HIBI WOOD

WORKSHOP

BROWN BEARS

FINAL PRESENTATION

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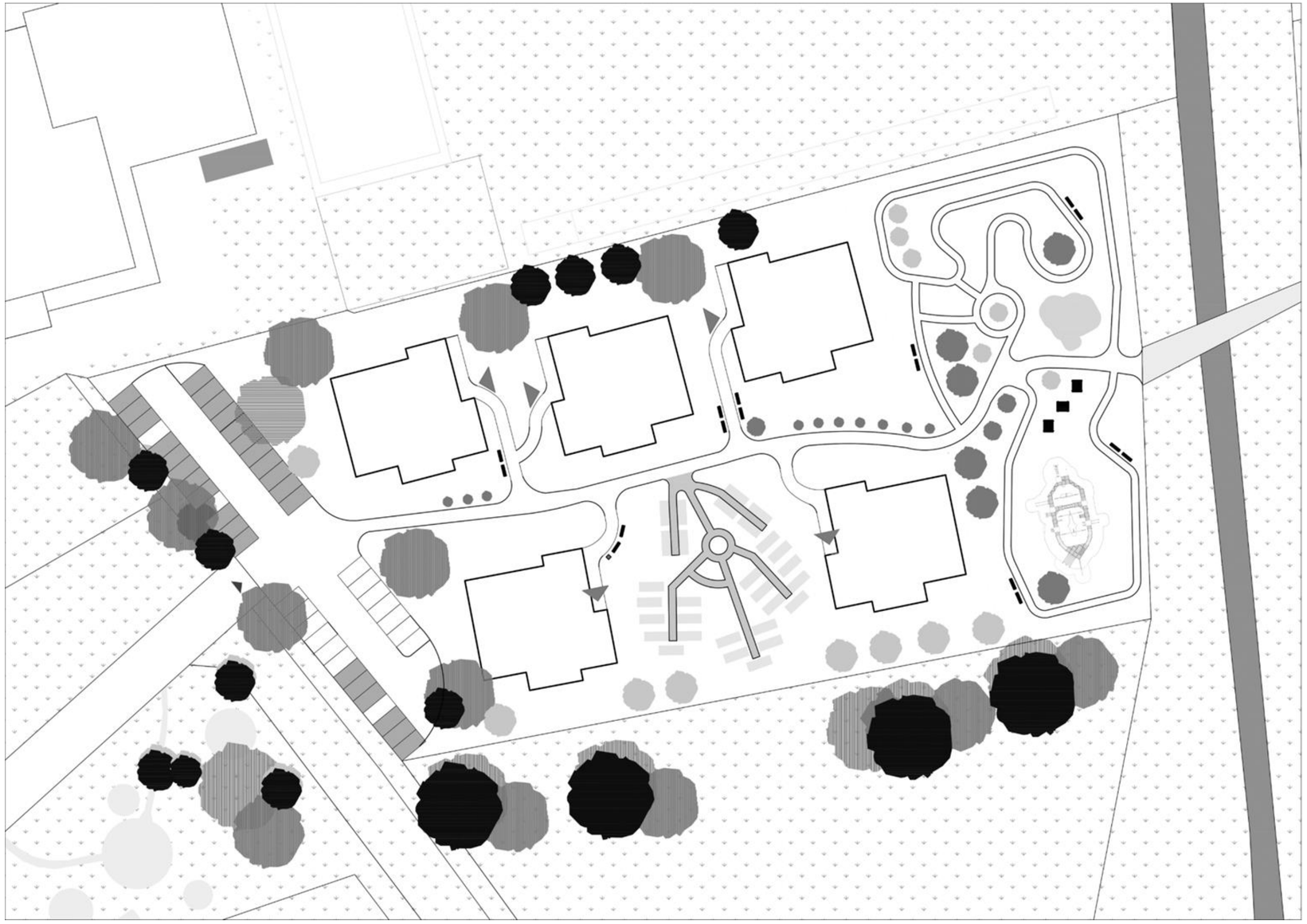
RCK: Ilona Jaroha
FHCW: Rudolf Delort Laval
Lukas Pezelis

