

modular dome buildings

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The globular system

The globular system was designed to enable modern, dome-shaped buildings that are efficient in terms of their construction and energy consumption, as well as being earthquake and storm proof, to be built all over the world within a short period of time.

The domed construction is based on standardised formwork elements that are attached on site to a stanchion on top of a base. After that, window openings are positioned at optional points around the perimeter. Reinforcement bar, sprayed concrete, PU insulation and UV protection are added to the formwork in turn. After the spray concrete has dried out, the formwork elements are removed from inside. The outer shell of the building is now complete.

The required building materials, such as concrete, reinforcement bar, etc., are sourced locally. No expensive construction machinery, cranes, scaffolding or heavy haulage is necessary. Four people can construct the shell of the building within two working weeks.

The room layout is created using optional building materials.

All the material required for the construction is shipped in two 40-foot containers:

- Base formwork (20 segments)
- Tripod stanchion
- Cover formwork (20 segments)
- Reveal formwork (10 openings)
- Auxiliary tools and small components

2 x ISO containers
40 feet (12.192 x 2.438 x 2.591 m)

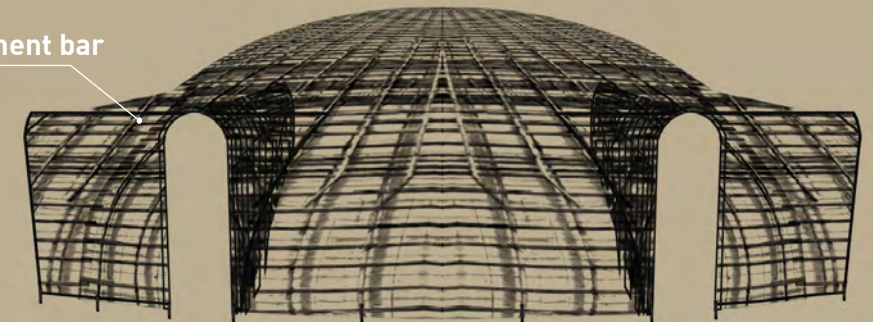


Simplified illustration of the construction phases (1 – 5)

5. Spray concrete



4. Reinforcement bar

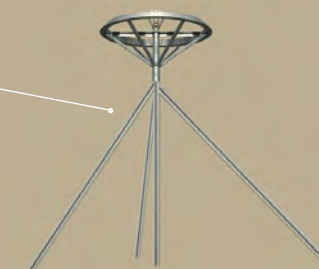


3. Cover formwork with 20 segments

Reveal formwork with 10 openings



2. Tripod stanchion with round formwork attachment



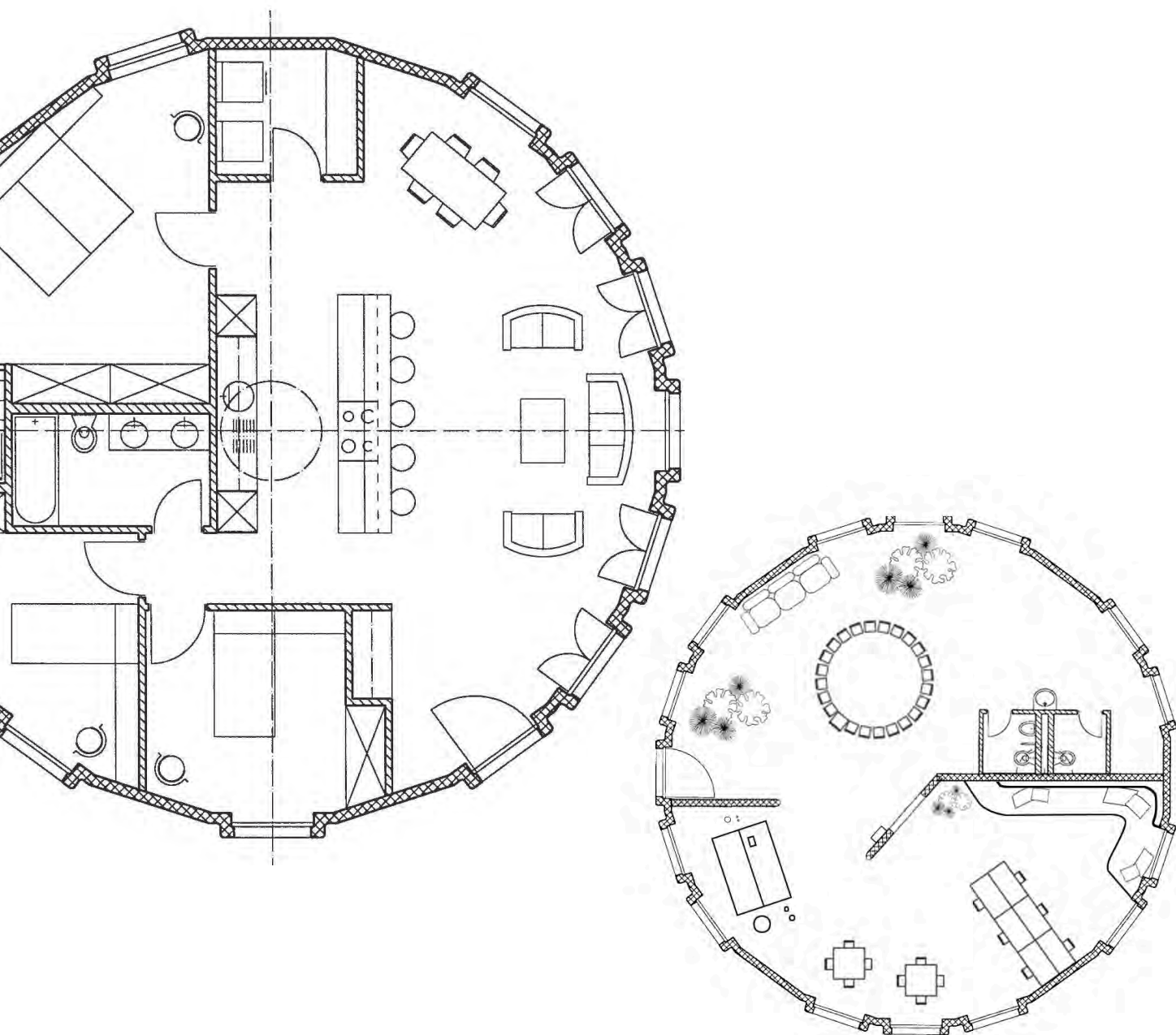
1. Base formwork consisting of 20 segments



