1. Loadbearing structural ribs
Additive manufacturing, multilayer 4D printing
Photovoltaic coating, gallium selenide particles, water resistant
Biopolymer (biodegradable plastics), hardener
Insulation particles, stiffener
Pipes: HVAC, plumbing, wiring

2. Transparency and sunblinding
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics), hardener, transparent with electrochrome particles

3. Roof and facade
Additive manufacturing, multilayer 4D printing
Photovoltaic coating, gallium selenide particles, water resistant
Biopolymer (biodegradable plastics), hardener
Insulation particles, stiffener, acoustic absorption
Finishing layer in desired color

4. Floor
Additive manufacturing, multilayer 4D printing
Finishing layer
Biopolymer (biodegradable plastics), hardener, acoustic absorption

5. Partition wall
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics), hardener, acoustic absorption

6. Mattress
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics), soft particles
Underfloor heating pipes
Biopolymer (biodegradable plastics), hardener

7. Seating, integrated furniture
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics), soft particles
Underfloor heating pipes
Biopolymer (biodegradable plastics), hardener

8. Screen
Additive manufacturing, multilayer 4D printing
Polymer with integrated OLED particles (organic light emitting diode), water and wind proof

9. Integrated lightning
Additive manufacturing, multilayer 4D printing
Polymer OLED (organic light emitting diode)

10. Entrance
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics), elastic
Water and wind proof

11. Integrated ventilation raster
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics) raster

12. Integrated shelves
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics)

13. Gear wheel
Additive manufacturing, multilayer 4D printing
Biopolymer (biodegradable plastics)
Connected to gear wheel, mechanics and sensor
Insulation layer
Air insulation

Finishing layer 10 mm
Hardener, water and windproof
Glossy white

Rotor
Connected to sensor

Structural layer 25mm with 30% insulating particles
Hardener

Structural layer 20mm with 10 % insulating particles
Hardener

Structural layer >25mm
Hardener

Finishing layer 10 mm
Hardener, water and windproof
Glossy white

Proximity sensor
Tracks the proximity of inhabitants. Whenever the inhabitants are close, the sensor sends a signal to the rotor.

Gear wheel R400
Hardener

Elastic
Wind and water proof
Glossy white

Detail 1
Horizontal section opening 1:5