RESIDENTAL PROJECT - AUSTRIA

SITE PLAN

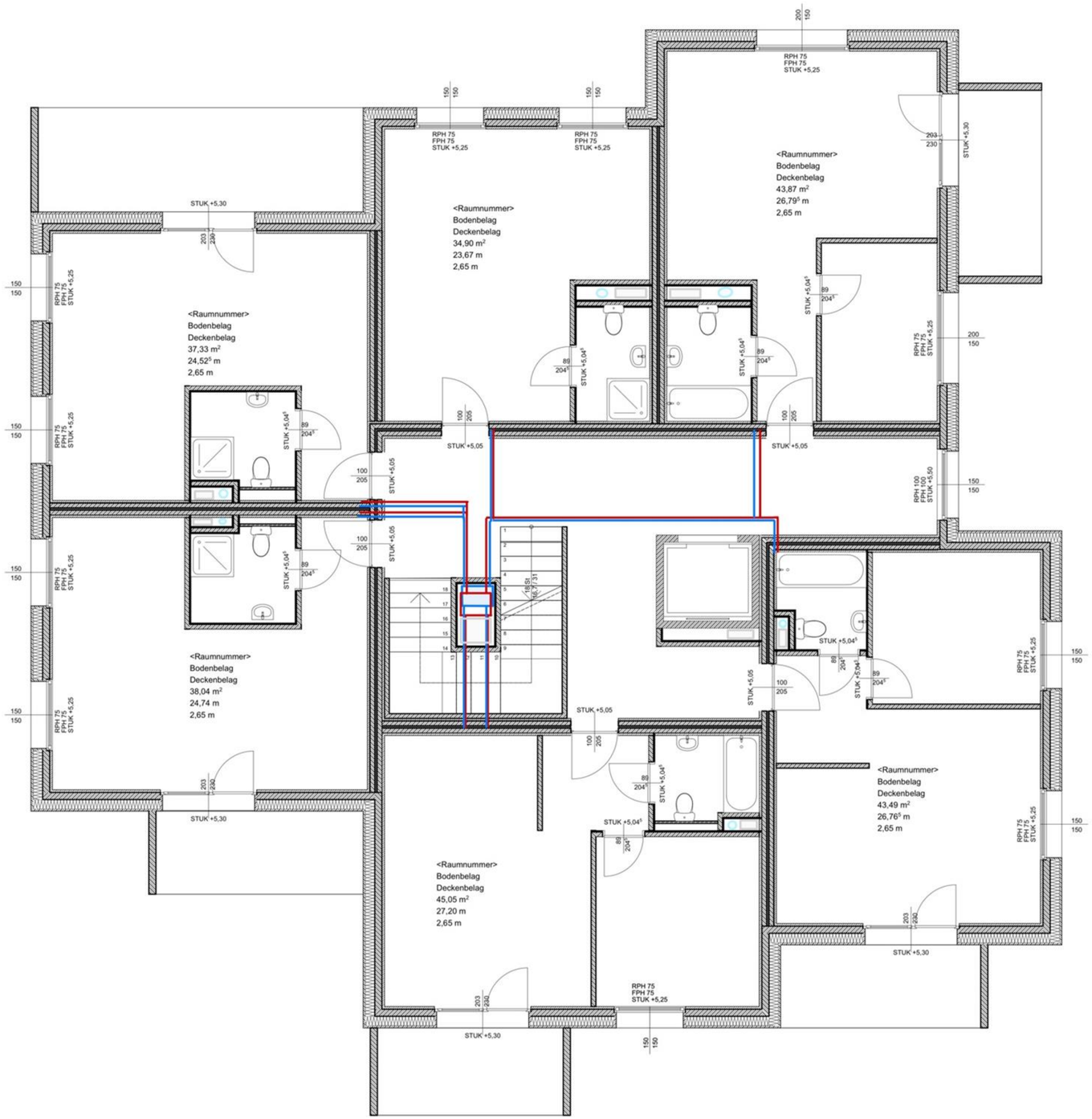


FLOOR PLANS

LEVEL 0

FLOOR PLANS

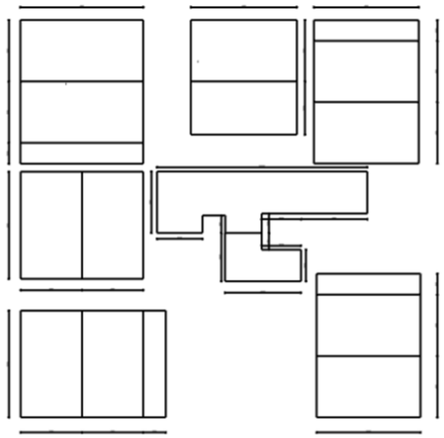
LEVEL 1-2



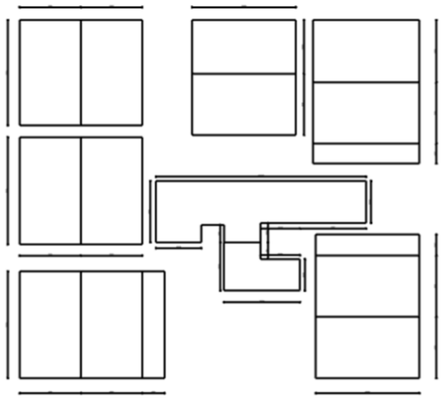
Building components

Load bearing structure

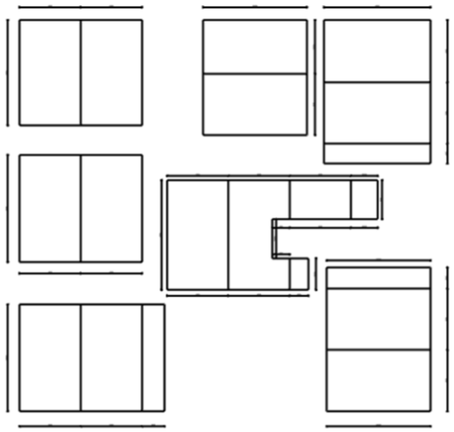
GROUND FLOOR



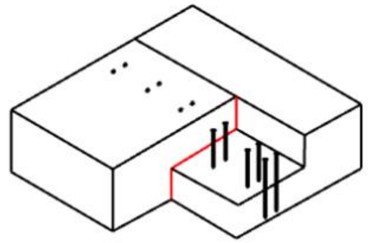
2ND. & 3RD. FLOOR

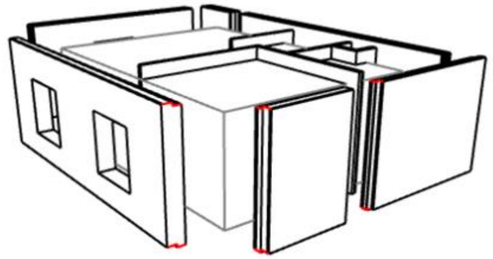


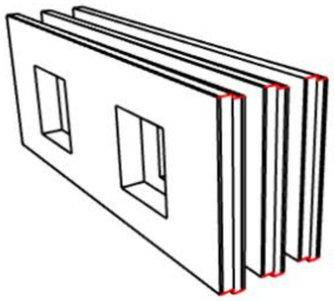
ROOF



CONNECTION & TRANSPORT

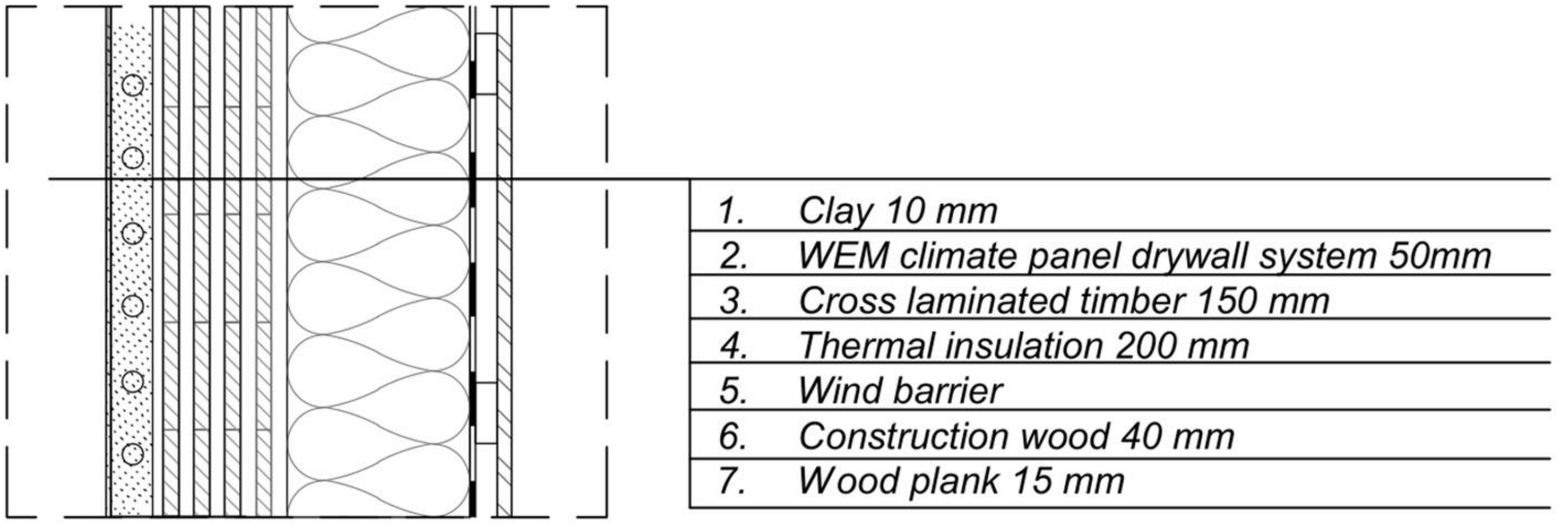






Building components

External wall

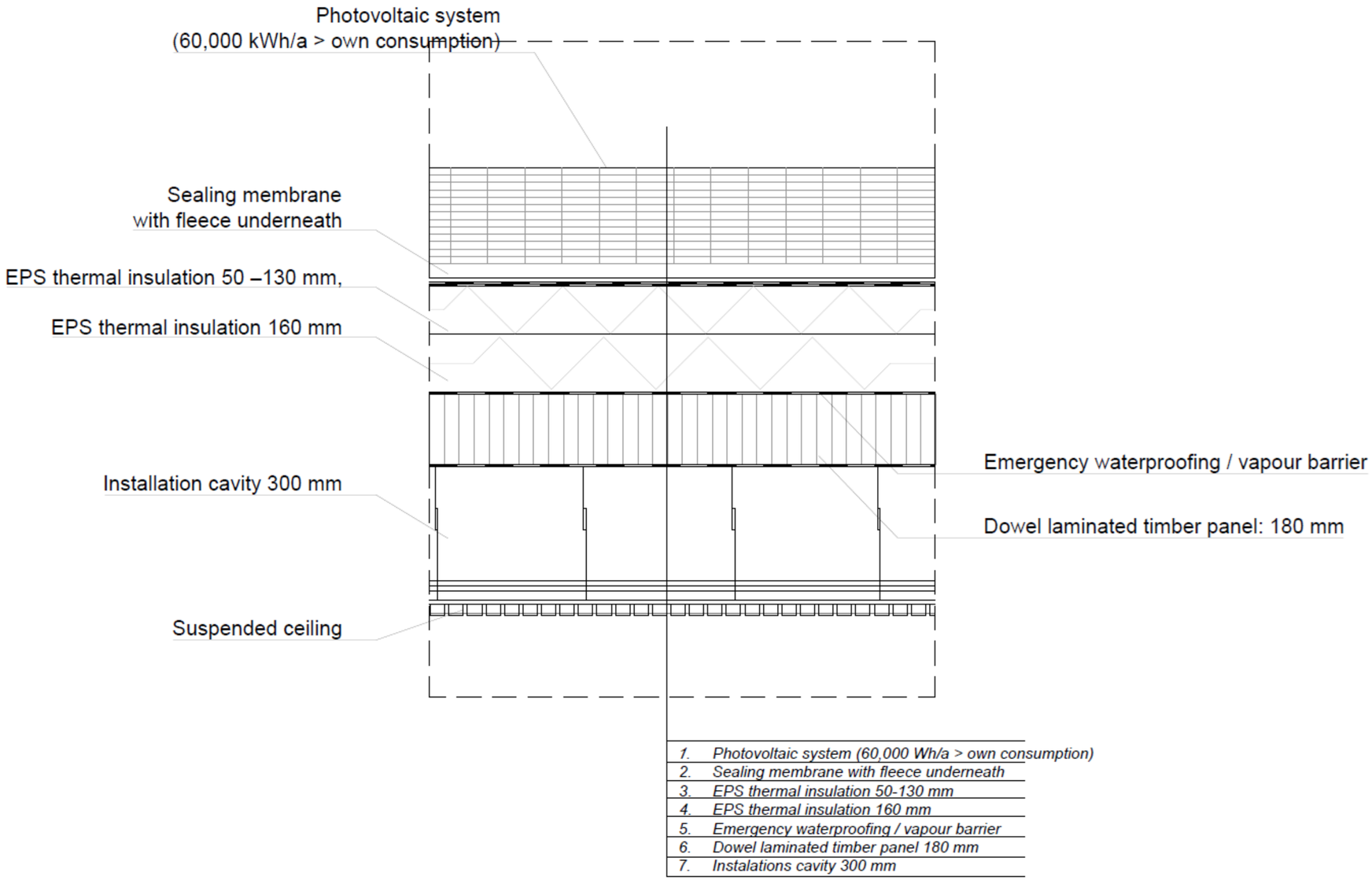


1. Clay 10 mm
2. WEM climate panel drywall system 50mm
3. Cross laminated timber 150 mm
4. Thermal insulation 200 mm
5. Wind barrier
6. Construction wood 40 mm
7. Wood plank 15 mm