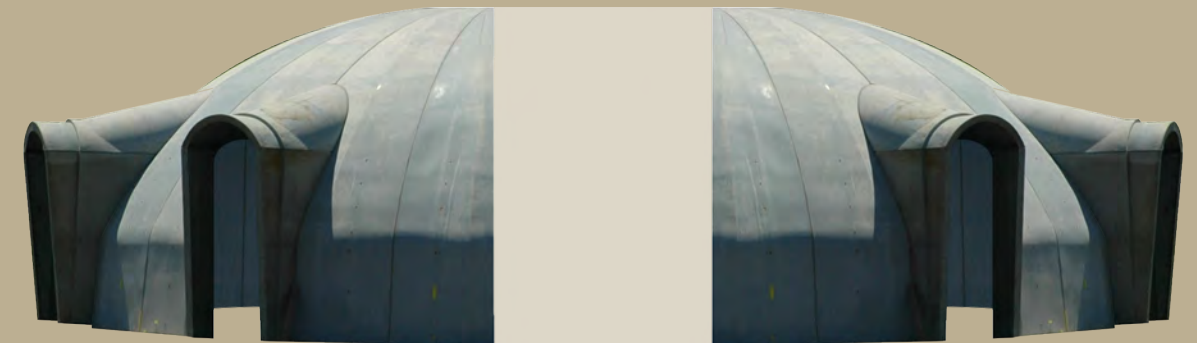
The different modules

Thanks to the sophisticated modular technology, the round globular building with a floor area of 108 m² can be extended using straight inserts.

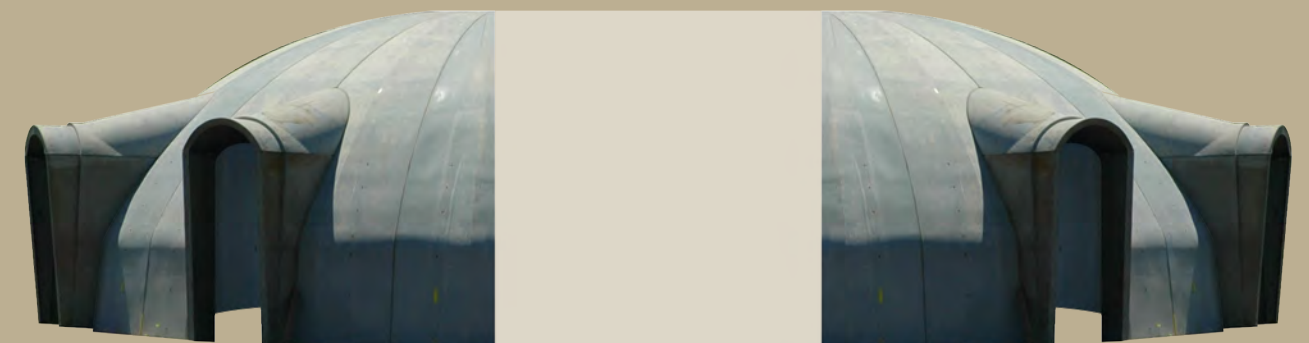
Because of its shape, it also offers an ideal range of combination options: the buildings can be interlinked or merged with each other.



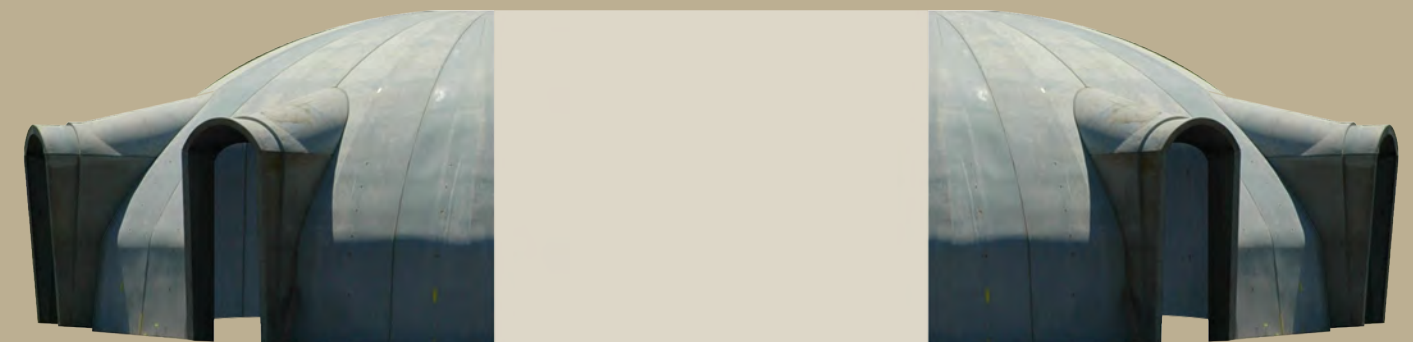
2 m insert



4 m insert



6 m insert



8 m insert

The team

From left to right: Jan Peterhans, René Trottman (creator), Nils Planzer, Christian Scheibel

The key benefits



Stability

The spherical globular structure can **withstand earthquakes and hurricanes** and therefore provides maximum safety for the residents.



Individuality

By not having weight-bearing walls, the **floor plan design** can be free and flexible. Built-in cupboards, room doors, partition walls, light switches, sockets – everything can be positioned individually and can be **rearranged** easily and cheaply if requirements change.



Time savings

Construction of the entire outer shell (starting from the base plate) will only take **four people two weeks.**



Material savings

All the construction materials needed for the globular building, such as concrete, reinforcement bar, etc., can be purchased locally – expensive imports are eliminated. Thanks to the dome-shaped construction, **up to 30% or more can also be saved in building materials** in comparison to cornered buildings!



Energy savings

The sustainable materials are thermally effective and the favourable domed shape encourages natural circulation of the air, which then improves the climate within the rooms. This has a positive impact in winter by **lowering heating costs** and in summer by creating a **pleasant climate!**



Construction

The formwork is easy to handle and the shell of the building can be built by four people within two weeks, **without heavy construction machinery**, cranes or scaffolding. In addition to the structural benefits, the rounded shape prevents accumulations of water, meaning that, in general, **no water damage** occurs or **damage from freezing** in cold weather. The concrete facade and the high-density roof as well as the range of different materials used, such as the mechanical protective layer/PU and plastering, provide **optimal acoustic soundproofing.**



Transport

The entire equipment needed for the construction of a globular building fits **in two 40-foot containers.**



