

Concrete Home on Block Basement

The two photo galleries & YouTube Video below are of concrete home on block basement built in North Carolina. Three bedrooms & two bath dome home.



45' dome on full basement in North Carolina. High profile entryway with custom glass and double doors on deck. On right is window dormer. Basement walls have garage door and single door opening.

Rear view of 45' dome with door dormer, first floor window dormer on left and second floor window dormer.

Patio off back of dome accessed from Kitchen door dormer.

High profile entryway in 45' dome with custom fixed glass and glass above doors. Deck above basement garage door.

Deck off high profile entryway.

View of area below deck. Basement has single door and garage door.

Retention wall along one side of basement wall.

View of living room and dining room in 45' dome. High Vaulted ceiling above living room, dining room and part of kitchen not seen.

Living room area. High profile entryway to the left not seen. Window dormer at base of stairs.

A High Profile Entryway can be installed where there are high vaulted ceilings. This results in a more dramatic, taller front entrance into your dome.

Another view of living room and dining room under high vaulted ceilings.

Dramatic high vaulted ceiling over living room and dining room. Beautiful high profile entryway.

View of living room and High Profile Entryway and high vaulted ceiling in 45' dome. Center of 45' dome is 22.5 feet.

Partial view of kitchen. To left are more counters and single door installed in first floor door dormer.

View of dining room, part of kitchen and second floor railing.

View from second floor of part of kitchen area and first floor window dormer.

View of Kitchen with door dormer on right.

Side view of stairs.

Partial view of second floor to top ceiling.

Second floor walk way with dog checking out first floor.

Second floor walkway into bedroom.

One end of master bedroom. Next pic shows rest of master

bedroom.

Rest of Master bedroom. Two walk in closets on end of room.

Double sinks, walk in shower in master bath.

Tub next to walk in shower in master bath.

Master bath tub, double sink, separate room with commode.

Homeowner cleaning window in second floor window dormer.

Second floor trundle bed in window dormer. Knee wall around perimeter of second floor. Behind knee wall ducting and wiring can be run.

Second floor bedroom. Bed on interior wall. Window dormer for fire egress.

Puppy helping during kit assembly

**Above Photo Gallery is of Completed 45' Dome Photos
Please click on arrows to view all photos.**



Semi-truck holding some stacks of 45' dome panels. A few

stacks have been unloaded. Two - 22' dome kits can fit on one truck. When kit has standard 7" thick EPS insulation one 27' & one 22' can fit on one truck. Or one each 30' or 34' or 36' or 40' or 45' or 48' kit can fit on one truck. Currently USA shipping is \$2.50 to \$2.90 a mile from our Rockledge Fl factory. Minimum shipping cost is \$800. Please call our office for more info 321-639-8777 - Mon - Fri 9-5 Eastern time.

Stroupe NC 45'dome kit freshly unloaded at job site. The family has not had time to move the boxed items inside. The kit can be stored on site 2-3 months in nonfreezing weather waiting for the foundation to be installed.

Basement footing being dug out. A center mark is located with radial measurements taken from the center point to each corner where two riser panels meet and point where a riser meets back of an entryway base panel.

Basement footer poured. Measurements and dimensions to build the foundation are on the Blueprint Foundation sheet and on Foundation Detail sheet. Basement footer is 20"x20". If frost line in your area, wall continues down in earth past the frost line. Some frost lines are 3' or 4' or in Alaska can be 7' or more.

Concrete block basement walls about to be installed on footer.

Some basement walls installed. The basement exterior wall geometry follows the geometry of the dome. Ai's 30' - 48' domes are three frequency domes with 15 sides. The 22' & 27' domes are two frequency domes with ten sides. An entryway removes two or three risers. A first floor door dormer panel removes one riser.

The straight corners you see match where the sides of two riser panels will meet during dome kit assembly.

Basement walls being installed.

