In-floor heating
double skin facade acts as buffer air to eliminate heat loss
etched glass facade doubles as shading device and privacy
natural light collects in etched glass
increased insulation in roof & floor
pre-heated low pressure ventilation at floor level
in-floor heating

Bathhouse Climate Strategy

Vertical Section
Bathhouse Facade 1:20

+16700 mm
+12430 mm
+8600 mm
+4150 mm

Detail 1

+1210 mm
+600 mm

-140 mm
dehumidifier
warm wet air
warm dry air
condensate returned to pool
pre-heated low pressure ventilation at floor level

rain water collection
rainwater basin for watering plants
closed loop vertical ground heat exchanger
heat exchange pump

aluminum expanded metal mesh interlayer for shading

air temp.: 28 C
water temp. 27 C
humidity 50-70%

vertical ground heat exchanger

Climate Strategy

Vertical Section
Pool Facade
1:20

Detail 3
+16 770 mm
+8260 mm
+2260 mm
+1350 mm
0
+18 260 mm

+720 mm
+1200 mm
+1500 mm
+1800 mm
+2100 mm
+2400 mm
+2700 mm
+3000 mm

Greenhouse minimizes heat loss in winter
recessed windows for shading
1. Highly thermally insulated aluminum slider (1.3 W/m²K)

2. 12 mm tile panel cladding
   - Mortar tissue layer
   - Verotex 12 mm plate
   - Rainscreen & horizontal mounting plate
   - Moisture barrier
   - 300 mm rigid insulation
   - 16 mm sheathing
   - 360x390 mm existing concrete column
   - 16 mm plaster wall
1. Welded catwalk assembly anchored to structural profile for horizontal load resistance
2. Lightweight metal composite cladding panel
   Ventilated airspace & moisture barrier
   450mm rigid insulation
   Carbon fiber reinforcement wrapped around existing 360x360mm concrete column
   150mm rigid insulation
   Mortar tissue layer
   16mm thick 180x180mm tile
3. Low-iron U-profile glass units w/ etched print for passive shading
① Low-iron U-profile glass units w/ etched print for passive shading
Steel cross bracing for lateral stability
Lightweight metal composite cladding panel
Rainscreen & moisture barrier
300 mm rigid insulation

② Welded catwalk assembly anchored to structural profile for horizontal load resistance

③ 90 mm polycarbonate
1. Highly thermally insulated inward opening aluminum windows (1.8W/m²K)
2. Aluminum roof cladding
   - Moisture barrier
   - 300mm rigid insulation
   - Moisture barrier
   - 150mm existing concrete slab
3. HEA 500x300mm profile mounted to existing concrete structure using Hilti anchor
① Insulated glazed panels, low E coating w/ aluminum expanded metal mesh for shading
② 500x300mm HEA profile w/ welded plate for steel cross-bracing