U-Value: 0,15 W/m²K

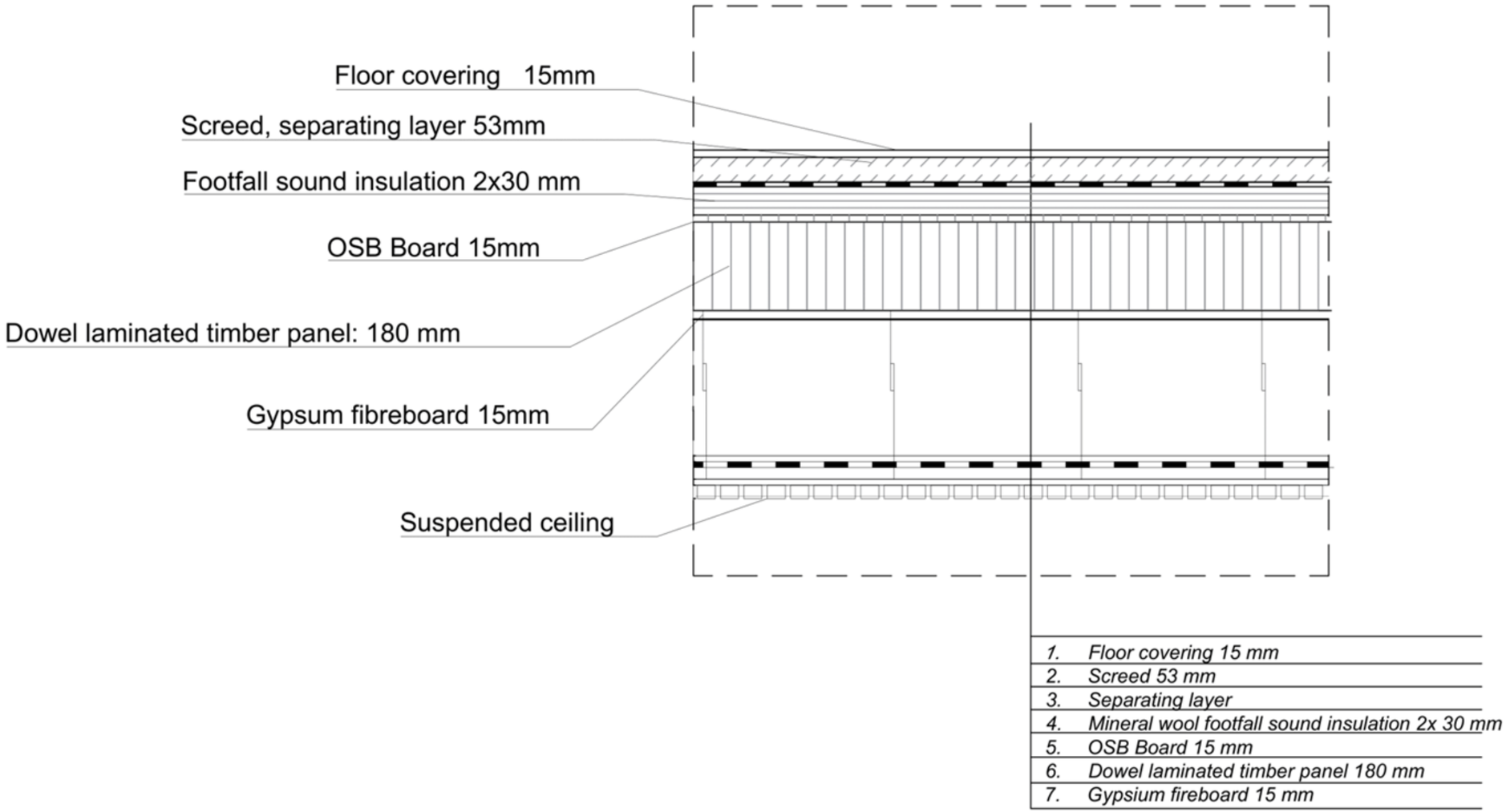
Building components

Roof



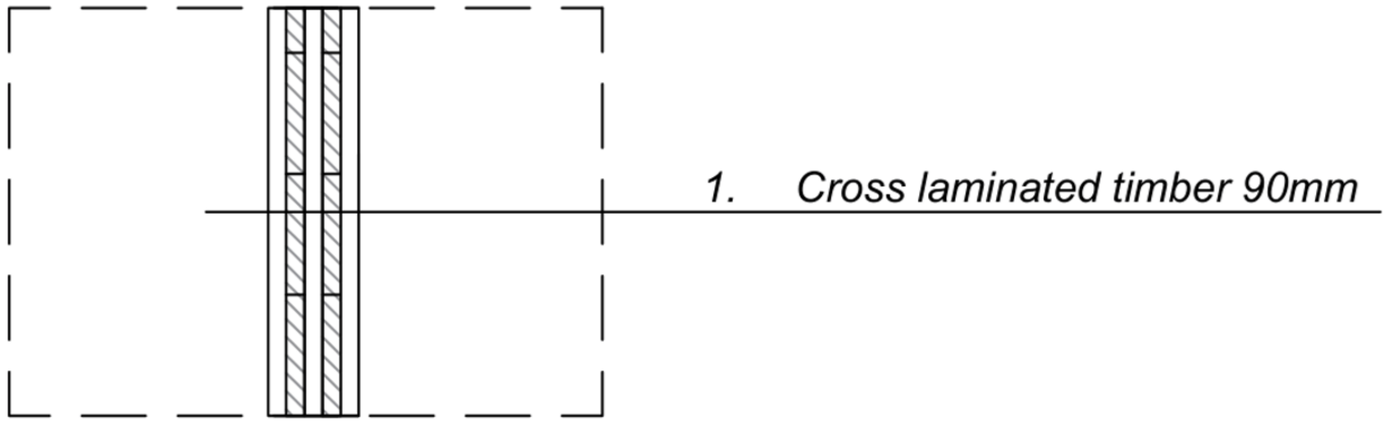
Building components

Partition floors



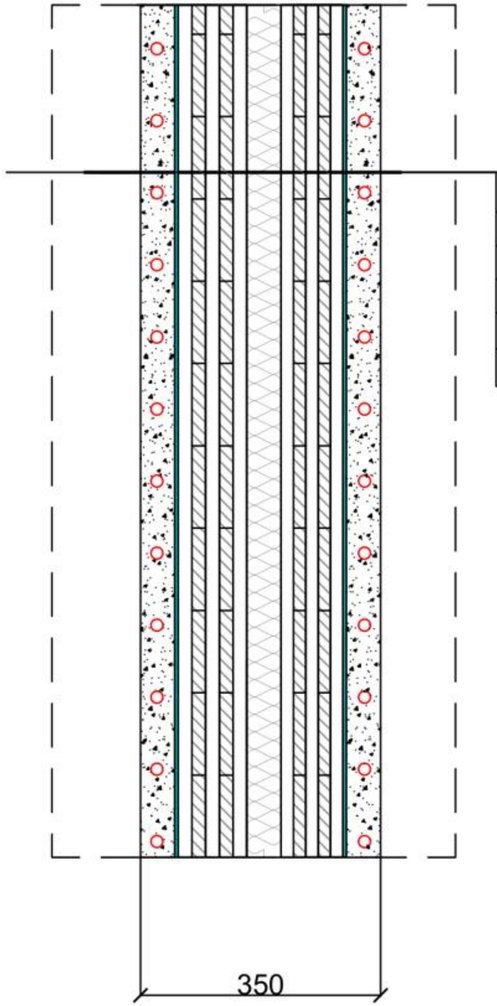
Building components

Partition wall



Building components

Party wall

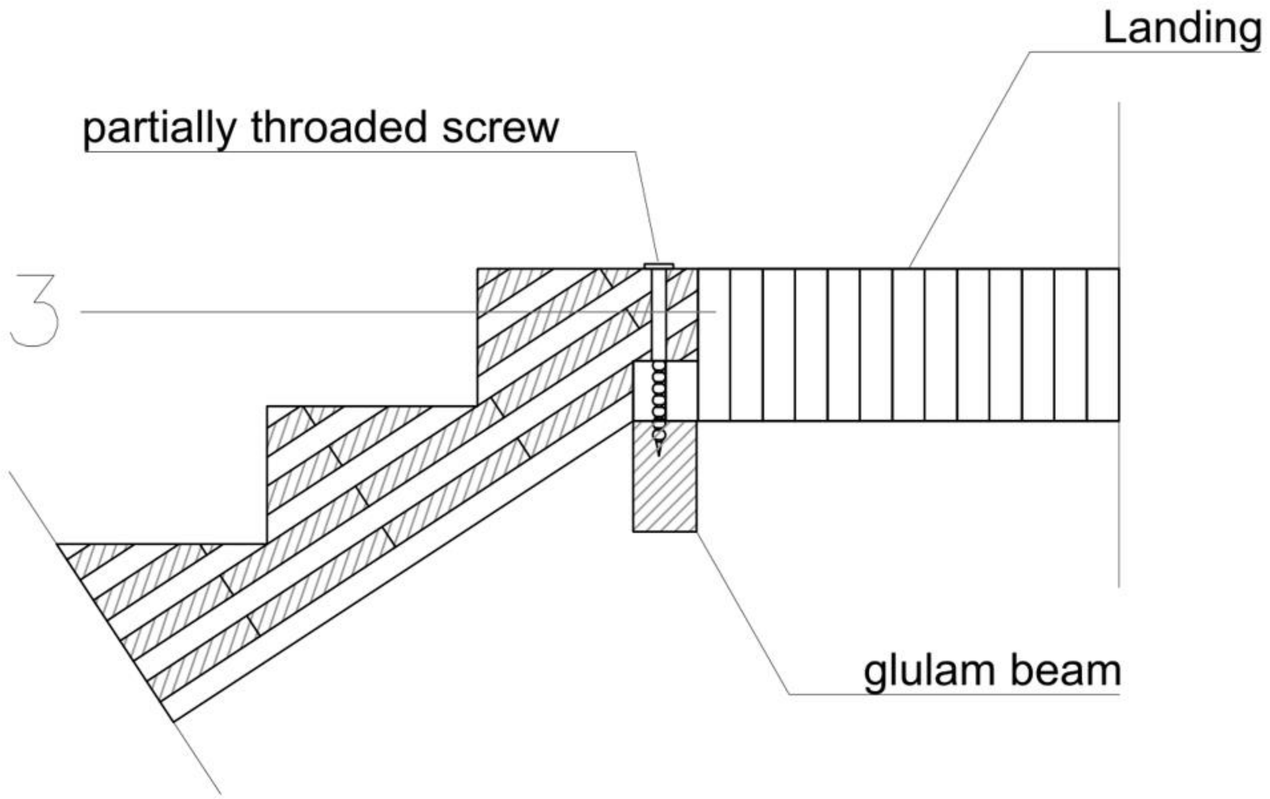


1. WEM climate panel drywall system 50mm
2. Waterproofing layer 5mm
3. Cross laminated timber 100mm
4. Mineral woll 50mm
5. Cross laminated timber 90mm
6. Waterproofing layer 5mm
7. WEM climate panel drywall system 50mm