Basement walls being installed. A basement wall can be built from concrete block as is done in this case or the basement wall can be poured concrete on site or poured precast panels are brought in or Insulated Concrete Form (ICF) walls can be designed.

Concrete block basement being built. The two openings are for garage door and single door.

Opening for Garage Door. Blocks being formed up outside the basement walls to support dome entryway panels that extend out from the dome. Entryways and dormers are structural awnings that extend out from the dome. Under them on site a framed wall is built to install your locally purchased doors and windows.

Concrete block basement walls finished and concrete slab installed in basement.

Different view of concrete blocks installed with concrete slab. Rebar not shown in the blocks and the blocks are not filled with concrete yet.

Basement wall sealing in process. French drain will be installed along base of basement walls before walls are back filled. French drain carries water away from basement walls.

Basement framing for interior walls in process.

Dome's first floor framed floor joists and beams are being installed.

Domes's first floor joists installed ready for decking.

Decking being installed.

American Ingenuity's dome kit comes with four foot vertical riser panel before the triangles are installed. The vertical wall allows for more vertical space on the first floor. A two foot additional riser can be installed on top of the four foot panel to result in first floor ceiling height of 9'6' or 10' depending on

the size dome. This pic is showing four foot tall riser panels being installed. The one riser panel shorter than the rest is where a first floor window dormer will be installed. To meet fire egress a bedroom window has to be 44" from the floor. When dome panels are installed always align the interior drywall to make drywall finishing easier later. After riser panels are installed the temporary wooden rib system is installed.

Temporary wooden rib system installed and first row of risers being installed. American Ingenuity's Dome Building Kits are erected using a system to temporarily hold the panels in place until the seam concrete, concrete on the entryways, dormers, cupola and link has cured and the entryways and dormers are framed in. The dome is then self supporting. The system is dismantled upon completion of the dome with most of the 2x4s being recycled as part of the interior framing. Shorter 2x4's can be used to frame the second floor perimeter knee wall. Behind this knee wall, electrical, plumbing or ducting can be run or the space can be used for storage.

The Rib System consists of using your own 2x4s, bolts/nuts/washers purchased from Ai and steel hubs on loan from Ai after \$800 refundable deposit is made. The system matches the geometry of the dome. Or Ai can cut, drill and paint the 2x4 ribs and ship them on the truck with your building kit.

Second row of panels being installed. Second row are triangle shaped panels. The first row of dome panels are rectangle riser panels and the base panels for entryways or first floor door dormer panels.

First row of 4' tall riser panels installed and second row of triangle panels installed. The open triangle is where window dormer panels will be installed. The riser behind the step ladders is shorter because the bedroom window has to be installed at 44' of height per fire

egress code standards. In our three frequency 30' - 48' domes there are five rows of panels.

Triangle panel being lifted to move to the dome for assembly. Galvanized steel mesh extends out from panels not seen. This steel mesh overlaps the mesh from adjacent panels two inches and is locked with C rings and pliers. This results in a continuous steel mesh coverage in the dome shell.

4 Lifting spikes are purchased from Ai for \$100. In the Assembly Manual there is a diagram & instructions to make the lifting harness from 5/16" chains and Quicklinks.

Two rows of dome panels installed on basement. The front opening above the garage door opening is for a high profile entryway. A high profile entryway is taller than a standard entryway. Being taller it allows for installation of 8' tall doors (instead of standard 6'8" doors) and fixed glass or transom glass to be installed above the doors. A HP Entryway can be installed where there are high vaulted ceilings.

Two open triangle areas. One in the center and one on the left will have window dormer panels installed in each. A single window dormer is a way to install one window. An entryway is a way to install multiple windows or door(s) with windows. The opening on the right will contain first floor door dormer panels to install a single door.

Front high profile entryway panels have been installed with the bracing. On right one one window dormer has been installed.

Rear view of the 45' dome. Open triangle area on right is for first floor window dormer. Opening on the left is for second floor window dormer.

