

50 Ways to please your mother – Earth!

This list represents Earth friendly features we used in the building of our geodesic dome complex.

Natural Spaces Domes World headquarters in North Branch, Minnesota, has 9 domes. They include our new certified Energy Star 5 Plus Bear Creek Dome, Forest dome, Office dome, two shop domes, Bear Creek Cabin dome, and a few others. We invite you to visit our facility and see the features we list below. We practice what we preach.

1. The exterior dome shell uses 60% less structural materials to build than a similar-sized conventional box house.
2. In our new Bear Creek Dome, we utilized 18" thick walls and roof providing an R-value of 55. Our other non-dome walls are 12" inches thick with an R-40. Most Minnesota homes have R-20 walls and R-38 roofs.
3. Formaldehyde-free fiberglass insulation made from recycled glass along with insulation made from recycled blue jean material.
4. Two blower door tests were done during the construction of Bear Creek Dome. We utilized smoke bottles and an infrared thermal scan gun, allowing us to "tighten" the house and eliminate air and thermal "leaks".
5. Extensive use of triple pane skylights (by Natural Spaces Domes), greatly reducing energy loads and drafts caused by cold inside glass. Solar tinting on upper south facing skylights reduces summer time heat gain and overheating.
6. Use of triple pane glass instead of Low "E" coatings in selected areas, increasing the indoor plant growth, creating a healthier environment.
7. Marvin triple-pane windows for all the new conventional (non-skylight) glass areas with Low E coatings and argon gas between panes.
8. Windows positioned to take advantage of morning solar gain and eliminate hot southern and western sun.
9. Use of Cupolas on the dome structures combined with operable windows at the floor levels, allowing for natural cooling and fresh air intake thru non-mechanical means. Ground cooling design features mean night time air is cooler in summertime. The circulation in a dome allows for easier natural air flow.
10. Extensive daylighting from skylights & windows allow outdoor views from all work stations & offices, reduces need for internal lighting during daylight.
11. Use of Velux Sun Tunnel for daylighting over work area.
12. 85% of all lighting is compact fluorescent lighting. The remaining 15% is low wattage halogen.
13. Frost Protected Shallow Footing system eliminates extensive excavation.
14. The concrete slab radiant-heating system utilizes hot water flowing through PEX tubing. It is proving to be extremely energy efficient for a 3200 sq. ft. home located north of Minneapolis/St. Paul, Minnesota..
15. Two boilers for radiant heating to provide a backup system if the power goes out and to test the cost efficiency of gas versus electricity. Natural gas "Munchkin" boiler 92% efficient. Electric boiler is 100% efficient.
16. Instantaneous, high efficiency, natural gas water heater provides unlimited hot water without storing 80 gals of hot water 24/7.
17. All new appliances have high Energy Star ratings. The mini-split air conditioning system has a SEER rating of 19.
18. Electric stove to prevent toxic gas emissions.
19. Dual-flush toilets for water conservation. (1.1 gals or 1.6/flush.)
20. Clivus Multrum composting toilet in operation in Forest Dome since 1975.