REI - 90
Rw - >75 dB

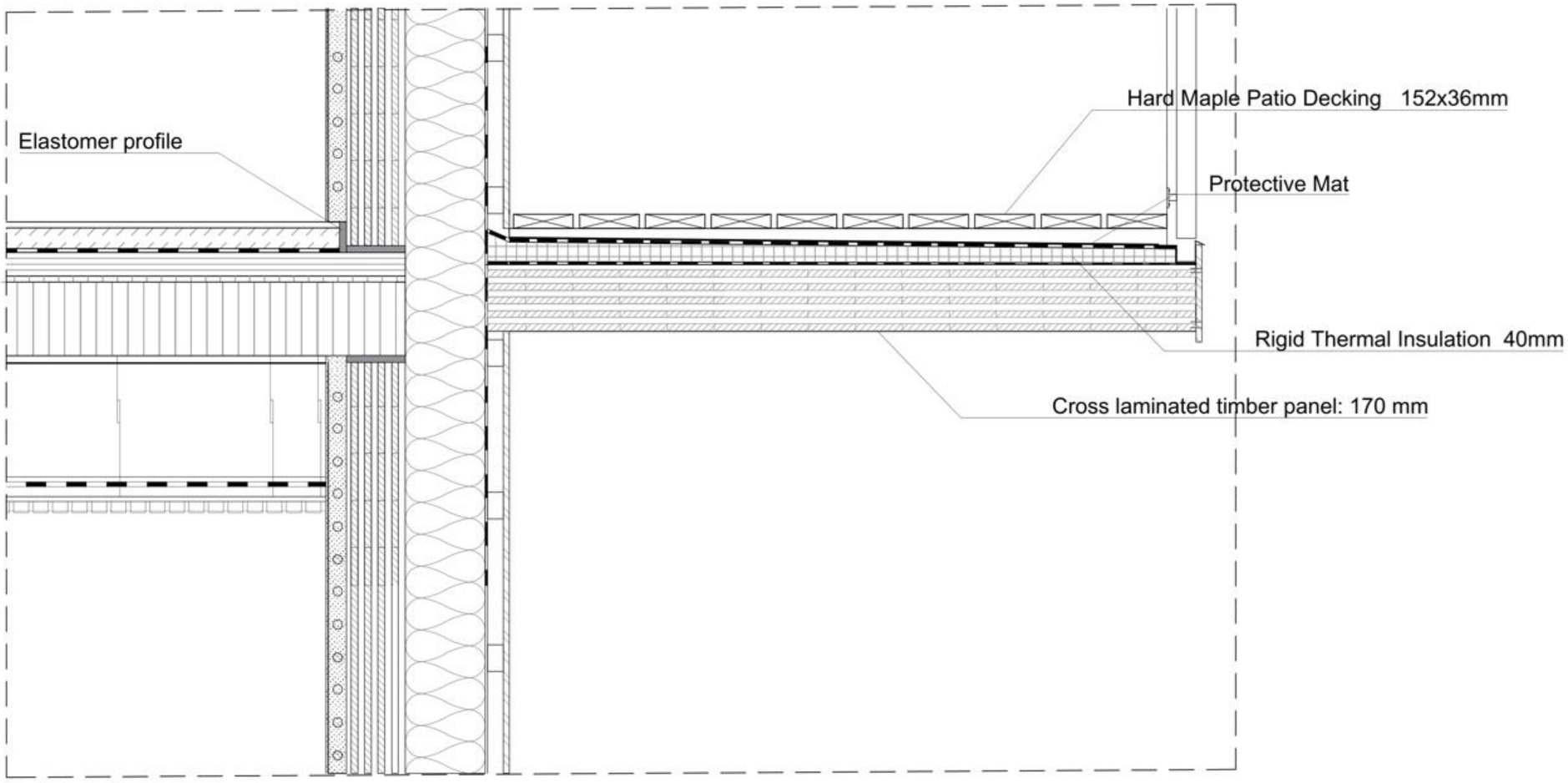
Building components

Stairway



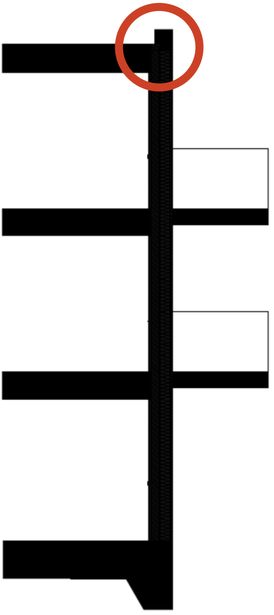
Building components

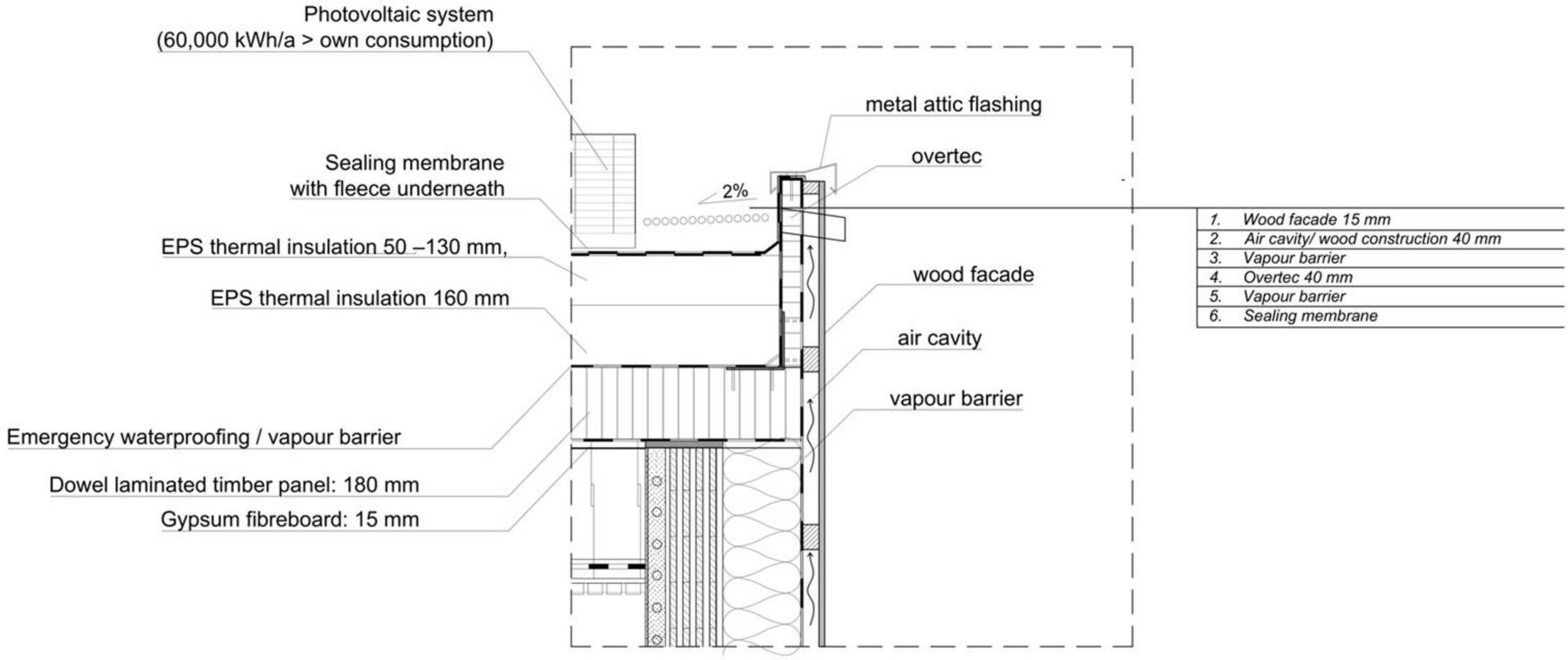
Balcony



Details: connections

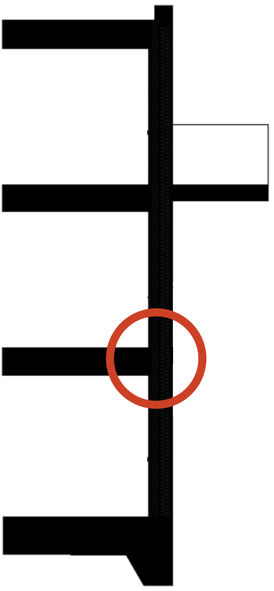
Roof - external facade wall

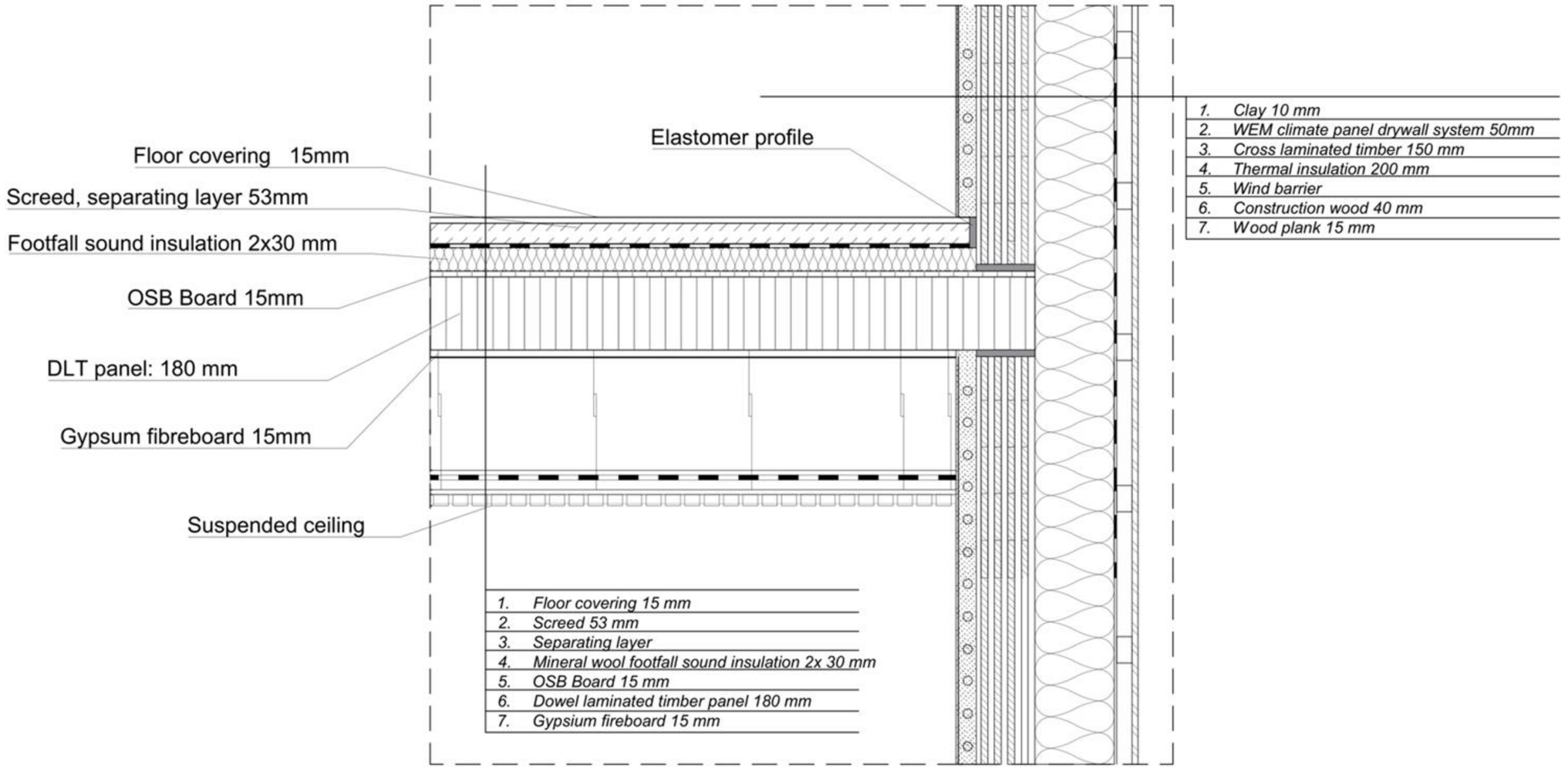




Details: connections

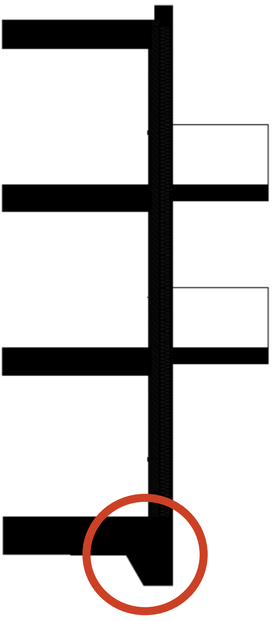
External wall - partition floor

