind of 70 miles per hour blowing against a 30 foot tall, flat, walled building in open flat terrain will exert a pressure of 22 pounds per square foot. If the wind speed is increased to 300 miles per hour the pressure is increased to 404 pounds per square foot (psf). Wind speed of 300 mph is considered maximum for a tornado. It is far greater than that of a hurricane. Cars can be parked on 100 psf. The side pressure on the building could equal the weight of cars piled 4 high. No normal building can withstand that much pressure. Many thin shell concrete domes are buried up to 30 feet deep. They must withstand pressures up to 1 tone per square foot (2000 psf).

Against TORNADO pressure, a thin shell concrete dome 100 feet in diameter, 35 feet tall would still have a safety margin of nearly 1 ½ times its minimum design strength. In other words, the stress created by the 300 mile per hour wind would increase the compressive pressure in the concrete shell to 1,098 psi. The shell is allowed 2,394 psi. The fact is a concrete dome is not flat and therefore never could the maximum air pressure against it of 404 pounds per square foot be using design strengths of 4,000 psi. realized. Neither is the concrete only 4,000 psi. It is always much greater. The margin of safety is probably more like three or four. (MDI)



When not busy caring for the animals, staff members watched Frances through the domes' curved windows, made of a double layer of heavy plastic. "If we didn't have those windows, we would not have known that there was a hurricane out there," Valerie said. "That's how quiet it was inside. This storm was incredible to watch -- the horizontal rain and trees bent at 90-degree angles."



(MDI)

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EARTHQUAKES

Conventional buildings contain many joints between the walls, roof, and foundation. These joints are called “moment connections”. During an earthquake the structure is subjected to enormous side loads that cause the moment connections to weaken, fatigue, and fall. A thin shell, concrete dome has no consequential moment connections for an earthquake to damage. From side to side and top to bottom the dome is equally and extraordinarily strong. Rarely will an earthquake create forces high enough to meet normal load conditions. A force five tornado represents the greatest threat and even then these rock solid domes will have a 3 to 4 safety margin.



This home was destroyed when an earthquake struck Northridge, California in January 1994. Approximately 114,000 residential and commercial structures were damaged and 72 deaths were attributed to the earthquake. Damage costs were estimated at \$25 billion. FEMA News Photo

EFFECT OF FIRE ON A DOME

Experts agree, a grass fire would have very negligible effect except that it would make things black and ugly. The air form could simply be repainted. In extreme documented cases the interior of the dome never increased in temperature perceptibly even when faced with a blazing exterior fire where most buildings would have been destroyed.



This is a Dome home in Riverside, CA. it was surrounded by fire on all sides and the only damage was smoke discoloration. The Firefighters told the home owner that if things went bad they had planned on kicking in the door to take refuge in the Dome. The Owner cheerfully told them he had left the door unlocked for them, just in case. Photo from MDI

FLOODING EFFECT ON CONCRETE MODULE DOMES

Flooding is a disaster with often enormous ramifications. Concrete domes offer some protection against common problems associated with flooding. Flood waters carry bacteria, debris, feces, silt, and organic material. Hollow walls filled with contaminated water provide ideal conditions for mold to grow and propagate. If the hollow walls can not be cleaned or dried, they can harbor dangerous pathogens for months or years. Our dome shell walls are not hollow. When the water recedes they can be surface cleaned and good as new. For interior walls, steel studs with sheet rock is recommended. The sheet rock can be replaced at a reasonable cost. This means the dome can be safe and livable very soon after the flood waters subside.

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FLOODING EFFECT ON CONCRETE DOMES (continued)

The larger thin shell, concrete domes have a huge mass (weight) and it will take a substantial amount of pressure to shift - many times that of most conventional structures. In all size domes, the rounded surface helps split the water around the building - migrating the total pressure. Concrete domes can be easily built with large openings in the lower level to allow flood water to pass through the structure. The upper floors can often be above the flood stage. Concrete domes are strong enough to support the upper floors from the shell itself. Thus flood waters do not have any internal supports to sweep away. This design is especially useful in beachfront and known flood zones.

EXTREME SUB ARTIC, TROPICAL & DESERT CONDITIONS

Thunder Ridge Dome Systems are shipped globally to extreme arctic locations and hot tropical islands. The dominating material in our dome systems is reinforced steel and concrete. Concrete is rock and has proven its durability for thousands of years. Rock survives. Over long periods of time, in most parts of the world, wood dries out, rots, burns, disappears. Any organic building material has the same problem. Plastics do not have the lifetime. Metals have the problems of corrosion and cost. Concrete just seems to last forever. The use of our super insulation foam enhances the dome by making it an even temperature. Concrete domes are extremely energy efficient. This energy efficiency saves money whether your are heating or cooling the building.

NUCLEAR FALLOUT

Certainly the concrete domes would be superior to most buildings if a nuclear fallout condition occurred. Rain would tend to wash the radiation off the building much better than conventional buildings. Concrete itself is a good absorber of radiation. The concrete in the domes would greatly reduce the effects of fallout on the occupants. For optimum protection from all levels of nuclear threat is to bury a concrete dome. Some experts suggest a covering of 4 ft of earth above the dome crown for additional protection.



It's longevity is not measured in years but in generations...

Beauty and endurance is the reward of owning a Thunder Ridge Dome. They provide a wonderful sense of space, peace and harmony with the earth and universe. We invite you to explore the reality of this ultimate experience.

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