

Similar Domes in Eindhoven and Weil am Rhein ... different stories

The dome on the campus of the University of Eindhoven was designed by Wim Huisman in 1990 and dismantled in 2021 due to worn fabric and the presence of chromium-6 in the structure.



Figure 1. The dome on the campus of the University in Eindhoven, Google maps 2014

For this geodesic dome, with 22 different nodes, Wim Huisman designed an Adjustable Lattice Connector (ALCO), which fits everywhere and guarantees a centric connection of the bars in all positions.

The main body of the nodes is spherical. To minimise its size, the diameter of the tubes is reduced at the ends: cast steel reducers are welded at the end of the tubes.

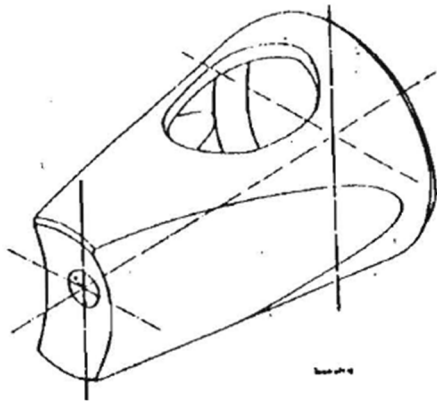


Figure 3. Cast steel reducers.



Figure 2. The Adjustable Lattice Connector (ALCO)

The next paragraph is based on <https://www.cursor.tue.nl/nieuws/2021/november/week-3/koepel-verwijderd-wegens-kapot-doek/> by Bridget Alcione Spoor, 15/11/2021

The geodesic dome at the University in Eindhoven, with the tensioned membrane underneath, was removed summer 2021.



Figure 4. Archive photo Han Konings

This was not planned but had to be done for several reasons. The cloth under the dome was worn out and too expensive to be replaced, and chromium-6 has been found on the structure.

Dorine Peters, director of Real Estate, indicated that all options for the dome have been carefully considered: "The canvas was worn out for some time and Real Estate first investigated what it would cost to replace the canvas. That turned out to be very costly. In doing so, a consideration had to be made: is Real Estate now going to replace it at high costs, while there are other plans for this place in the Campus 2040 plan?"

"In consultation with the Faculty of Architecture and the Built Environment, it was ultimately decided to relocate or demolish the dome. Among other things, the (cultural) historical value of the dome was examined" says Peters. Finally, it was allowed to demolish, but Real Estate wanted to arrange that in a circular way...

Chromium-6

"Based on the desire for a circular solution, a party was sought that could still use the dome. It could be dismantled and rebuilt. Chromium-6 was found during the asbestos and chromium-6 research, which is standard practice in building alterations and renovations." This unfortunately meant that the dome could not be reused elsewhere. Chromium-6 is a form of metal chromium and has an anti-rust effect and was therefore sometimes added to paint. Nowadays it is forbidden to add this substance to paint.

"The chromium-6 in the coating of the dome structure must be handled with the utmost care. That is why the university wanted to take responsibility and dispose this building safely. With chromium-6 it works just like with asbestos: it is not dangerous if you stay away from it. But if the dome were to be moved, the bolts would have to be loosened and that could be a risk. Unfortunately, the university had to let go of the circular wish here, as safety comes first." Demolition company Van Liempd removed the dome, leaving the building site clean and ready for its new use.



Figure 5. Clean area on campus where the dome used to be. Photo ©Bridget Alcione Spoor

Concept still in use

From <https://www.vitra.com/en-us/campus/architecture/architecture-dome>

The geodetic dome on the **Vitra Campus** was created in 1975 at Charter Industries and was the product of a collaboration with Thomas C. Howard. In 1978/79, it was used as a car showroom in Detroit (USA). In 2000, Rolf Fehlbaum **bought it at an auction** and installed it in Weil am Rhein in the same year. Today, the tent construction is used as a space for events and exhibitions.



Figure 7. Geodesic dome in Weil am Rhein



Figure 6. Different node design, <https://fra.archinform.net/projekte/22206.htm>



Use of the dome (2015)

From <https://arquitecturaviva.com/works/tienda-pop-up-para-camper-9>

Inside the iconic Buckminster Fuller geodesic dome in the Vitra Campus in Weil am Rhein, the **Camper Pop-up Shop** pioneers a new form of retail shopping by combining the best attributes from in-store and online shopping through a mix of virtual, sensory, and communal interfaces.