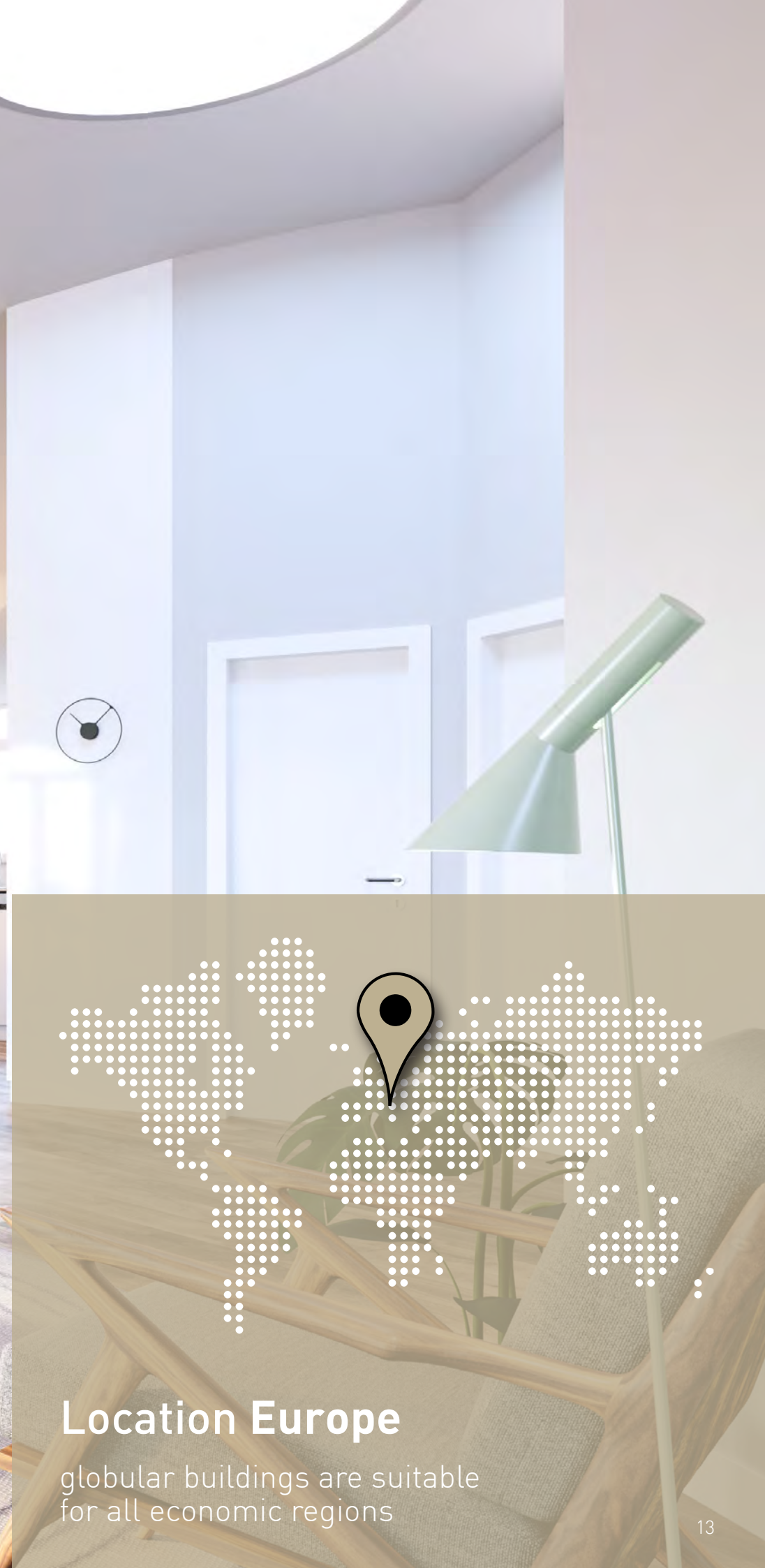
Perfect integration

The globular building can be covered with earth, to be planted over with vegetation, for example. It is suitable for sloping locations and **can be embedded perfectly into the landscape.**



Location South America

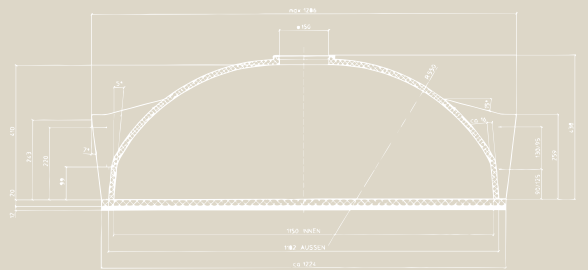
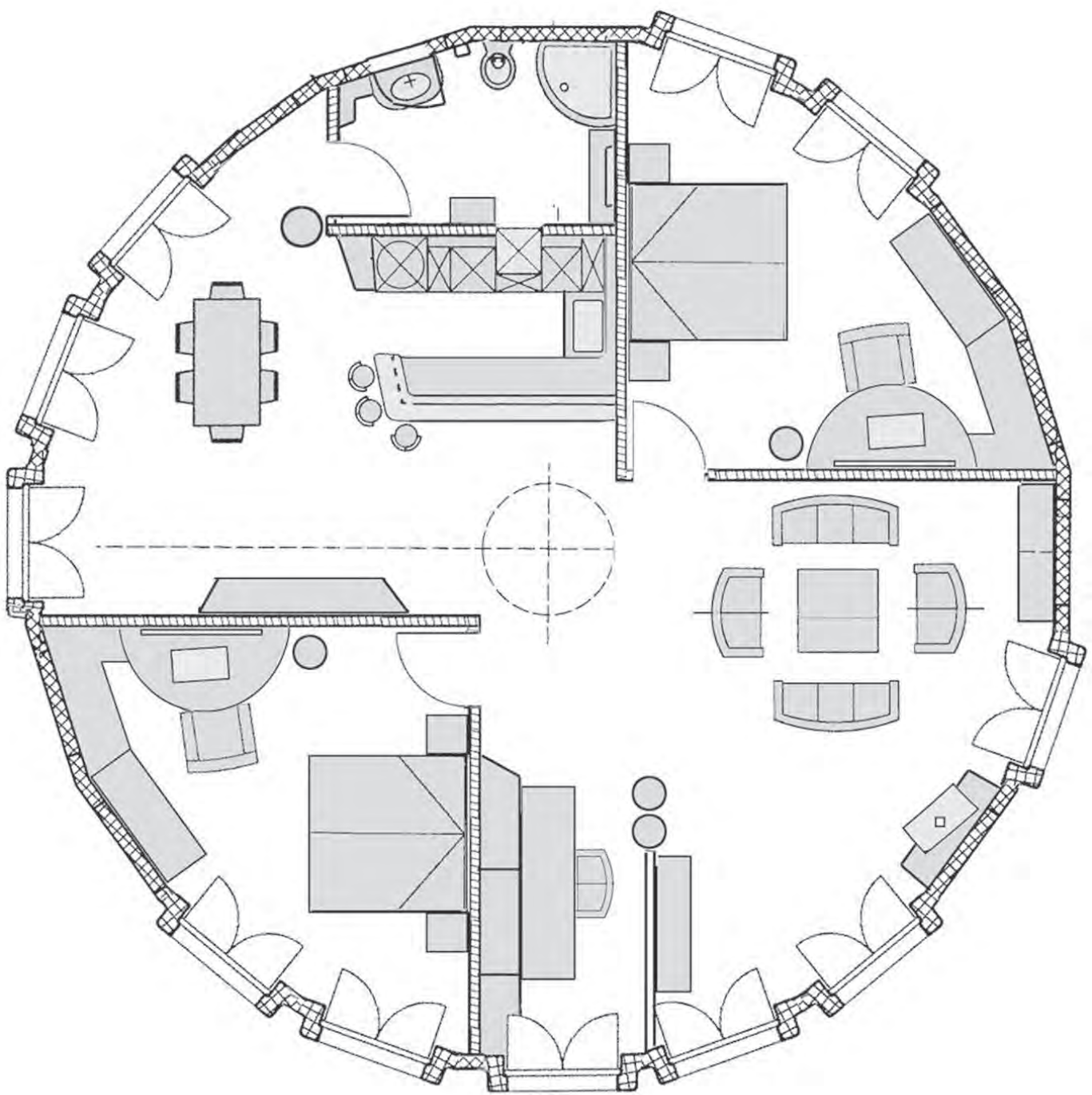
globular buildings are suitable
for all economic regions