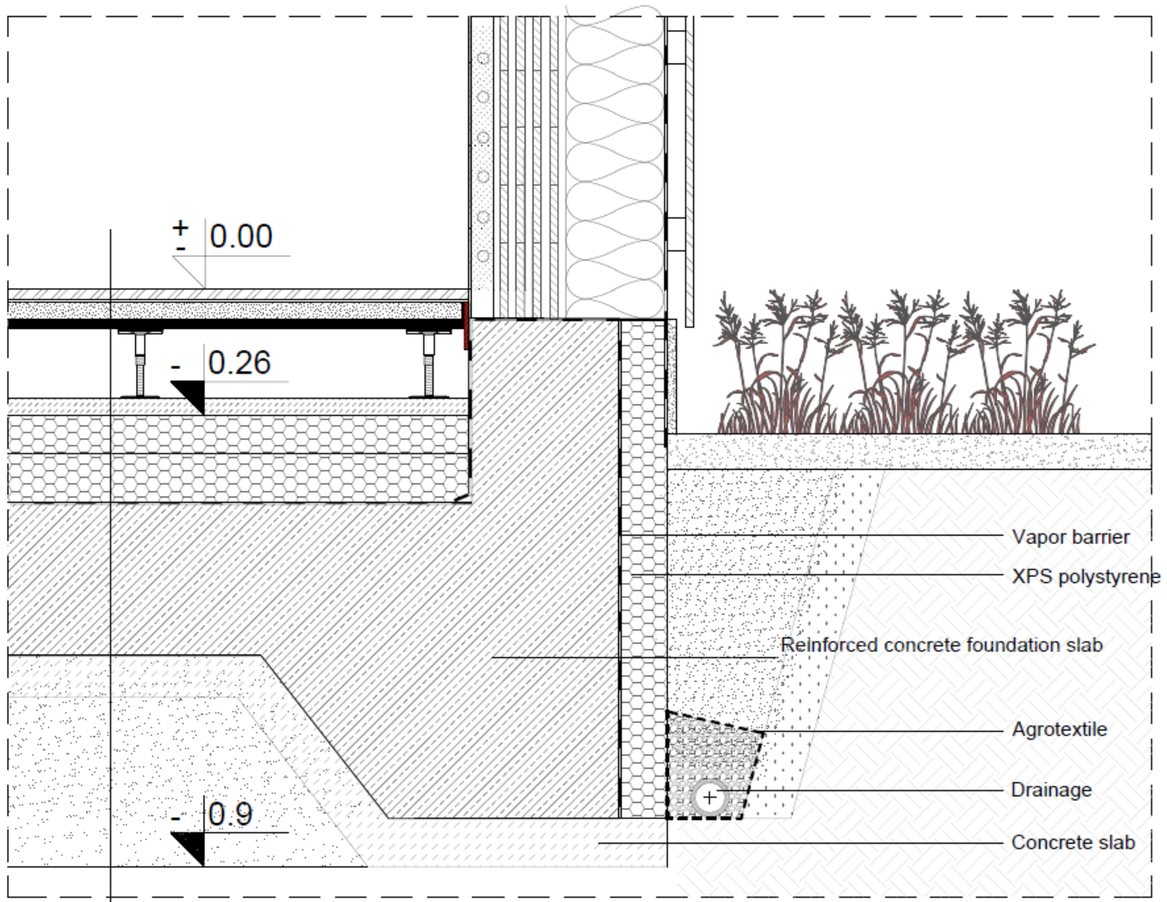




Details: connections

External wall - ground floor

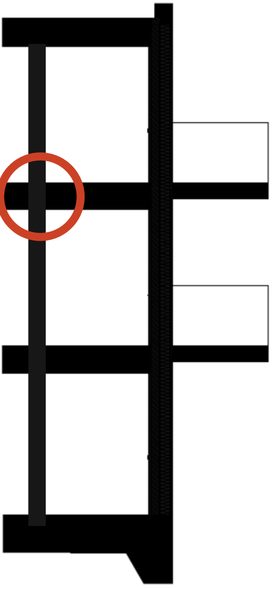


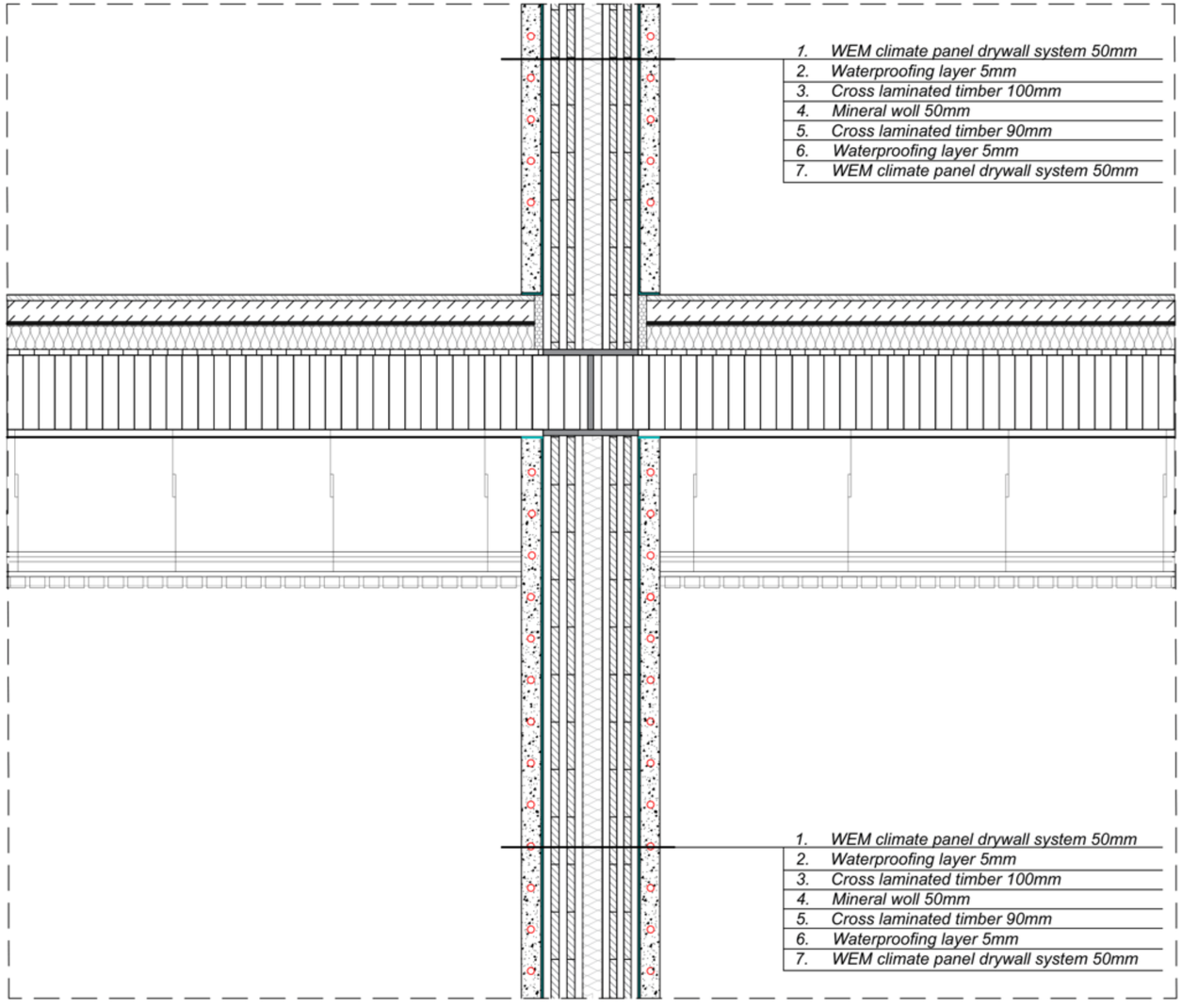


1. *Floor covering 15 mm*
2. *Suspended floor 200 mm*
3. *Concrete slab 35 mm*
4. *Thermal insulation 180 mm*
5. *Vapor membrane*
6. *Reinforced concrete slab 320 mm*
7. *Concrete underlayer slab 100 mm*
8. *Sand underlayer*
9. *Gravel underlayer*