The design had to adapt to the existing geodesic structure without competing with it. The solution consisted in creating two concentric layers of self-bearing shelves, located within a dome like a Russian doll. The spacing of the wall elements allows for a visual and acoustic permeability, promoting a sense of discovery, exploration and chance encounters between visitors.



Figure 9. The Camper Pop-up Shop in the dome, ©Eduardo Pérez

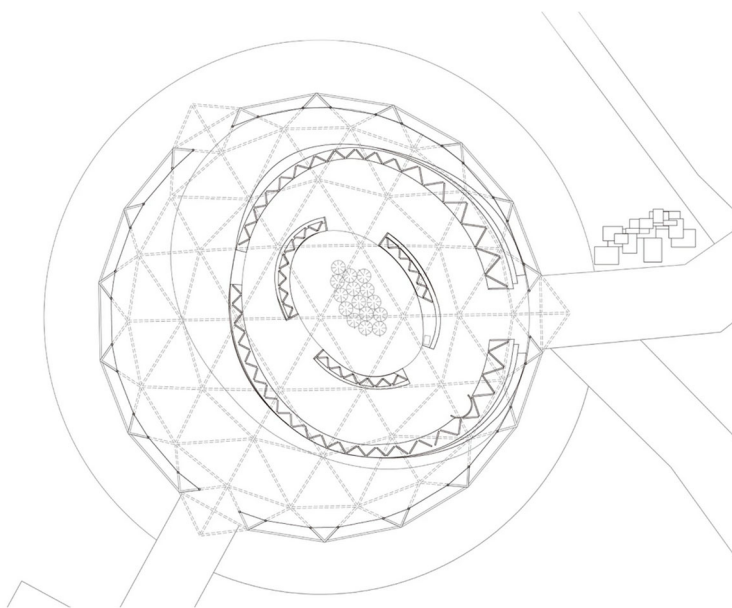


Figure 8. Plan view of the Camper Pop-up Shop

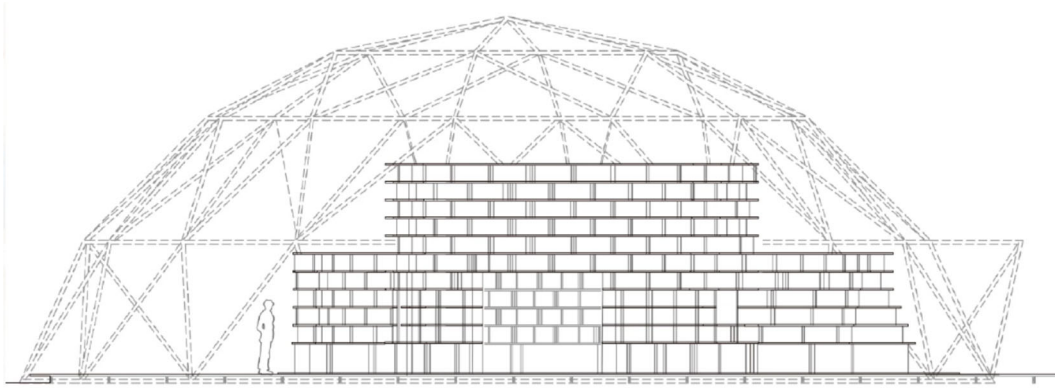


Figure 10. Elevation of the Camper Pop-up Shop in the dome

The garden (2020)

From <https://www.archdaily.com/1007036/vitra-oudolf-garden-piet-oudolf>

Nowadays, Piet Oudolf's garden adds a fresh dimension to the Campus and opens up a new, ever-changing experience for visitors, explains Rolf Fehlbaum, Chairman Emeritus of Vitra.



Figure 11. The garden of the Vitra Campus, ©Julien Lanoo

Announcement of the Vitra Campus Summer Night 2024

After being installed in 2000, the dome is still in use, like for the Vitra Campus Summer Night 2024. Local bands performed from 7.30 to 11pm on the meadow between the Umbrella House and the Buckminster Fuller Dome in the non-public area of the campus.



Figure 12. From <https://www.vitra.com/en-be/campus/news/details/vitra-campus-summer-night-2024>

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