



## Knowledge

Trainees ...

- understand the main concept of the building (purpose, main structure: foundation, walls, openings and roof),
- know general principles of sustainable design (external influences: location, climate, shape, ... energy saving, building materials), requirements for healthy environment, inner climate,
- are familiar with different measurement for environmental impact (ecological foot print, building biology, life cycle management ...),
- know criteria of national standards for sustainable houses, p.ex: Passive house concept, Bioclimatic house in FR, Minergie in CH, etc... Solar and internal gains, insulation, windows, reduction of thermal bridges, airtightness, natural or mechanical ventilation, shading in summer, use of thermal mass,
- know criteria for choosing building materials (sustainability, embodied energy, CO<sub>2</sub> eq., healthy, price, cradle to cradle concept, social aspect),
- how to read plans and technical details (meaning of different line types, floor plan, sections),
- know different heating systems, its advantages and disadvantages (emissions, CO<sub>2</sub>, renewable, ...),
- know principles how to provide inner climate comfort in winter and summer (cooling systems),
- know principles of house infrastructure (electricity, water, sewage) and know the specific requirements for straw bale houses,
- are aware of most common faults of SB construction, its damages and its cause,
- are aware of different life duration of the construction parts and their maintenance intervals.

## Skills

Trainees can ...

- read and understand a plan with all technical details,
- sketch basic house design, using correct dimensions,
- execute details of house design following the drawing,
- integrate other crafts and service installation of the house (plumbing, electrics, etc.),
- repair damages of the house,
- know steps and principles how to repair most common faults and damages of SB construction.

## Competence

Trainees can ...

- understand general principles of ecological design,
- know national building laws and apply it in practice,
- evaluate and choose suitable building materials and systems and know when and how to ask experts,
- suggest suitable heating and cooling systems and know when and how to ask experts,
- analyse and repair damages of the house and know when and how to ask experts,
- work in teams.