Location Europe

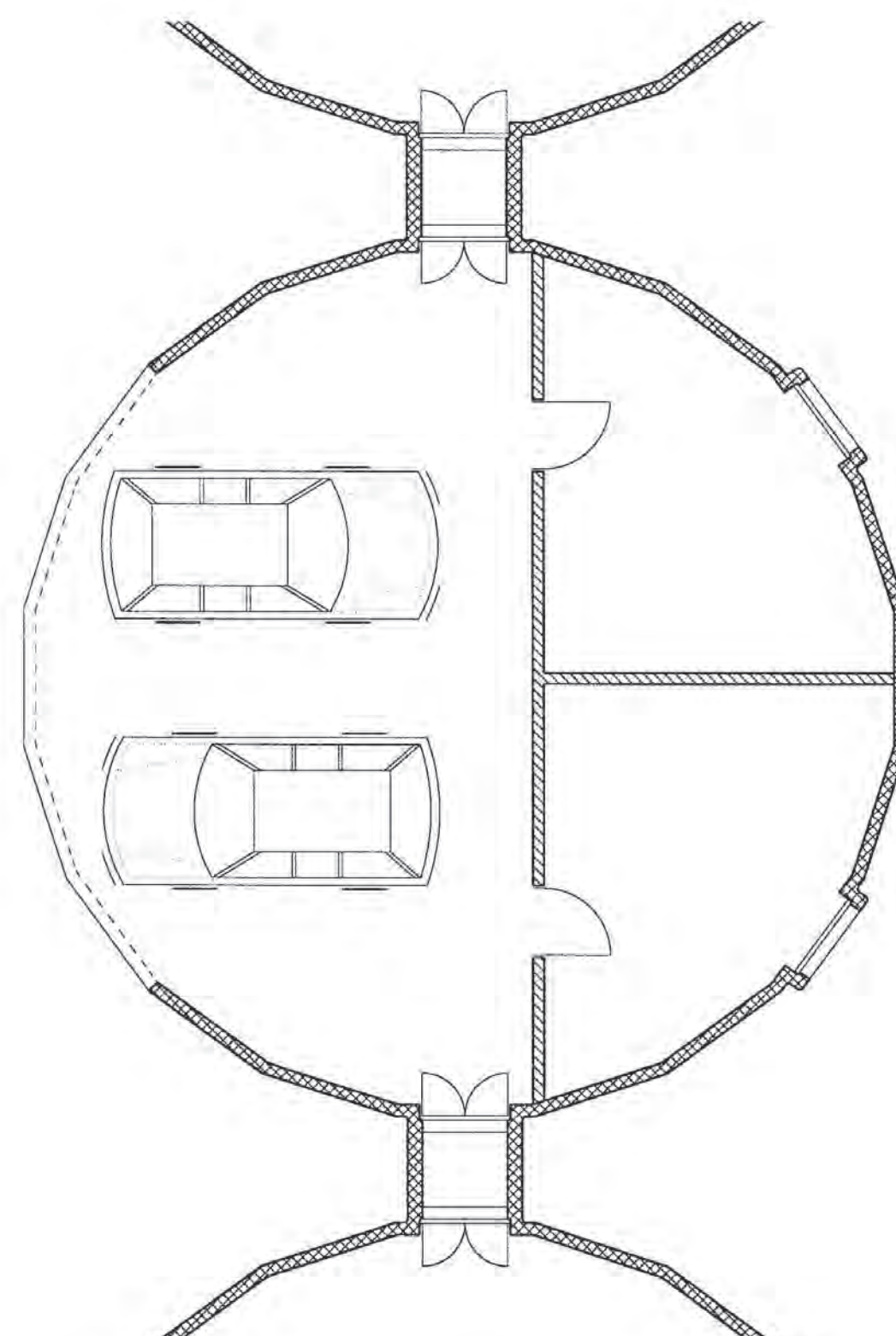
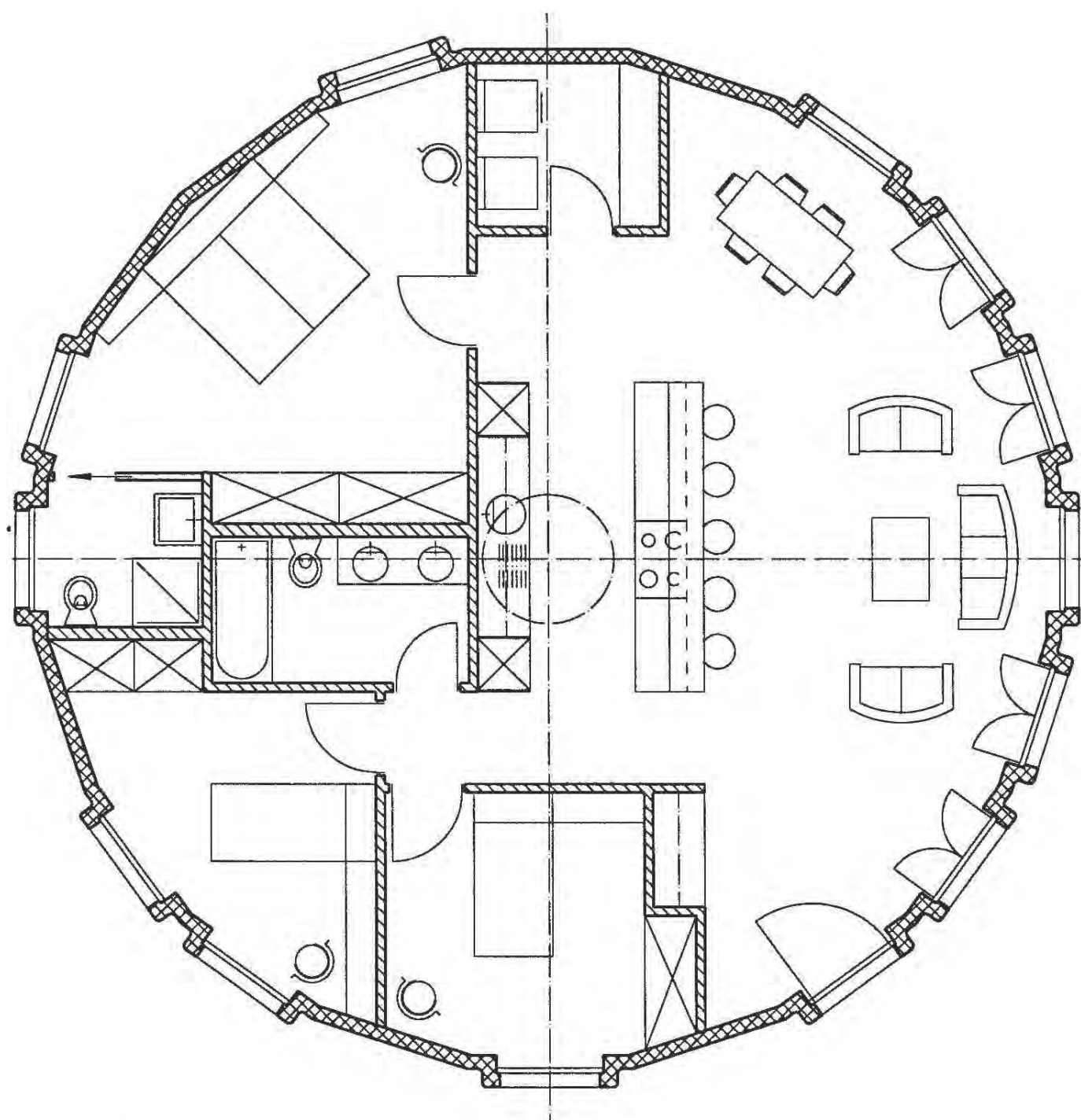
globular buildings are suitable for all economic regions