Details: connections

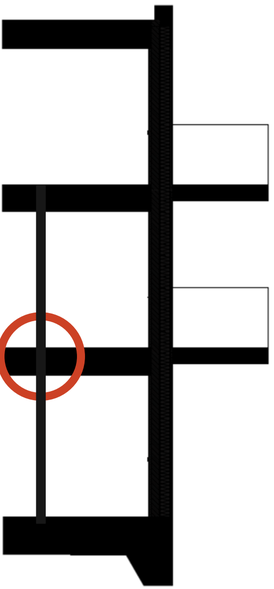
Party wall - partition floors

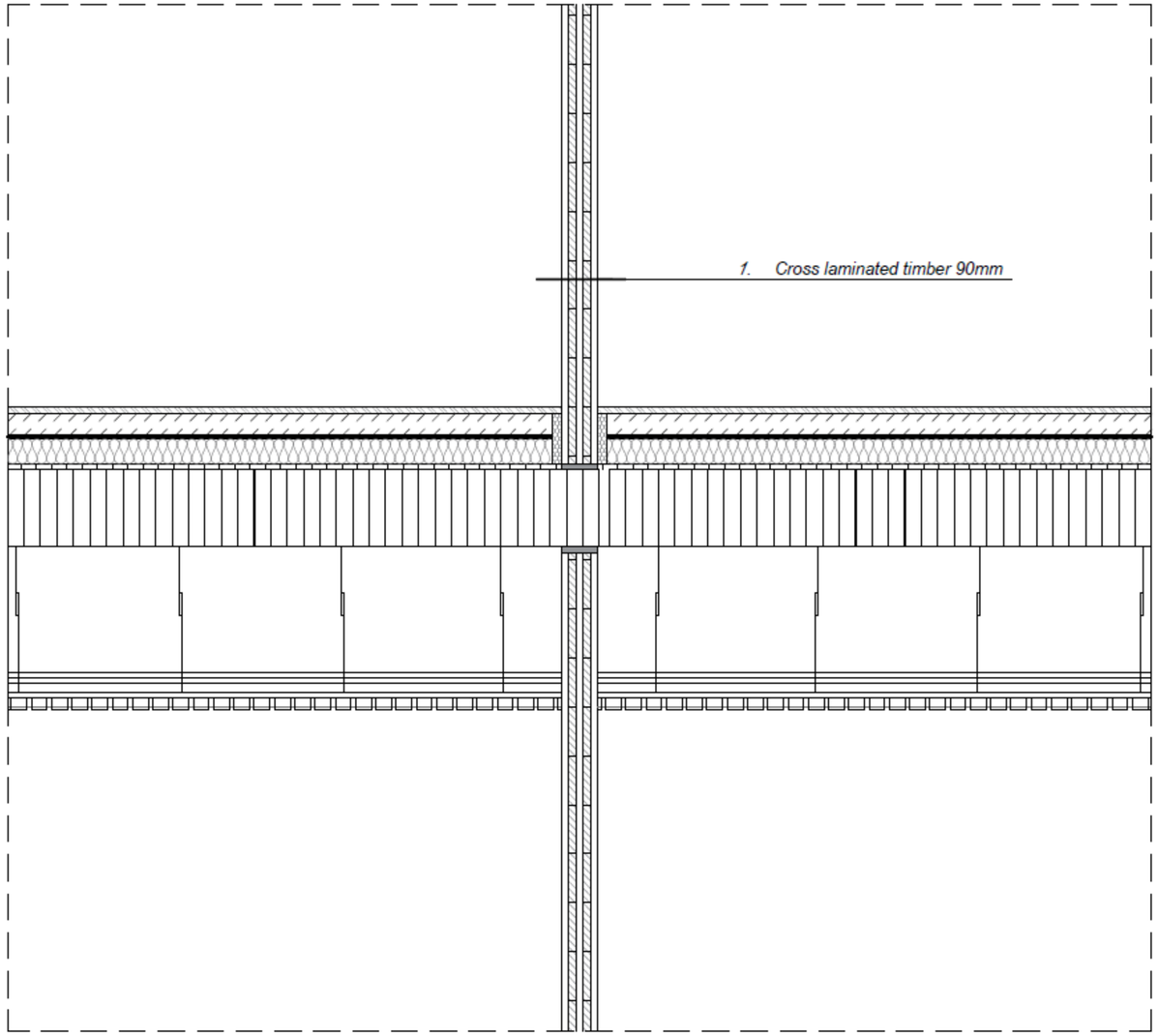




Details: connections

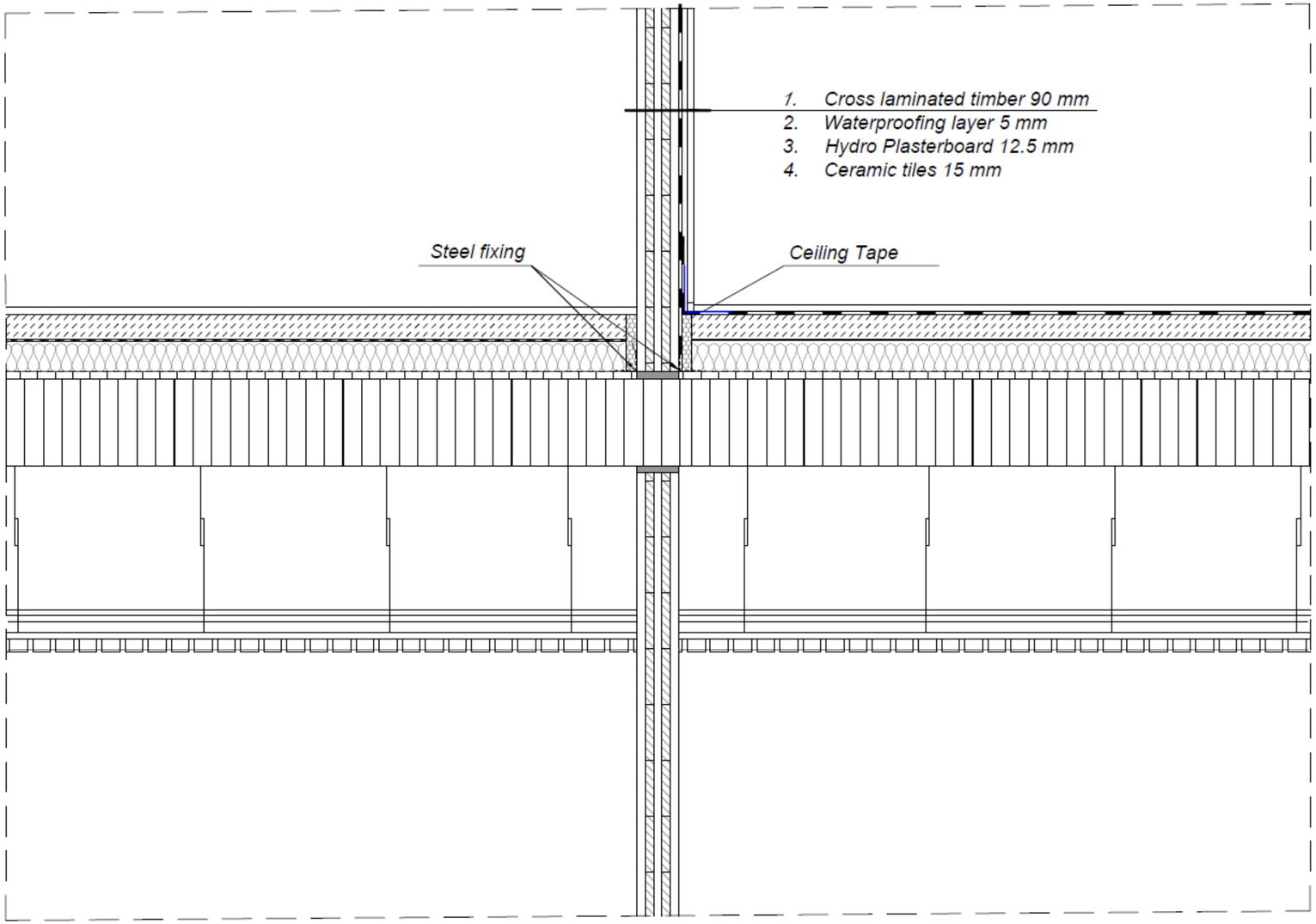
Partition wall - partition floors





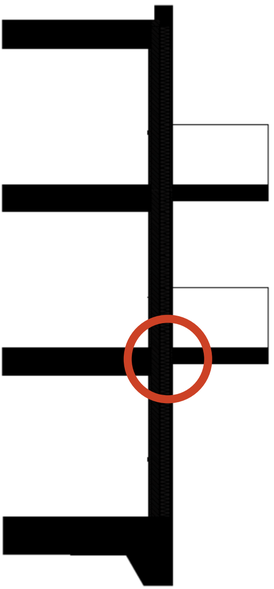
Details: connections

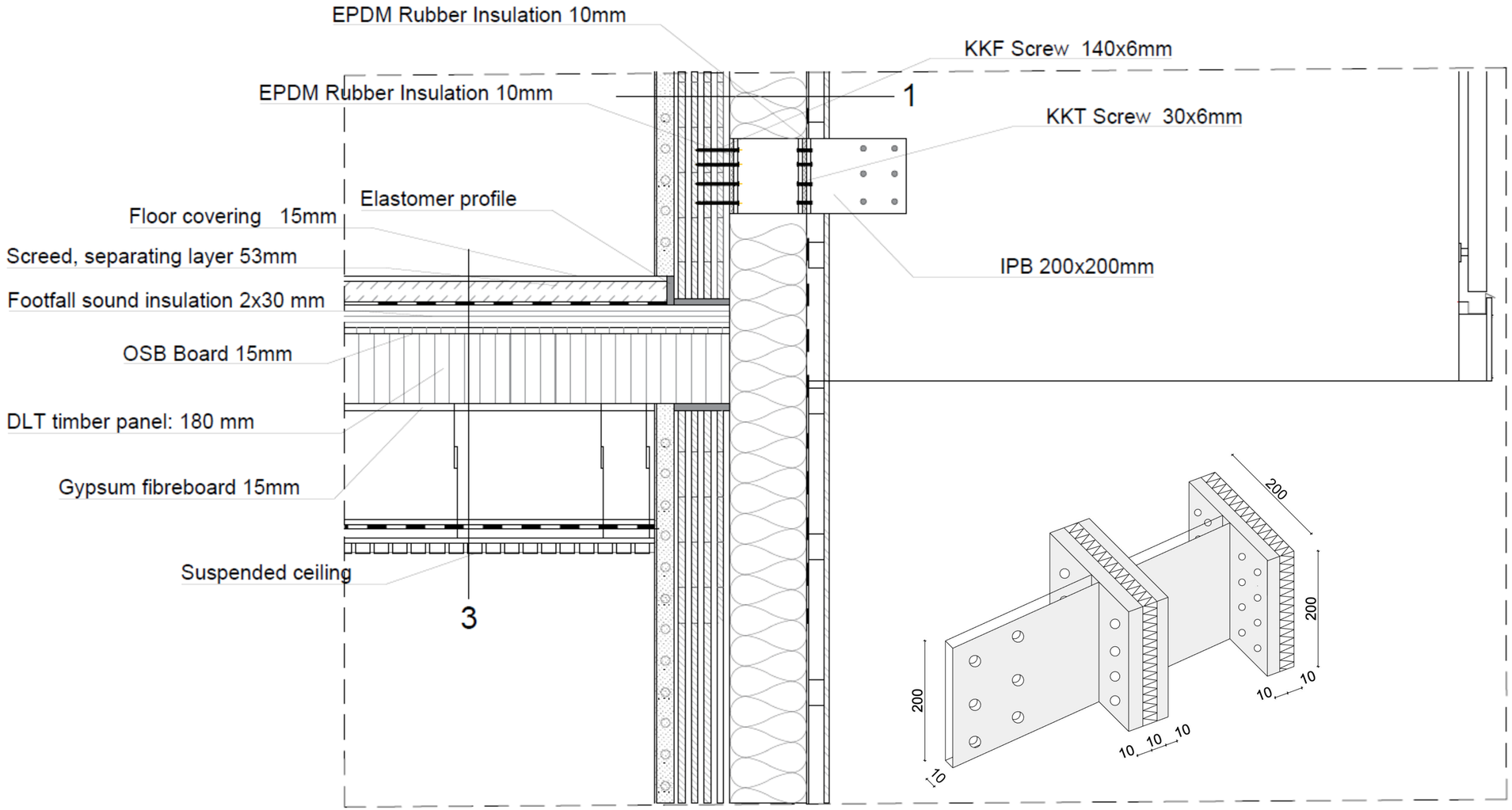
Bathroom wall - partition floors



Details: connections

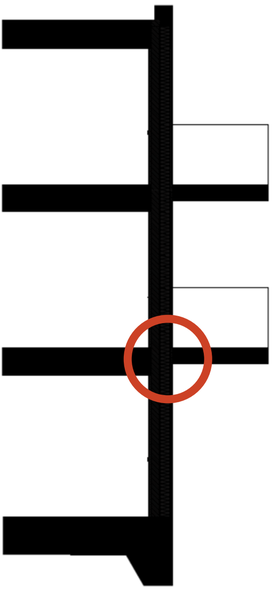
External wall - balcony I

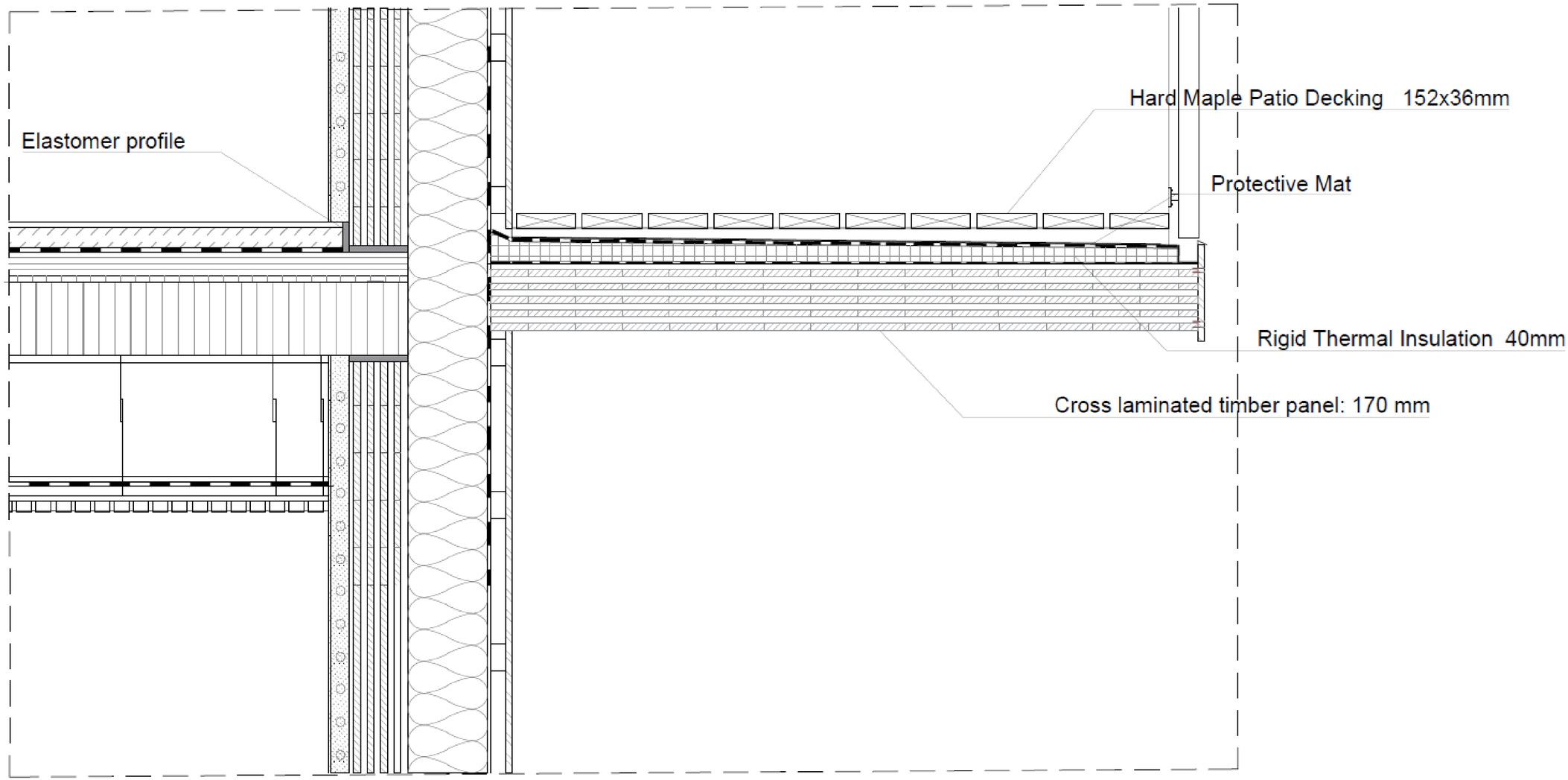




Details: connections

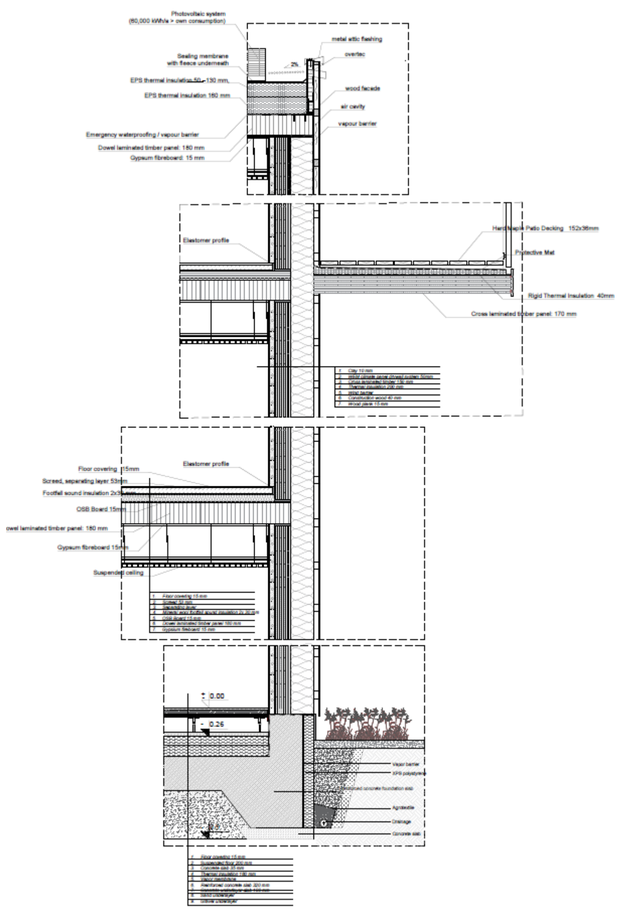
External wall - balcony II





Facade

Design/materials

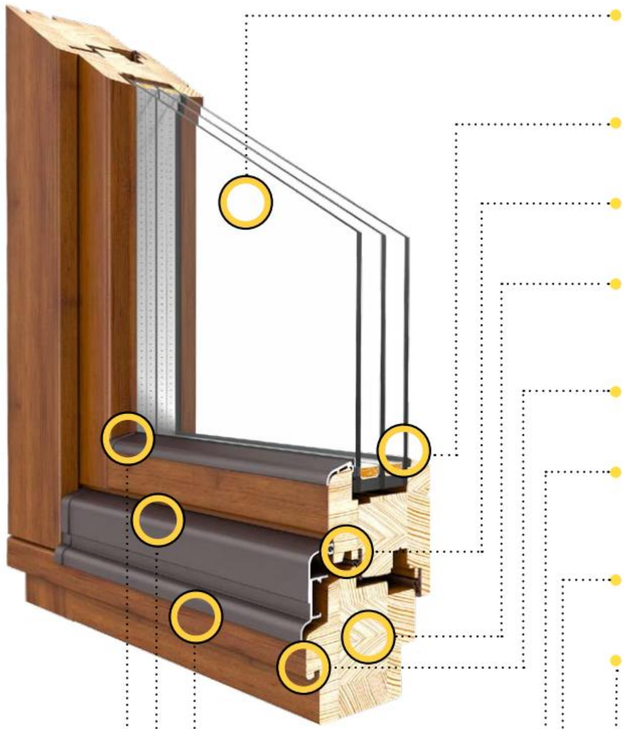


Shou Sugi Ban wooden facade

Properties:
When done well, burnt wood can last well over 100 years. What better proof of this than all the Japanese buildings from the 18th century that are still standing strong to this day, displaying their stunning Yakisugui cladding.

Openings

Windows



Glazing
the option to apply 1-, 2-, and even 3-chamber glass packages

Board