Center opening for First floor window dormer. There are

two second floor openings waiting for window dormer panels to be installed. First layer of concrete in seams.

The steel hubs are supported with support boards. The steel hub connects either five or six 2x4's to make the geodesic geometry. When all the seams have two layers of concrete, all entryways and dormers are concreted and dormers and entryways framed in, the temporary wooden rib system and the hub support boards are removed. The dome is self supporting with no wood to interrupt the insulation. There is no wood in the dome exterior walls. Only wood is in the framed in areas under dormers and entryways to install doors and windows. The steel hubs are returned to Ai for a deposit refund.

High Profile entryway on the left is having its top two panels being installed. Around the front lip edge of the entryway panels a preformed front side was poured at Ai factory. On site a beam is formed up around the front edge of the entryway panels with rebar installed and beam poured solid with concrete. In Manual is diagram and instructions on how to form up the trough. When the dome is on a basement, there are basement buttress walls with vertical and horizontal rebar poured with solid concrete under the entryway base panels. Window dormer has its dormer panels installed.

On site a wall under the high profile entryway is framed in to custom fit your locally purchased doors, windows and fixed glass, etc. Plywood has been installed on top of the framed wall with lath attached to accept concrete. Workers are now concreting areas around fixed glass and where double doors will be installed. Mesh from the framed wall overlaps mesh from the entryway panels and is locked with C rings prior to concreting.

High Profile entryway panels are installed. Framed wall under the entryway is installed with its exterior

concreted. Window dormer on the right has window installed. Second layer of concrete is in all seams. This dome owner chose to finish the seams with a rounded appearance to accentuate the dome geometry. Or the seam can be finished with a flat look. Between the first layer of concrete and the second layer of concrete a bonding agent is applied after the seam and surrounding areas have been watered down. Please call our office for more info. 321-639-8777

45' dome on full basement. High Profile entryway has its doors and fixed glass installed with exterior concreted. Note basement buttress walls below each entryway base panel.

Ai has stock floor plan layouts showing where interior walls are installed. If you do not find a stock plan to fit your needs, Ai can modify a plan or design a custom plan from your notes and sketches. All at discounted pricing. Dome first floor has interior walls framed in with second floor joists being installed.

On the underside of all prefab dome panels is 1/2" Georgia Pacific DensArmor gypsum drywall adhered to the 7" EPS insulation with wallboard adhesive. On site seams between the drywall are finished. Primer is applied. This homeowner chose to trowel joint compound on the DensArmor. Some dome owners apply joint compound in a skip trowel manner over the drywall which conceals seam areas.

Dome drywall has been finished. This area has high vaulted ceilings above the window dormer & HP entryway. On the right the high profile entryway is not visible. On the first floor of the three frequency domes (30', 34', 36', 40', 45' and 48') five entryways can be installed. Your floor plan layout determines how many entryways and dormers are installed in your dome kit. Interior framed wall drywall on second floor is being

finished. Window dormer and door dormer on first floor.
When priming and painting the dome, worker is in harness
attached to rope. Stainless steel eye bolts are
installed on top of dome in seam before seam is
concreted. Rope is tied thru eye bolt to worker harness
to keep person safe.

The above photo gallery shows Construction Photos of the 45' Stroupe
Dome.

Please scroll down this page to view a YouTube Video of the Stroupe
Dome.

45' Dome on Full Basement in North Carolina.

Dome first floor square footage is 1,490.

Second floor is 540 for total dome sq.ft. of 2,030.

Basement garage and work shop is 1,492 sq.ft.

For total home sq.ft. of 3,522.

Floor Plans in PDF format. Open by clicking on the PDF below
or

download to your computer by right clicking and saving to your
computer.

[First Floor Plan](#)

[Second Floor Plan](#)

[Basement Floor Plan](#)

(your browser may allow you to rotate the picture
by right clicking in the picture after it's open and selecting.)

Below is YouTube Video of North Carolina 45' Geodesic Dome Home