Possible uses



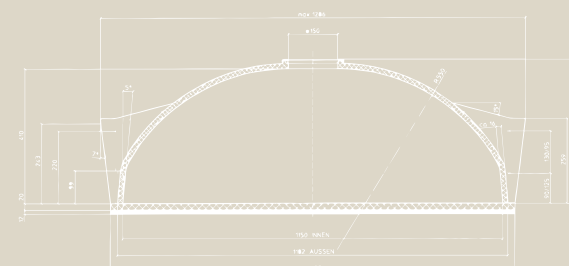
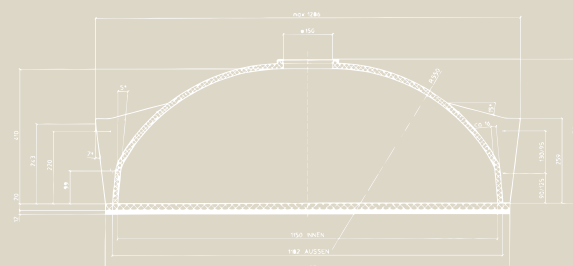
Living 01

Rooms	3.5 rooms
Internal diameter	11.5 m
Internal room height	4.1 m
Area	108 m ²



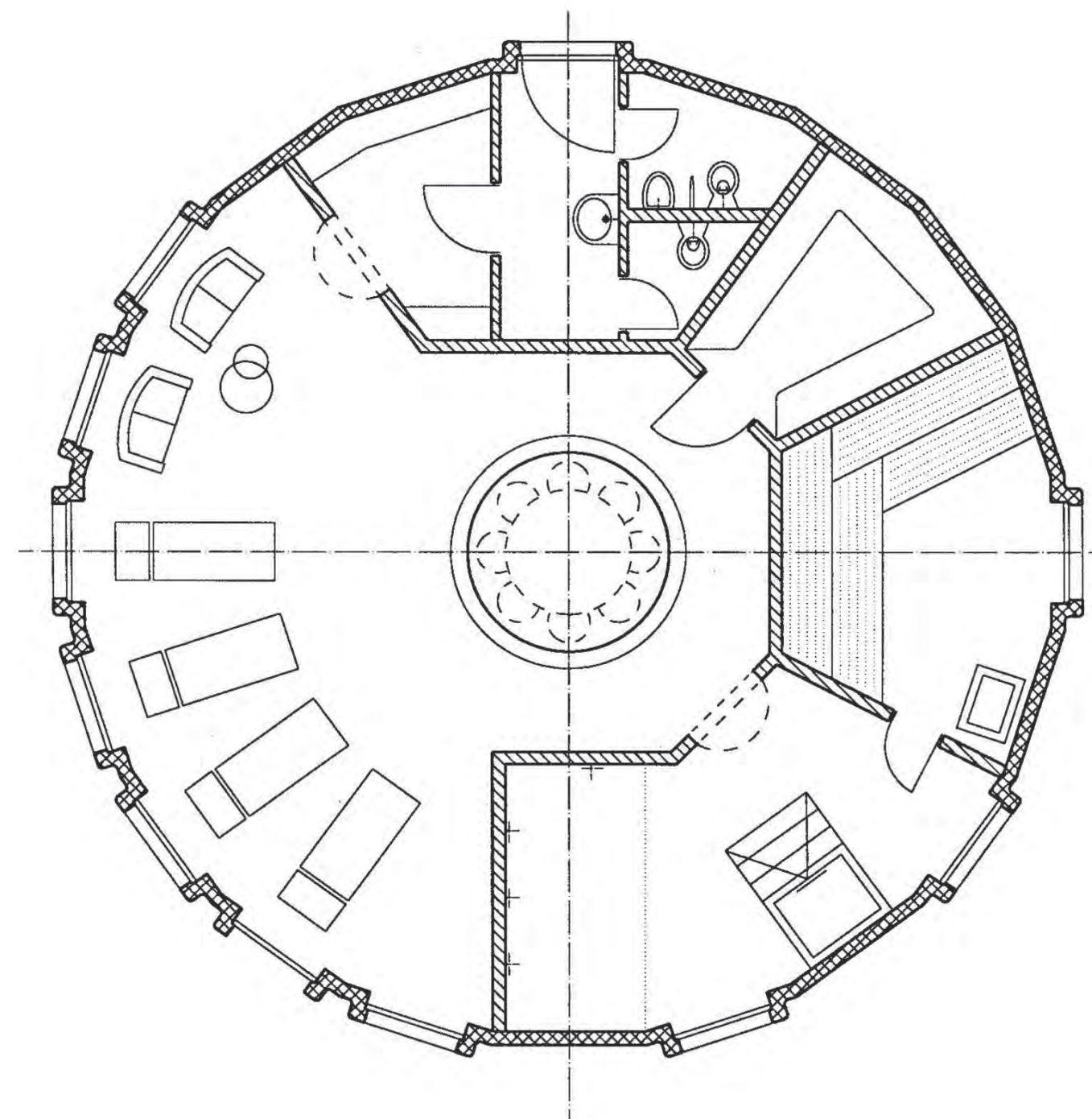
