

Interior Finishing Summary



American Ingenuity's design team, can design the layout of your home to match your lifestyle.

Just give us a list or a sketch of what you desire – sauna – jacuzzi....

and Ai will design in your ideas to fit the dome geometry

The interior framing of the dome is built much like conventional housing and can be either wood or metal. Some of the second floor will be supported by first floor load bearing walls...such as walls in a bedroom and bath. Plus some of the second floor can be hung from the dome concreted seams by suspension rods allowing for very "open" first floor plan designs. These suspension rods and plates can be purchased from Ai.

The American Ingenuity dome is capable of supporting a weight from the dome shell. This weight is suspended by threaded steel rods which anchor into the concrete seams and extend vertically down into the dome. 3,000 lbs. can be supported by a 5/8"

threaded rod suspended in one of the concrete seams. The location of the suspension rods is determined by your floor plan selection.

The Building Plans will show the suspension rod's positioning. When the dome shell kit is assembled install the suspension plates and rods into the dome shell seams. The suspension rod with nut sets on a 3"x 7" steel plate, which is embedded in the concrete seam. The seam is reinforced with #4 rebar & two layers of galvanized steel mesh. The second floor can support at least 55 pounds per square foot, the same as other houses. We can easily design for a more demanding second floor load such as for waterbeds, whirlpool tubs, spas, libraries, etc.

Almost all of the electrical and plumbing will be contained in the interior frame walls and installed in the same manner as conventional housing. To install electrical wiring in the exterior dome walls: simply cut a groove in the E.P.S insulation and wall board and insert the wire or conduit to run the wire through. To install electrical boxes, conduit or plumbing pipes: cut the E.P.S. insulation and wall board slightly larger than needed, insert the box or pipe and fill in the opening with spray expanding foam. The spray foam will harden in about half an hour, holding the box or pipe secure.

AC/Heating Ducts: We leave the AC ducting diagram to your subcontractor, but generally the ducts run through interior walls, in the second floor joists and or behind the second floor knee wall. In the perimeter second floor knee wall a grate with filter can be installed to return second floor air to the air handler. A separate duct brings cool air to the second floor. The vents are either in the interior walls or in the floor of the second floor. Exhaust Fans are installed in various places in the dome; top center of the dome, in each bathroom, for stove, microwave and clothes dryer.

Shell Wall Board: The interior of the Ai prefabricated panel consists of Georgia Pacific 1/2" DensArmor Plus adhered to the E.P.S. with drywall adhesive. It employs fiberglass mat facing instead of paper on both sides of the board. The core is fiberglass treated gypsum providing excellent moisture resistance, Fire resistance and adhesion properties. It doesn't provide fuel for an accidental fire.

To learn more about the drywall's properties click on [DensArmor Plus](#).

The glass mats embedded into core on both faces, results in dimensional stability and prevents warping. The glass mat is encapsulated with a coating which reduces

skin irritation from exposed glass fibers. The moisture-resistant inorganic core has superior mold, mildew and fire resistance.

How is the Shell Wall Board Finished: Use tape and joint compound in the seams with joint compound skip troweled over the drywall to hide panel seams. Or sand or vermiculite can be mixed in paint to blend seams to the panel. Info to blend the seams is included in the Manual.

Will I feel closed in, in the dome? No. In Ai's dome you can install an abundant number of windows and doors. Your budget and your floor plan selection determines the number of doors or windows. There can be up to five entryways on the first floor and up to five window dormers or door dormers on the second floor of our three frequency domes – 34, 36, 40, 45, and 48.

On site construct a 2x4 or 2x6 wall within the entryways, dormers and cupola to install locally purchased standard doors and windows. For example under a 40' entryway you could have:

- Up to three French doors
- Or a door and a picture window
- Or a large picture window
- Or 12' of sliding glass doors, etc.

In other words on the first floor of a 40' dome you could have a maximum of five entryways with each one containing 12' of French doors.

Click on [Window and Door Sizes](#) to see what window and door sizes will fit in window dormers and door dormers.