profiled window board

Envelope seal
gaskets made of TPE

Profile
laminated profile guarantees construction stability

Undercut for external and internal window sills

Ecological varnish
special varnish with primer and impregnation against pest and fungus

Thermo-drip
facilitating water drainage

Aluminum board
the board protects the wood against UV rays and water flowing from the glass

Ug = 0,5 W/(m2K) with three-glass package
Ug = 0,3 W/(m2K) with four-glass package

Building services

WEM climate drywall panel system

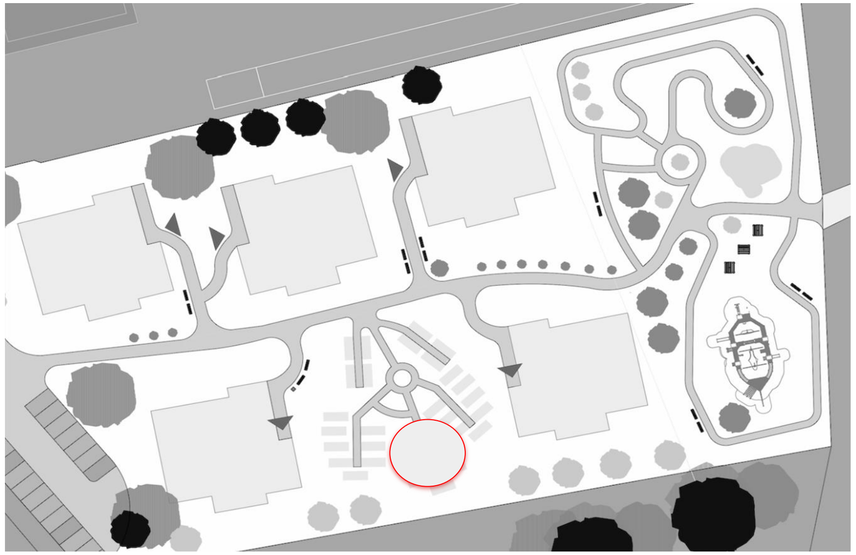
The core of the dry construction system is the WEM Climate Panel, a 25 mm thick clay panel with integrated heating pipes. WEM Climate Panels are used to create wall and ceiling constructions that can be used for heating and cooling.

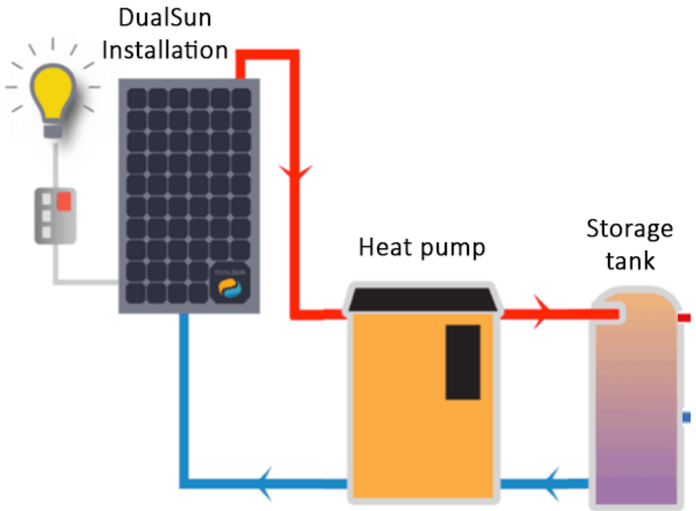
Building services

Heat pump:

->1000m2 per building x5
- > ≈ 0.3 kw/m2 x5000
-> heating capacity: ≈ 150 kw

150x24x365 = 1314 kW/h a





Profitieren Sie von diesen Vorteilen:

- Sole/Wasser-Wärmepumpe, zweistufig
  Heizleistung: 27 bis 197 kW
- Hohe Vorlauftemperaturen bis 73 °C
- Niedrige Betriebskosten durch hohe Leistungszahlen: COP-Wert (COP = Coefficient of Performance) nach EN 14511 bis 4,4 (Sole 0 °C/Wasser 35 °C)
- Wirtschaftliches Teillastverhalten durch Einsatz von zwei oder drei leistungsgleichen Kompressoren
- Geräusch- und schwingungsarm durch schalloptimierte Gerätekonstruktion
- Intuitive Bedienung der Regelung via Touchscreen und schematischer Darstellung
- Möglichkeit der werkseitigen Vorinstallation bei projektbezogener Fertigung
- Standardmäßiges Part-Winding-Anlaufsystem für niedrige Anlaufströme oder Ausstattung mit elektronischem Sanftanlasser (Option)
- Klassische Kühl-/Heizfunktion mit Pufferspeicher
- SPS-gestützte Vitotronic mit ModBus- und Bacnet-Kommunikationsschnittstelle

Building services

Solar panels

flat roof mounting system

->Underlying the zero-energy concept, which also includes user-induced energy consumption, is the passive house concept and a photovoltaic system

-> (60,000 kWh/a > own consumption)

Thank you