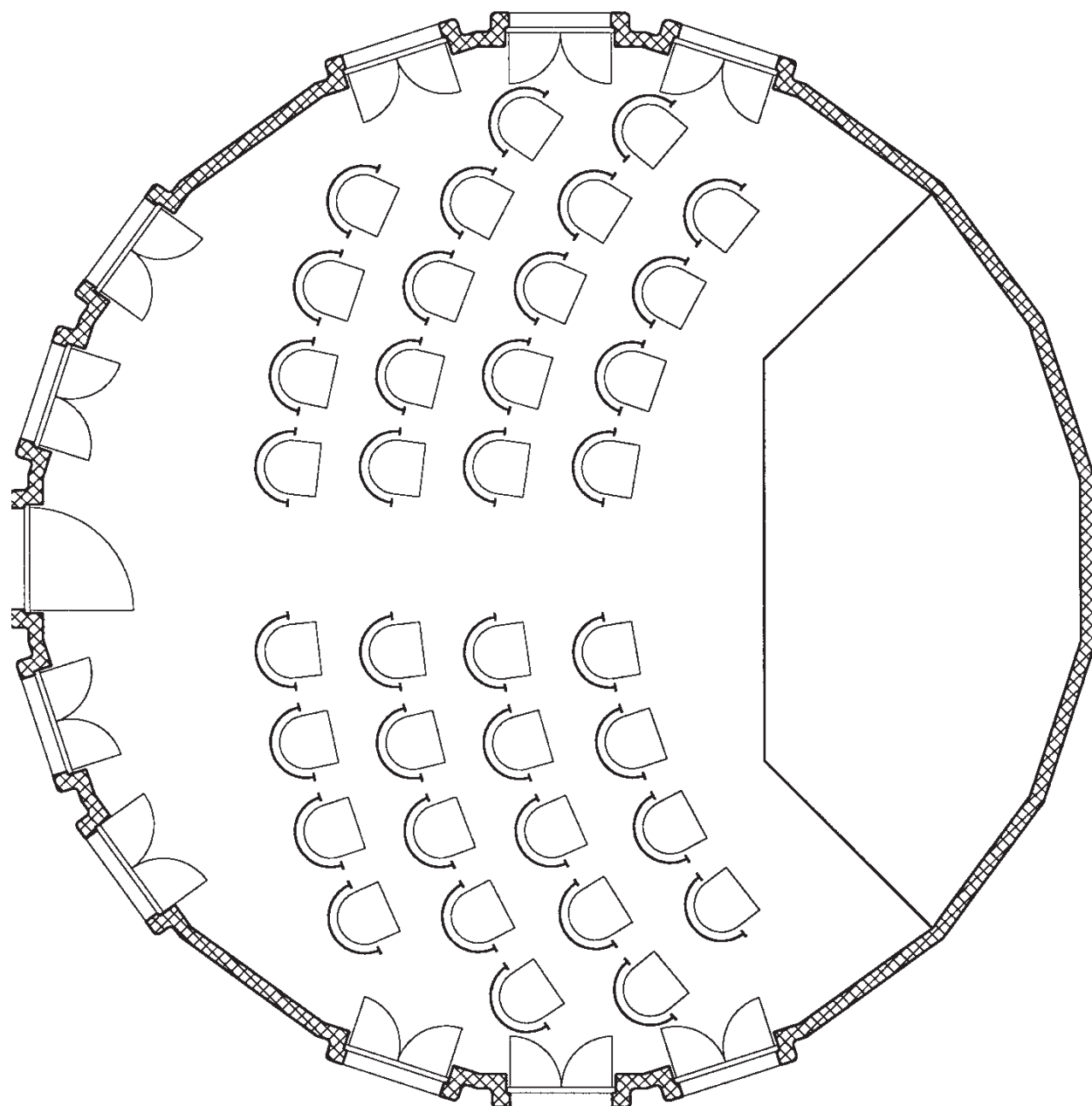
Living 02

Rooms	3.5 rooms
Internal diameter	11.5 m
Internal room height	4.1 m
Area	108 m ²



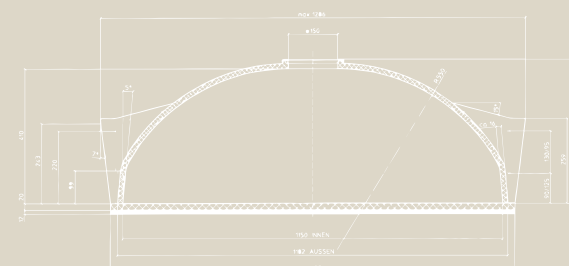
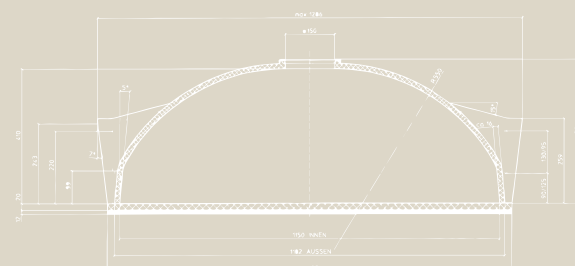
Double garage

Internal diameter	11.5 m
Internal room height	4.1 m
Area	108 m ²



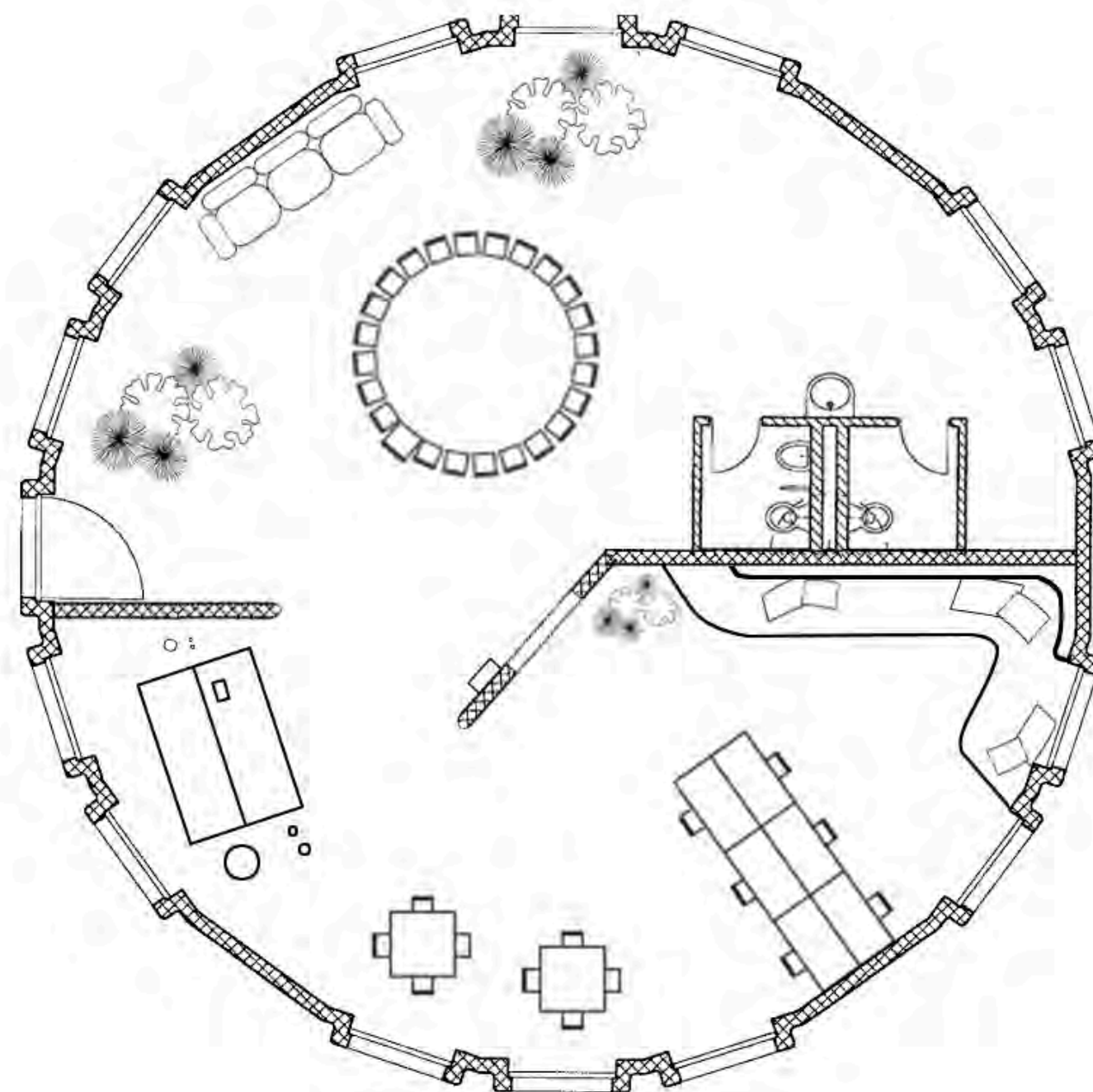
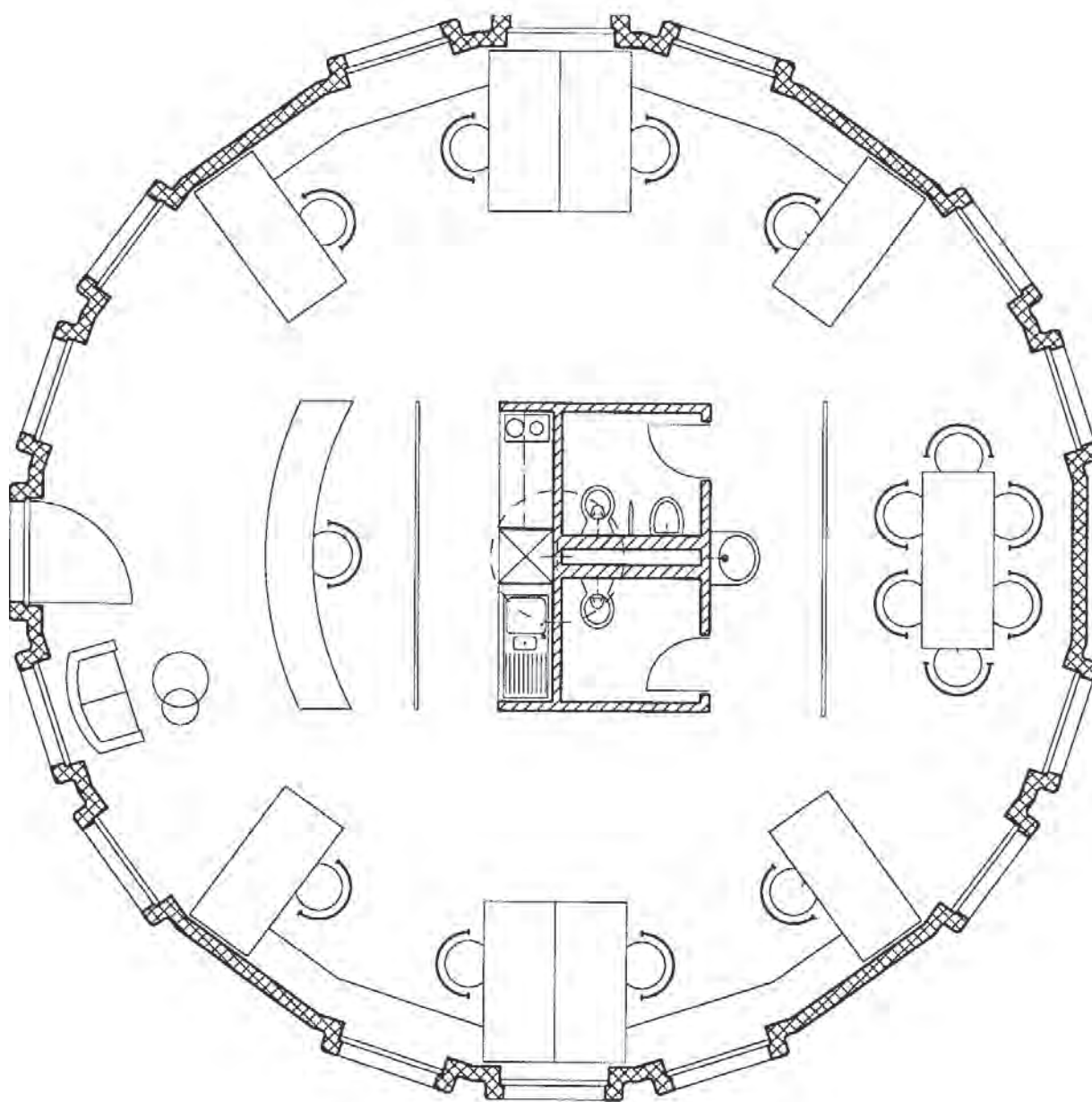
Hall

Internal diameter 11.5 m
Internal room height 4.1 m
Area 108 m²



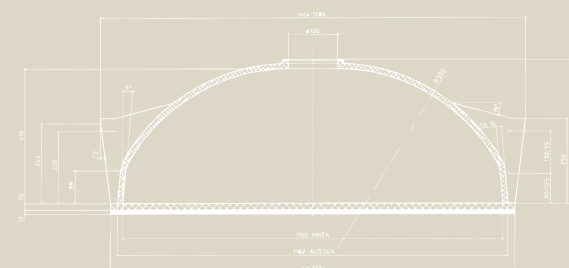
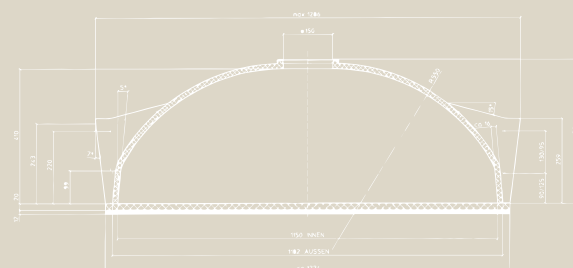
Wellness pavilion

Internal diameter 11.5 m
Internal room height 4.1 m
Area 108 m²



Office

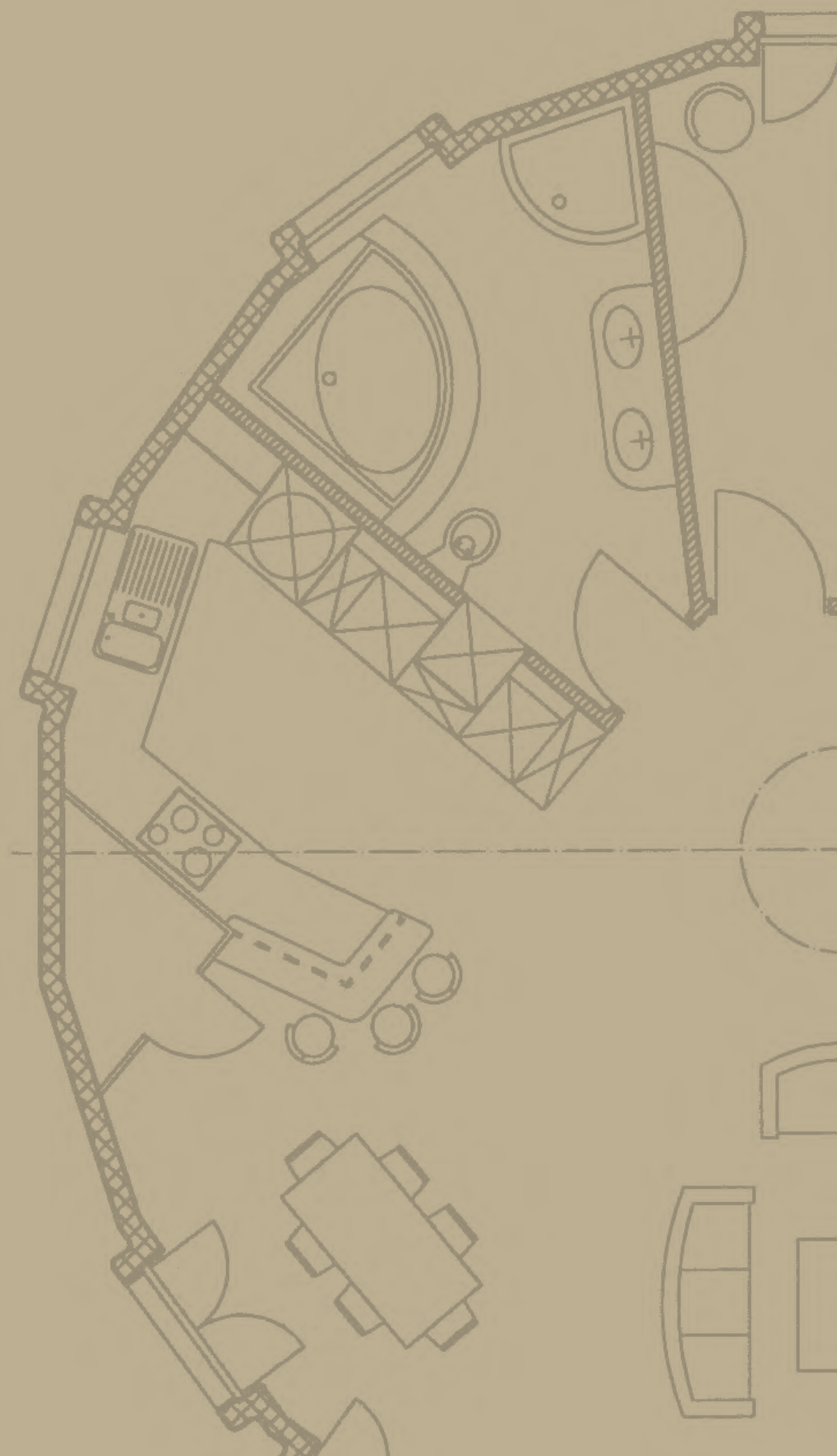
Internal diameter 11.5 m
Internal room height 4.1 m
Area 108 m²



Children's nursery

Internal diameter 11.5 m
Internal room height 4.1 m
Area 108 m²





GLOBULAR AG
Mr Jan Pfenninger
Lerzenstrasse 14
8953 Dietikon
T. +41 79 512 42 58
info@globular.ch

www.globular.ch